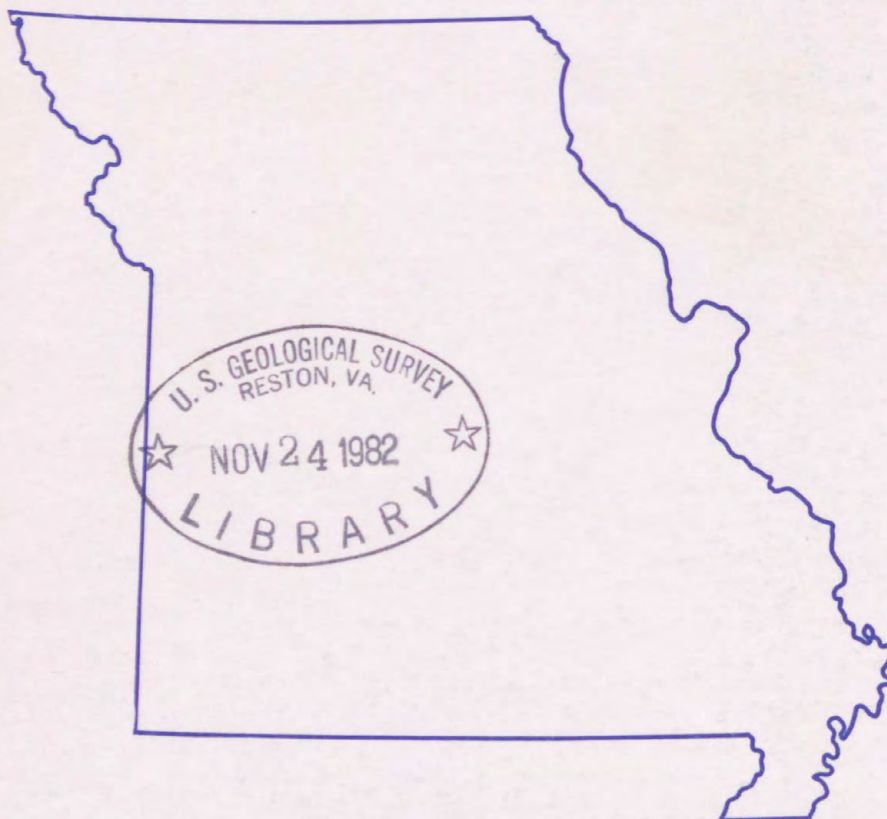
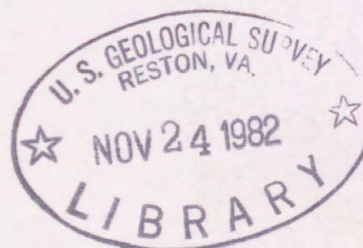


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Water Resources Data Missouri Water Year 1981



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MO-81-1

Prepared in cooperation with the Missouri Department of Natural Resources, Division of Geology and Land Survey and Division of Environmental Quality; Missouri State Highway Commission; and with other State and Federal agencies

CALENDAR FOR WATER YEAR 1981

1980

OCTOBER

S	M	T	W	T	F	S
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1981

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SEPTEMBER

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Water Resources Data Missouri Water Year 1981



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MO-81-1
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Natural Resources, Division of Geology and Land Survey and
Division of Environmental Quality; Missouri State Highway
Commission; and with other State and Federal agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in Missouri write to
District Chief, Water Resources Division
U.S. Geological Survey
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Rolla, Missouri 65401

PREFACE

This report was prepared by the personnel of the Missouri district of the Water Resources Division of the U.S. Geological Survey under the supervision of Daniel P. Bauer, District Chief, and Alfred Clebsh, Jr., Regional Hydrologist, Central Region. It was done in cooperation with the State of Missouri and with other agencies.

This report is one of a series issued by Missouri. General direction for the series is by Philip Cohen, Jr., Chief Hydrologist, U.S. Geological Survey, and Robert J. Dingman, Assistant Chief Hydrologist for Scientific Publications and Data Management.

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15. Supplementary Notes Prepared in cooperation with the State of Missouri and with other agencies.				
16. Abstract (Limit: 200 words) Water resources data for the 1981 water year for Missouri consist of records of stage, discharge, and water quality of lakes and reservoirs; contains records for water discharge at 124 gaging stations; stage and contents at 7 lakes and reservoirs; water quality at 33 gaging stations (including 1 lake); 11 sites measured bi-monthly, 2 USGS water quality monitors, and 1 temperature (continuous recording) site. Also included are data for 30 crest-stage, 11 water-quality partial-record stations, and 20 low-flow partial-record stations.				
17. Document Analysis:				
a. Descriptors *Missouri, *Hydrologic data, *Surface water, *Water Quality, Gaging Stations, Streamflow, Flow rates, Lakes, Reservoirs, Chemical analysis, Sediments, Water temperature, Water analysis, Water levels, Data collection Sites.				
b. Identifiers/Open-Ended Terms				
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(Letter after station name designates type of data: (d) discharge, (c) chemical,
(b) biological, (m) microbiological, (t) water temperature, and (s) sediment)

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WATER RESOURCES DATA FOR MISSOURI, 1981

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State agencies, obtains a large amount of data pertaining to the water resources of Missouri each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of Missouri. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "WATER RESOURCES DATA FOR MISSOURI." This volume contains records for water discharge at 103 gaging stations; stage and contents at 8 lakes and reservoirs; water quality at 30 gaging stations (including 1 lake). Also included are data for 30 crest-stage, and 17 water-quality partial-record stations. This data represents that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State, local, and Federal agencies in Missouri.

Records of discharge and stage of streams, and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled, "Surface Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled, "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled, "Ground Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from the Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, VA 22202.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released either in separate reports or in conjunction with streamflow records.

Beginning with the 1975 water year, water data for streamflow, water quality, and ground water are published in official Survey reports on a State-boundary basis. These official Survey reports carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report MO-81-1". For archiving and general distribution, the reports for water years 1971-74 are also identified as water-data reports. These water-data reports are for sale, in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the district chief at the address given on the back of the title page or by telephone (319) 337-4191.

COOPERATION

The U.S. Geological Survey and organizations of the State of Missouri have had cooperative agreements for the systematic collection of streamflow records since 1921, and for water-quality records since 1964. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

Missouri Department of Natural Resources,
Fred Lafser, director.

Division of Geology and Land Survey,
Dr. Wallace B. Howe, director.

Division of Environmental Quality,
Robert J. Schreiber, Jr., director

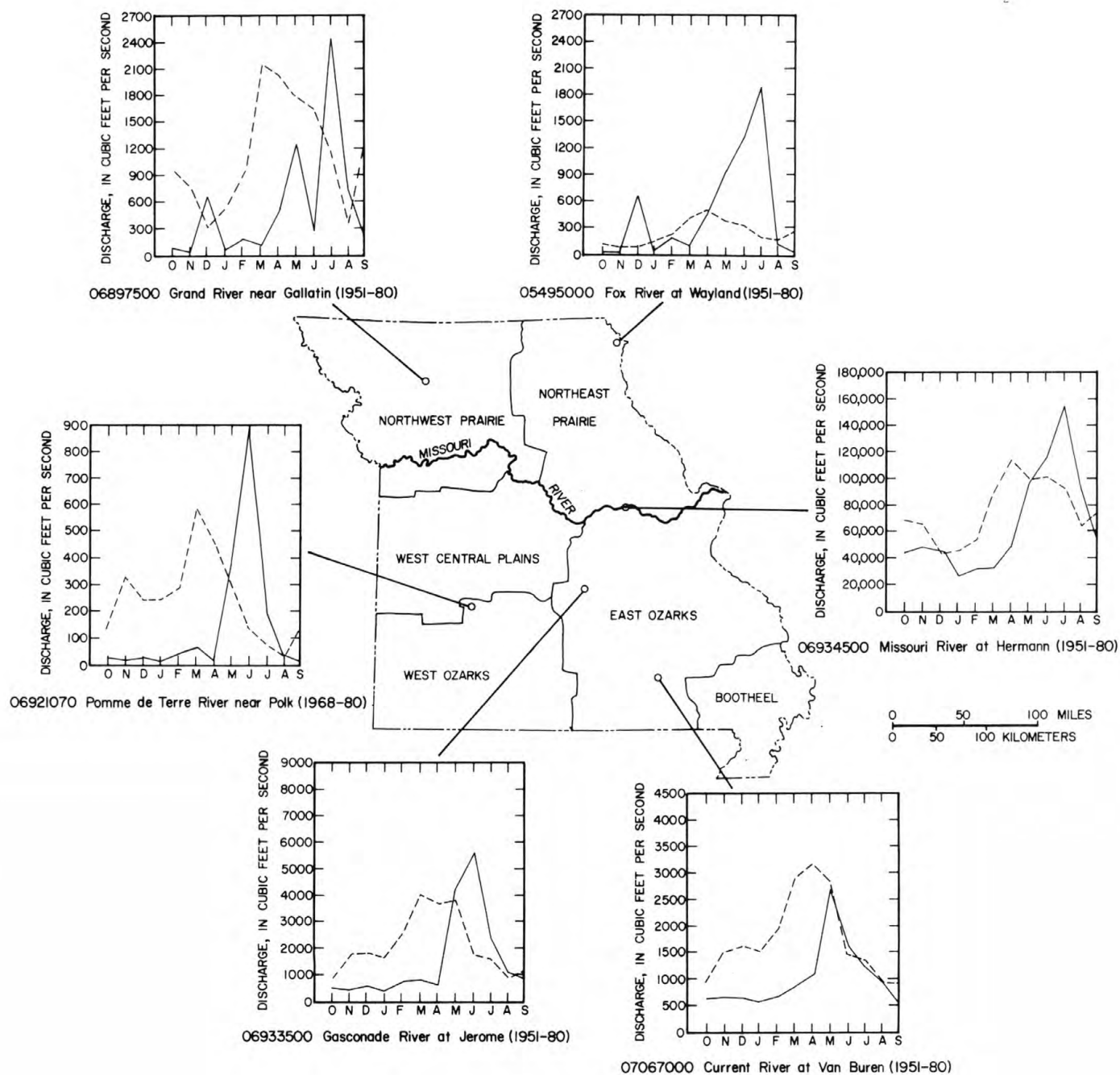
Missouri State Highway and Transportation Commission,
Robert N. Hunter, Chief Engineer.

Missouri Department of Conservation,
Larry R. Gale, director.

Department of Highways & Traffic, St. Louis County,
Richard F. Daykin, director.

City of Springfield, Sanitation Division,
Robert R. Schaeffer.

City Utilities of Springfield,
David Plank, Manager, Engineering Division.



EXPLANATION

MONTHLY MEAN DISCHARGE

- 1981 Water Year
- Long Term

Figure 1.--Comparison of 1981 water-year streamflow to long-term means.

WATER RESOURCES DATA FOR MISSOURI, 1981

The following Federal agencies assisted in collection of records published in this report by furnishing funds or services:

Corps of Engineers, U.S. Army, in collecting records for
77 gaging stations and 4 water-quality stations.

NOAA, National Weather Service, U.S. Department of Commerce.

National Park Service, Midwest Region

The following organizations aided in collecting records:

Little River Drainage District; City of Kansas City;
Union Electric Company of Missouri; Missouri Park Board.

ACKNOWLEDGMENT

Missouri district personnel who contributed significantly to the collection and preparation of the data in this report were: L. A. Waite, chief, data section, assisted by H. L. Reed, P. W. Cross, D. O. Hatten, and D. W. Spencer. Manuscripts were prepared by K. L. Hawks.

HYDROLOGIC CONDITIONS

Precipitation varied significantly from normal during the 1981 water year. Precipitation data from published reports of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, for the six divisions in Missouri are shown in the following table:

Table 1.--Precipitation and departures from normal, in inches

Division (fig. 1)	October-March		April-September		1981 Water Year	
	Precipitation	Departure from normal	Precipitation	Departure from normal	Precipitation	Departure from normal
Northwest Prairie	12.23	.95	32.41	6.69	44.64	7.64
Northwest Prairie	9.55	-3.53	38.96	12.57	48.51	9.04
Central Plains	8.33	-4.36	38.29	10.35	46.62	5.99
West Ozarks	12.25	-2.86	26.76	2.17	39.01	-.69
East Ozarks	12.04	-3.16	36.77	11.54	48.81	8.38
Bootheel	16.38	-8.20	31.49	7.59	47.87	-.61

Streamflow

The water year began with dry conditions because of less than normal rainfall during 1981. Soil moisture was deficient and runoff from precipitation was deficient during the winter and spring months of the 1981 water year. Streamflow was less than 30-year mean discharges during October through May as a result of the precipitation deficiency (see table 1). A significant increase in precipitation during April through September caused most rivers and streams in Missouri to exceed 30-year monthly mean discharges. The 1981 monthly means compared to the 1951-80 monthly means at six selected gaging stations are shown in figure 1.

Listed in table 2 are 15 selected gaging stations comparing the peak discharge for the period of record and the peak discharge for the 1981 water year. The 7-day low flow for the 1981 water year is compared to the 7-day, 2-year low flow for selected stations in table 3. The 7-day, 2-year low flow is the 7-day average minimum flow with a recurrence interval of 2 years. One station was selected for each of the subdivisions illustrated in figure 1.

Table 2.--Comparisons of peak discharge for the 1981 water year
with those for period of record for selected stations

Station identification		Peak discharge 1981 water year		Peak discharge period of record	
		Ft ³ /s	Date	Ft ³ /s	Date
05508000	Salt River near New London	74,200	July 29	107,000	Apr. 22, 1973
05587500	Mississippi River at Alton, Ill	311,000	May 22	535,000	Apr. 29, 1973
06818000	Missouri River at St. Joseph	73,400	Aug. 8	397,000	Apr. 22, 23, 1952
06893000	Missouri River at Kansas City	131,000	July 28	537,000	July 14, 1951
06895500	Missouri River at Waverly	139,000	July 28	549,000	July 16, 1951
06897500	Grand River near Gallatin	17,800	July 27	69,100	June 24, 1947
06905500	Chariton River near Prairie Hill	29,200	July 27	31,900	Apr. 23, 1973
06909000	Missouri River at Booneville	238,000	July 29	550,000	July 17, 1951
06934500	Missouri River at Hermann	282,000	May 20	676,000	June 6, 7, 1903
07010000	Mississippi River at St. Louis	511,000	May 21	1,019,000	June 10, 11, 1903
07016500	Bourbeuse River at Union	20,100	May 20	33,100	July 1, 1957
07018500	Big River at Byrnesville	15,600	May 21	42,100	July 1, 1957
07019000	Meramec River near Eureka	40,200	May 21	120,000	June 11, 1945
07022000	Mississippi River at Thebes, Ill	534,000	May 22	893,000	May 27, 1943
07070500	Mississippi River at Chester, Ill	524,000	May 22	886,000	July 3, 1947 Apr. 30, 1973

Table 3.--Comparisons of 1981 water year low flows and minimum daily flows at selected stations,
in cubic feet per second, to those for period of record

Station identification and period of record used	Average 7-day Low Flows		Minimum daily flows	
	1981	2-year ¹	Period of record shown	
			Discharge	Year of occurrence
0549500 Fox River at Wayland 1922-1981	14	1.3	0	several years
06817500 Nodaway River near Burlington Jct. 1922-81	51	21.0	1.1	1934
06921070 Pomme de Terre River near Polk 1968-81	1.1	3.0	0.3	1980
07016500 Bourbeuse River at Union 1921-81	23	32.0	11	1956
07067000 Current River at Van Buren 1912-81	588	700	473	1956
07187000 Shoal Creek above Joplin 1941-81	49	92.0	12	1954

¹ Recurrence interval

WATER RESOURCES DATA FOR MISSOURI, WATER YEAR 1981

Chemical Quality of Streamflow

Quality water samples were collected at 30 stations in Missouri; 23 of these stations are visited monthly and 7 are visited bi-monthly. Data collected on a routine basis at these stations were temperature, specific conductance, dissolved oxygen, pH, alkalinity, nuclear inorganics, nutrients, metals, organic compounds, biological, pesticides, radio-chemical, phytoplankton, organic carbon, sediment, and streamflow. Water quality data collected indicated no unusual changes occurred this year.

Daily temperature and conductance samples were collected at 13 stations. Continuous temperature data were recorded at five stations and continuous specific conductance data at one station.

Two water-quality monitors were in operation in the District. The data collected were temperature, specific conductance, dissolved oxygen, and pH.

Seven springs and four surface-water sites were visited two times during the year, once in the spring and once in the fall. Water-quality data collected at these sites were temperature, specific conductance, dissolved oxygen, pH, alkalinity, biological, nutrients, and trace metals.

Daily suspended-sediment samples are collected at 18 stations in Missouri. At 14 of these stations particle-size data of suspended sediment also are obtained. Suspended-sediment samples are collected daily by observers from a fixed location in the river. Approximately once a month samples are collected across the complete river cross-section by USGS personnel. The cross-sectional samples are used to adjust the observers sample to get a more accurate daily value. These daily values are then used to compute average daily suspended-sediment concentrations and average daily suspended-sediment loads.

DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indentation in a list of stations in the front of the report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each hydrologic 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 other 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 series of 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 06909000, which appears just to the left of the station name, includes the 2-digit part number "06" plus the 6-digit downstream order number "909000".

NUMBERING SYSTEM FOR MISCELLANEOUS SITES

The 8-digit downstream order station numbers are not assigned to miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the miscellaneous sites and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the sites within a 1-second grid. See figure 2 below.

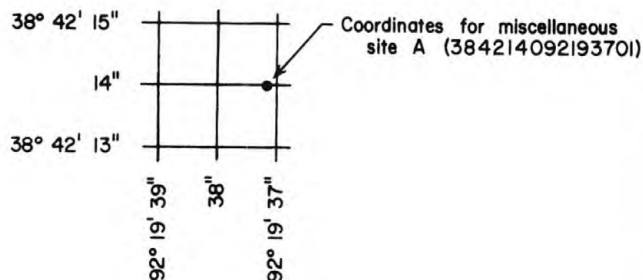


Figure 2. System for numbering miscellaneous sites (latitude and longitude).

WATER RESOURCES DATA FOR MISSOURI, 1981

SPECIAL NETWORKS AND PROGRAMS

National stream-quality accounting network (NASQAN) is a data collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist 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 either direct readings on nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, 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), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharge are computed from the daily figures. 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 computed 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 the 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 computing discharge. 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 computing 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 gage-height record and occasional winter discharge measurements. Consideration is 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, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. 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, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. 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. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30.

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The description of the hydrologic-data station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from 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."

Previously published streamflow 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 "REVISED RECORDS" 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, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the 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 revision 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 revision of the drainage area only are usually not published in the annual series of reports.

The type of gage currently in use, the datum of the present gage referred to National Geodetic Vertical Datum; and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." National Geodetic Vertical Datum is explained in "DEFINITION OF TERMS" on page 5.

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow of the gaging station 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 given under "REMARKS."

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. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will 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, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. 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 for 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 noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches. In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar year and water years.

Footnotes to the table of daily discharge are introduced by the "NOTE." Footnotes are used to indicate periods 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-relation, or of any other source, or of any other unusual condition at the gage site 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.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skelton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but is not published for reservoirs for which only monthly data are given.

WATER RESOURCES DATA FOR MISSOURI, 1981

Data collected at partial-record stations follow the information for continuous record sites. Data for partial-record discharge 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. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

Accuracy of field data and computed results

The accuracy of streamflow 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 interpretations 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 are 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.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other data available

Information of a more detailed nature than that published for most of the gaging stations such as observations of water temperatures, discharge measurements, gage-height records, and rating tables is on file in the district office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the District office.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface water samples for analyses usually are collected at or near gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, pH, dissolved oxygen, water temperature, sediment discharge, etc.); extremes for the period of daily record; extremes for the current year; and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, date of sampling and/or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogenous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum and minimum values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

WATER RESOURCES DATA FOR MISSOURI, 1981

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once daily, the water temperatures are taken at about the same time each day. Large streams have a small daily temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, maximum and minimum temperatures for each day are published.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the stream.

For the Mississippi River at St. Louis, depth-integrated samples were collected weekly at two or more verticals with the P-61 sampler. Periodically, samples were taken at 10 to 20 verticals in the cross section to define more accurately the average concentration of the cross section. Three times during the year, bed material samples were collected from 15 to 18 verticals.

For some periods, when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, turbidity, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

In addition to the records of the quantities of suspended sediment, records of periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

Publication of turbidity was changed to the NTU method this year. Previously, turbidity was published using the JTU method.

WATER RESOURCES DATA FOR MISSOURI, WATER YEAR 1981

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also the table for converting English Units to International System of units (SI) on the inside of the back cover.

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 about 326,000 gallons or 1,233 cubic meters.

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at $44.5^{\circ}\text{C} + 0.2^{\circ}\text{C}$ on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at $35^{\circ}\text{C} + 1.0^{\circ}\text{C}$ on M-enterococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass, and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and fry mass.

Wet mass is the mass of living matter plus contained water.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grind or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,447 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

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 constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream.

Cubic foot per second (ft^3/s , ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

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.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment), that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to the amount of substance present in true chemical solution. In practice, however, the term includes all forms of substance that will pass through a 0.45-micrometer membrane filter, and thus may include some very small (colloidal) suspended particles. Analysis are performed on filtered samples.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = - \sum_{i=1}^s \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

Where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific 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 river above the specified point. Figures of drainage area given herein include all closed basins, or noncontribution areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often 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 hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate (CaCO_3).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

Micrograms per gram (ug/g) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

Micrograms per liter (MG/l, mg/l) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/l, mg/l) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/l, and is based on the mass of sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "mean sea level."

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meters (m^2), acres, or hectares. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliters (ml) or liters (l). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle-size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawn tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

WATER RESOURCES DATA FOR MISSOURI, 1981

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology.

The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay.....	0.00024 - 0.004	Sedimentation.
Silt.....	.004 - .062	Sedimentation.
Sand.....	.062 - 2.	Sedimentation or sieve.
Gravel.....	2.0 - 64.0	Sieve.

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass or volume.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

Picocurie (PC,pCi) is one trillionth (1×10^{12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{12} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column, and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Runoff in inches (IN, 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.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristic, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge times mg/L times 0.0027.

Suspended-sediment load is quantity of suspended sediment passing a section in a specified period.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during the given time.

Mean concentration is the time weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrates refers to any naturally occurring emerged or submersed solid surface, such as a rock or tree, upon which an organism lived.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multi-plate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is that part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of the total concentration in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) that material retained on a .45 micrometer filter.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata* is the following:

Kingdom.....Animal
Phylum.....Arthropoda
Class.....Insects
Order.....Ephemeroptera
Family.....Ephemeridae
Genus.....Hexageris
Species.....Hexagenia limbata

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the presence of a thermograph or a digital mechanism that automatically records water temperatures on paper tape.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the water year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day is the quantity of substance in solution or suspension that passes a stream section during a 24-hour day.

Total (as used in tables of chemical analyses) refers to the amount of a substance that is present both in solution and in suspension. Analyses are performed on representative samples of water-suspended sediment mixtures.

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the mg/l of the constituent, times the factor 0.0027, times the number of days.

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WRD is used as an abbreviation for "Water-Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1975.

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

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations".

- 1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P. E. Greeson, T. A. Ehlike, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

DES MOINES RIVER BASIN

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 40°27'45", long 91°34'00", Clark County, Hydrologic Unit 07100009, at bridge on County Highway B at St. Francisville, and 8 mi (12.9 km) upstream from Sugar Creek.

DRAINAGE AREA.--14,300 mi² (37,000 km²).

PERIOD OF RECORD.--August 1967 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1973 to September 1974, October 1975 to Sept. 1981. (Discontinued)

WATER TEMPERATURES: October 1973 to September 1974, October 1975 to Sept. 1981. (Discontinued)

SEDIMENT RECORDS: April 1978 to current year.

REMARKS.--Water temperature and specific conductance samples collected daily by observer. Stream frozen Dec. 19 to Feb. 18. Missing record exceed 20 percent of year. No samples were taken during the time of year when minimum temperature occurs. Two 0.0°C temperatures were observed Dec. 3, 4.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1976-80): Maximum daily, 1,080 micromhos Jan. 25, 1977; minimum daily, 214 micromhos Sept. 2, 1980.

WATER TEMPERATURES (water years 1976-80): Maximum daily, 35.0°C July 6, 1977; minimum 0.0°C on many days during winter periods.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 8010 mg/L April 13, 1981; minimum daily mean, 11 mg/L November 23, 1980.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 614,000 tons (557,000 metric tons) June 3, 1981; minimum daily, 41 tons (37 metric tons) April 6, 1981.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 28.0°C June 5, 6, July 12, 14, 15, 16, 18, Aug. 4, 6, 9, 14, 24, 25, 26.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 8010 mg/L April 13; minimum daily mean, 11 mg/L November 23.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 496,000 tons (450,000 metric tons) July 5; minimum daily, 41 tons (37 metric tons) April 6.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMPCS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	CHL- OROPHY- TAN, FECAL, 0.7 KF AGAR UM-MF (CCLS./ 100 ML) (31625)	SERP- ENTIN, FECAL, KF AGAR UM-MF (CCLS./ 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT												
08...	1310	600	8.7	16.5	.90	11.8	120	40	15	260	100	57
NOV												
05...	1700	687	8.0	8.0	2.1	8.0	67	14	40	310	110	73
DEC												
03...	1070	720	8.6	.5	2.9	14.4	100	10	300	310	120	71
JAN												
07...	840	766	8.0	.5	5.1	13.4	93	6	2	350	130	82
FEB												
11...	1760	976	8.2	1.0	2.5	15.0	106	<4	<4	440	170	110
MAR												
04...	2950	631	8.2	5.0	21	11.6	91	52	120	260	96	64
APR												
08...	1400	670	8.6	17.0	20	12.2	126	12	51	290	120	66
MAY												
06...	1820	559	8.9	15.5	19	12.0	120	62	440	240	84	59
JUN												
04...	3420	595	8.6	25.0	38	7.2	87	58	88	270	120	60
JUL												
08...	9480	305	8.0	26.5	510	5.2	64	1500	5200	140	42	40
AUG												
05...	7500	585	8.3	27.0	190	5.4	68	11000	3400	260	80	71
SEP												
03...	4400	572	8.5	23.0	24	11.2	129	480	260	280	80	70

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCC3) (00440)	CAR- BONATE FET-FLD (MG/L AS CC3) (00445)	SULFATE DIS- SOLVED (MG/L AS SC4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUC- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIC2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TCTAL (MG/L AS N) (00630)
OCT 08...	29	18	4.8	164	16	84	34	.2	4.5	360	1270	1.8
NOV 05...	32	21	4.8	240	0	97	37	.4	4.8	414	1900	2.9
DEC 03...	33	23	4.2	250	32	120	36	.4	1.5	446	1290	3.0
JAN 07...	35	25	4.7	270	0	140	30	.4	4.2	475	1080	3.1
FEB 11...	41	36	4.3	330	0	160	46	.4	4.8	567	2690	3.3
MAR 04...	25	22	4.0	160	0	110	30	.2	5.0	387	3080	3.0
APR 08...	30	27	4.6	180	16	160	28	.3	.2	430	1630	.60
MAY 06...	22	21	5.0	150	20	110	28	.4	2.1	352	1730	.95
JUN 04...	28	25	4.6	170	8	100	36	.4	1.4	359	3320	1.9
JUL 08...	10	6.2	4.8	120	0	19	15	.3	10	208	5320	4.0
AUG 05...	21	11	4.6	220	0	61	23	.5	14	383	7760	3.7
SEP 03...	25	14	4.3	220	12	60	28	.4	12	415	4930	4.3

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AM- MONIA + ORGANIC TCTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TCTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, DIS- SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 08...	.010	1.80	1.3	.140	.020	18	--	--	331	1170	21
NOV 05...	.040	1.50	1.6	.240	.160	--	7.7	1.3	70	321	0
DEC 03...	.040	1.60	.86	.190	.080	12	--	--	28	81	0
JAN 07...	.100	1.40	1.4	.190	.080	26	--	--	108	245	55
FEB 11...	.480	2.40	1.8	.340	.230	--	8.9	.4	23	109	57
MAR 04...	.290	2.00	1.5	.260	.150	12	--	--	354	2820	21
APR 08...	.070	1.30	.95	.160	.030	14	--	--	113	427	49
MAY 06...	.080	1.70	.89	.180	.030	--	7.0	3.7	110	541	42
JUN 04...	.080	1.90	1.1	.220	.050	7.2	--	--	1380	12700	57
JUL 08...	.100	2.40	1.7	.590	.060	21	--	--	534	13700	80
AUG 05...	.190	2.50	1.9	.530	.150	--	7.2	2.5	2220	45000	42
SEP 03...	.070	2.10	.60	.210	.080	9.3	--	--	2840	33700	3

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--continued
 TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
 ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	9.0	4.0		---	7.0	---	19.0	23.0	24.0	24.0	26.0
2	18.0	10.0	1.0		---	7.0	---	21.0	24.0	26.0	25.0	25.0
3	14.0	10.0	.0		---	6.0	---	21.0	26.0	25.0	25.0	25.0
4	15.0	10.0	.0		---	---	---	19.0	27.0	23.0	28.0	25.0
5	16.0	10.0	4.0		---	---	---	18.0	28.0	22.0	27.0	---
6	16.0	11.0	6.0		---	---	---	18.0	28.0	24.0	28.0	---
7	19.0	14.0	5.0		---	---	14.0	18.0	27.0	24.0	27.0	---
8	18.0	13.0	4.0		---	---	16.0	16.0	27.0	25.0	26.0	---
9	18.0	14.0	3.0		---	---	15.0	16.0	27.0	26.0	28.0	23.5
10	18.0	11.0	1.0		---	---	18.0	12.0	27.0	26.0	27.0	25.0
11	16.0	9.0	1.0		---	---	11.0	16.0	24.0	26.0	26.0	26.0
12	15.0	10.0	3.0		---	---	16.0	16.0	23.0	27.0	26.0	27.0
13	13.0	11.0	1.0		---	---	17.0	16.0	25.0	28.0	26.0	27.0
14	19.0	8.0	4.0		---	---	15.0	11.0	25.0	28.0	28.0	27.0
15	14.0	7.0	1.0		---	---	15.0	15.0	26.0	28.0	26.0	25.0
16	16.0	6.0	2.0		---	---	15.0	17.0	25.0	28.0	26.0	21.0
17	18.0	5.0	3.0		---	---	16.0	17.0	25.0	25.0	25.0	19.0
18	13.0	5.0	1.0		---	---	18.0	12.0	26.0	28.0	25.0	20.0
19	13.0	5.0	---		4.0	---	16.0	15.0	25.0	26.0	25.0	22.0
20	12.0	5.0	---		2.0	---	15.0	19.0	26.0	25.0	25.0	25.0
21	15.0	5.0	---		5.0	---	14.0	21.0	25.0	26.0	26.0	25.0
22	15.0	5.0	---		5.0	---	14.0	20.0	22.0	27.0	26.0	23.0
23	15.0	5.0	---		2.0	---	14.0	21.0	23.0	25.0	27.0	20.0
24	12.0	4.0	---		6.0	---	16.0	20.0	24.0	25.0	28.0	19.0
25	9.0	3.0	---		5.0	---	17.0	22.0	23.0	25.0	28.0	18.0
26	8.0	1.0	---		5.0	---	20.0	25.0	25.0	25.0	28.0	20.0
27	6.0	2.0	---		6.0	---	18.0	25.0	25.0	24.0	26.0	19.0
28	7.0	2.0	---		7.0	---	22.0	25.0	25.0	20.0	26.0	19.0
29	6.0	4.0	---		---	---	19.0	27.0	27.0	20.0	27.0	20.0
30	4.0	5.0	---		---	---	20.0	24.0	25.0	21.0	27.0	24.0
31	7.0	---	---		---	---	---	24.0	---	23.0	26.0	---
MEAN	13.5	7.5	2.5		4.5	6.5	16.5	19.0	25.5	25.0	26.5	23.0
WTR YR 1981	MEAN	17.5		MAX	28.0		MIN	.0				

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
 ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	499	659	695		---	651	---	574	604	432	551	533
2	549	670	---		---	675	---	554	603	560	579	497
3	485	670	710		---	687	---	562	609	580	504	548
4	569	669	678		---	---	---	561	612	346	463	488
5	563	670	672		---	---	---	563	623	347	476	---
6	550	675	670		---	---	---	542	593	275	544	---
7	519	679	575		---	---	599	539	569	297	601	---
8	510	669	375		---	---	641	538	571	296	584	---
9	493	659	315		---	---	629	541	574	298	584	483
10	480	649	325		---	---	644	472	569	301	587	466
11	459	650	420		---	---	486	547	616	289	586	484
12	470	647	470		---	---	405	---	605	340	541	477
13	479	641	570		---	---	426	590	361	329	584	465
14	485	640	616		---	---	364	321	453	330	579	463
15	489	660	645		---	---	356	351	551	379	587	452
16	477	690	655		---	---	---	361	532	373	496	459
17	477	681	650		---	---	472	513	379	332	464	466
18	489	671	660		---	---	519	242	461	438	470	468
19	490	679	---		676	---	550	306	455	364	476	473
20	517	681	---		687	---	549	415	489	370	461	464
21	540	690	---		687	---	544	501	493	413	459	471
22	539	681	---		679	---	497	526	357	462	476	475
23	529	665	---		603	---	461	513	483	431	458	482
24	519	680	---		619	---	504	304	486	442	458	475
25	542	680	---		605	---	506	495	287	394	456	437
26	547	690	---		551	---	545	535	343	393	444	406
27	530	689	---		566	---	577	515	512	471	448	306
28	610	681	---		611	---	564	579	539	460	451	413
29	635	685	---		---	---	555	630	583	460	467	461
30	659	688	---		---	---	569	618	429	479	484	467
31	659	---	---		---	---	---	606	---	532	517	---
MEAN	528	671	571		628	671	520	497	511	394	511	465
WTR YR 1981	MEAN	522		MAX	710		MIN	242				

DES MOINES RIVER BASIN

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE TIME	NOV 5,80 1100	MAR 4,81 0930	MAY 6,81 1000	JUN 4,81 1200				
TOTAL CELLS/ML	30000	9500	140000	140000				
DIVERSITY: DIVISION	1.5	0.9	0.9	1.6				
..CLASS	1.5	0.9	0.9	1.7				
...ORDER	2.0	1.3	1.3	1.9				
...FAMILY	2.4	1.3	1.5	2.6				
....GENUS	3.3	1.3	2.5	3.5				
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCEALES								
...CHLORASTRACEAE								
....CHLORASTRUM	--	-	--	-	--	-	7700	5
...HYDROCHLORACEAE								
....HYDROCHLORACEAE	--	-	--	-	--	-	3400	2
...MICHAELIACEAE								
....MICHAELIACEAE	910	3	--	-	7900	5	1300	1
...COCCYDIACEAE								
....COCCYDIACEAE	910	3	--	-	2600	2	860	1
...CHLORATALLA	--	-	--	-	--	-	--	-
...GLUCOCYSTACEAE	--	-	--	-	--	-	1700	1
...GLUCOCYSTACEAE	--	-	--	-	--	-	6900	5
...KINCHINACEAE	--	-	--	-	--	-	1300	1
...COCCYDIACEAE	--	-	--	-	--	-	6000	4
...SELENASTRUM	910	3	--	-	--	-	--	-
...TETRASTROM	--	-	--	-	--	-	--	-
...TETRASTROM	230	1	--	-	--	-	--	-
...SCENEDESMACEAE								
...ACTINASTRUM	1800	6	--	-	--	-	10000	7
...CROCIGENIA	--	-	--	-	--	-	1700	1
...SCENEDESMUS	2300	8	--	-	7000	5	11000	8
...TETRASTROM	1800	6	120	1	3500	2	6400	4
...TETRASTROM								
...CHLOROCYXACEAE								
...ELAKATUTHRIX	--	-	--	-	--	-	--	-
...PALMELLACEAE	--	-	--	-	--	-	--	-
...SPHAEROCYSTIS	--	-	--	-	--	-	--	-
...VULVACEAE								
...CHLAMYDOMONADACEAE								
...CHLAMYDOMONAS	1100	4	240	3	12000	9	860	1
CHRYSCOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCEACEAE								
...CYCLOCITELLA	5400# 18	--	-		49000# 34		25000# 18	
...MELCIRA	8900# 29	--	-		50000# 35		16000	11
...STEPHANODISCUS	--	-	7100# 75		5300	4	--	-
...FENNALES								
...FRAGILARIACEAE								
...SYNEURA	--	-	--	-	--	-	--	-
...NAVICULACEAE								
...NAVICULA	450	2	--	-	--	-	*	0
...NITZSCHIA								
...NITZSCHIA	1800	6	120	1	3500	2	*	0
...SILIRELLACEAE								
...SILIRELLA	--	-	120	1	880	1	--	-
...CHRYSCOPHYCEAE								
...CHRYSCOPHYCEAE								
...CHRYSCOPHYCEAE								
...CHRYSCOPHYCEAE	--	-	--	-	--	-	*	0
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADACEAE								
...CRYPTOCCHRYSIDACEAE								
...CHROMONAS	2000	7	--	-	1800	1	--	-
...CRYPTOMONADACEAE								
...CRYPTOMONAS	450	2	--	-	--	-	2100	1
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROCOCCACEAE								
...CHROCOCCACEAE								
...AGMENELLUM	--	-	--	-	--	-	--	-
...ANACYSTIS	1100	4	550	6	--	-	35000# 24	
...FICUS								
...COSCILLATORACEAE								
...COSCILLATORIA	--	-	1300	13	--	-	4300	3

DES MOINES RIVER BASIN

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE TIME	NOV 5,80 1100		MAR 4,81 0930		MAY 6,81 1000		JUN 4,81 1200	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENCOPHYTA (EUGLENOIDS)								
..EUGLENCOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
.....EUGLENA	--	-	--	-	--	-	--	-
.....TRACHELOMONAS	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)								
..DINOPHYCEAE								
...GYMNODINIALES								
....GYMNODINIACEAE								
.....GYMNODINIUM	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

A - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE TIME	JUL 8,81 1130	AUG 5,81 1545	SEP 3,81 0945			
TOTAL CELLS/ML	2900	22000	74000			
DIVERSITY: DIVISION	0.5	1.2	1.7			
..CLASS	0.5	1.2	1.7			
...ORDER	0.5	1.8	2.2			
...FAMILY	0.5	2.1	2.5			
...GENUS	0.5	2.9	3.0			
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCEAE						
...COELASTRACEAE						
....COELASTRUM	--	-	--	-	--	-
...HYDRODICTYACEAE						
....PEDIASTRUM	--	-	--	-	--	-
...MICRACIINIACEAE						
....MICRACIINIUM	--	-	--	-	--	-
...DUCYSTACEAE						
....ANKISIRODESMUS	--	-	230	1	720	1
....CHOCATELLA	--	-	--	-	1100	1
....DICTYLSPHAERIUM	--	-	4500#	21	--	-
....GLOEOCACIINIUM	--	-	2300	10	--	-
....KIRCHNERIELLA	--	-	--	-	720	1
....DUCYSTIS	--	-	450	2	--	-
....SELENASIRUM	--	-	--	-	720	1
....TETRAEDRON	--	-	--	-	720	1
....TRELBARIA	--	-	--	-	--	-
...SCENEDESMACEAE						
....ACTINASIRUM	--	-	--	-	--	-
....CRUCIGENIA	--	-	--	-	14000#	19
....SCENELESUMUS	--	-	1800	8	2200	3
....TETRASTRUM	--	-	450	2	2900	4
...TETRASPORALES						
...COCCOMYXACEAE						
....ELAKAIOITHIX	--	-	--	-	1100	1
...PALMELLACEAE						
....SPHAEROCYSTIS	--	-	1800	8	--	-
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	70	2	--	-	720	1
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOCIELLA	210	7	7800#	36	21000#	29
....MELLESIRA	--	-	790	4	1800	2
....STEPHANODISCUS	--	-	--	-	--	-
...PENNALES						
...FRAGILARIACEAE						
....SYNEDRA	--	-	230	1	1400	2
...NAVICULACEAE						
....NAVICULA	--	-	--	-	3200	4
...NITZSCHACEAE						
....NITZSCHIA	--	-	680	3	1400	2
...SURIRELLACEAE						
....SURIRELLA	--	-	--	-	--	-
..CHRYSCOPHYCEAE						
...CHRYSLMONADALES						
...CHRYSLMONADACEAE						
....CHRYSOMONAS	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOPHYCIDACEAE						
....CHROMONAS	--	-	--	-	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	110	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROCOCCACEAE						
...CHROCOCCACEAE						
....AGMENELLUM	--	-	--	-	17000#	24
....ANACYSTIS	--	-	230	1	--	-
...HORMOGONALES						
...OSCILLATORIACEAE						
....OSCILLATORIA	2700#	90	--	-	--	-

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE TIME	JUL 8,81 1130		AUG 5,81 1545		SEP 3,81 0945	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENCIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	110	1	*	0
....TRACHELOMONAS	--	-	110	1	2200	3
PYRRHOPHYTA (FIRE ALGAE)						
.CINOPHYCEAE						
..GYMNODINIALES						
...GYMNODINIACEAE						
....GYMNODINIUM	--	-	110	1	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SED.	SED.	SED.	SED.	SED.	SED.	SED.	SED.
		SUSP.	SUSP.	SUSP.	SUSP.	SUSP.	SUSP.	SUSP.	SUSP.
		FALL	FALL	FALL	FALL	FALL	FALL	FALL	FALL
		DIAM.	DIAM.	DIAM.	DIAM.	DIAM.	DIAM.	DIAM.	DIAM.
		% FINER	% FINER	% FINER	% FINER	% FINER	% FINER	% FINER	% FINER
		THAN	THAN	THAN	THAN	THAN	THAN	THAN	THAN
		.002 MM	.004 MM	.008 MM	.016 MM	.062 MM	.125 MM	.250 MM	.500 MM
(70337)	(70338)	(70339)	(70340)	(70342)	(70343)	(70344)	(70345)	(70346)	
APR									
14...	25100	53	54	61	75	95	98	99	100
15...	17400	50	61	63	77	97	98	99	100

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
OCT										
01...	0	0	5	23	68	89	97	100	100	100
NOV										
05...	0	0	3	32	90	99	100	100	100	100
18...	0	0	4	32	72	86	96	99	100	100
DEC										
03...	0	0	4	24	81	96	99	100	100	100
MAR										
03...	0	1	14	36	79	93	96	99	100	100
04...	0	1	15	47	91	98	100	100	100	100
APR										
06...	0	1	8	28	68	87	97	100	100	100
08...	6	13	27	54	83	87	89	91	100	--
14...	2	4	8	29	70	88	95	99	100	100
MAY										
06...	0	0	4	42	84	96	99	100	100	100
27...	0	1	8	41	80	92	96	96	98	100
JUN										
04...	0	0	4	38	85	97	99	100	100	100
JUL										
14...	2	5	15	46	78	91	97	99	100	100
AUG										
24...	5	9	14	30	72	91	97	99	100	100

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TNS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	2150	165	958	3120	93	783	1620	12	52
2	3120	162	1360	3050	83	684	4140	18	201
3	3280	129	1140	2380	66	424	3900	37	390
4	3420	113	1040	2180	58	341	3360	112	1020
5	3420	104	960	2080	52	292	3350	200	1810
6	3350	90	814	2220	93	557	3480	75	705
7	2300	78	484	2930	88	696	3610	460	4480
8	1360	63	305	2380	75	482	3650	2120	20900
9	1610	86	374	1650	72	321	2890	1760	13700
10	1420	97	372	1280	87	301	3430	1020	9450
11	1270	73	250	1610	62	270	1920	610	3160
12	820	70	155	1420	55	211	2000	330	1780
13	820	71	157	1200	44	143	2430	142	932
14	680	40	73	1300	38	133	3650	120	1180
15	820	47	104	1610	110	478	3920	64	677
16	760	41	84	2010	123	668	3870	36	376
17	1080	44	128	2220	105	629	3880	30	314
18	720	47	91	2900	83	650	3670	64	634
19	1030	45	125	2010	34	185	2560	---	---
20	770	178	370	1850	38	190	3060	---	---
21	1250	125	422	1810	169	826	3600	---	---
22	1420	1080	4140	1850	22	110	4240	---	---
23	1440	382	1490	1710	11	51	4920	---	---
24	1300	75	263	1520	17	70	4830	---	---
25	1420	83	318	1860	17	86	4430	---	---
26	1650	75	334	1740	22	103	4280	---	---
27	1860	63	320	1680	18	82	4190	---	---
28	2010	60	326	1400	31	117	3490	---	---
29	2180	70	412	1480	476	1900	3160	---	---
30	2480	73	489	1460	145	572	2790	---	---
31	2450	83	549	---	---	---	3160	---	---
TOTAL	53680	---	18407	57930	---	12355	107480	---	61761
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TNS/DAY)
JANUARY			FEBRUARY			MARCH			
1	3650			2220	---	---	22000	320	19000
2	2960			2170	---	---	20600	175	9730
3	2470			2150	---	---	20600	132	7340
4	1910			2140	---	---	20200	---	---
5	2320			2080	---	---	19500	---	---
6	2600			2080	---	---	17000	---	---
7	2790			2150	---	---	13500	---	---
8	2860			2360	---	---	13200	---	---
9	3000			2490	---	---	10800	---	---
10	2580			2390	---	---	9480	---	---
11	2840			2310	---	---	7310	---	---
12	2970			2080	---	---	8960	---	---
13	2580			2050	---	---	11200	---	---
14	3100			2240	---	---	23200	---	---
15	3120			2010	---	---	21000	---	---
16	2490			2320	---	---	24700	---	---
17	2380			2890	---	---	27400	---	---
18	2380			6610	---	---	26100	---	---
19	2440			12700	---	---	26000	---	---
20	2690			17000	---	---	54300	---	---
21	2630			35500	150	14400	37700	---	---
22	2360			26700	91	6560	20100	---	---
23	2160			23700	197	12600	14800	---	---
24	2120			24400	223	14700	9270	---	---
25	2120			19400	1080	56600	8460	---	---
26	2120			23000	1940	120000	15000	---	---
27	1800			28500	1470	113000	23400	---	---
28	2020			28200	750	57100	26000	---	---
29	2230			---	---	---	25200	---	---
30	2240			---	---	---	24900	---	---
31	2240			---	---	---	25800	---	---
TOTAL	78190			283840	---	394960	627680	---	36070

DES MOINES RIVER BASIN

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
APRIL				MAY			JUNE		
1	920	---	---	2180	230	1350	4490	450	5460
2	870	---	---	2280	143	880	4490	380	4610
3	870	---	---	1820	158	776	4060	375	4110
4	870	---	---	1790	122	590	3320	270	2420
5	820	---	---	1920	128	664	3320	275	2470
6	720	21	41	1820	128	629	3250	260	2280
7	1140	100	308	1720	434	2020	2920	220	1730
8	1420	232	889	1560	206	868	2480	220	1470
9	1710	282	1300	1560	234	986	2480	210	1410
10	1880	310	1570	1400	213	805	2410	240	1560
11	2300	2520	15600	2280	197	1210	6660	1120	20100
12	7900	6620	141000	1760	190	903	6390	1500	34000
13	15400	8010	333000	1760	222	1050	6900	4320	80500
14	21300	5300	305000	2540	3320	22800	4760	2820	36200
15	20200	5930	323000	10300	1990	55300	3440	380	3530
16	15700	6700	284000	8100	615	13500	2080	540	3030
17	11300	5050	93100	3800	860	8820	3800	1740	17900
18	8600	1450	33700	3180	1880	16100	5400	1200	17500
19	5900	920	14700	12900	770	26800	5800	840	13200
20	4670	350	4410	5360	1950	28200	5700	650	10000
21	3690	210	2090	3250	1800	15800	6040	720	11700
22	2480	280	1870	2320	1320	8270	11000	4610	137000
23	3180	310	2660	2060	1080	6010	7620	1930	39700
24	3720	460	4620	1930	3430	17900	6950	1110	20800
25	3100	500	4180	2220	1230	7370	18600	5380	270000
26	2340	340	2150	2120	270	1550	12900	4180	146000
27	2150	128	743	2080	550	3090	14100	1700	64700
28	1960	177	937	2960	750	5990	10600	1110	31800
29	1890	207	1060	3640	670	6580	9350	1000	25200
30	1960	300	1590	4230	670	7650	20400	4400	242000
31	---	---	---	4670	580	7310	---	---	---
TOTAL	150960	---	1573518	101510	---	271771	203710	---	1252380
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
JULY				AUGUST			SEPTEMBER		
1	21000	2980	169000	7620	350	7200	3100	230	1930
2	18500	1750	87400	7380	565	11300	3100	360	3010
3	17100	1050	48500	7740	1160	24200	3890	550	5780
4	16800	2420	110000	7380	400	7970	4280	490	5660
5	52200	3520	496000	7500	370	7490	3960	450	4840
6	31700	2500	214000	7380	275	5480	3640	490	4820
7	23600	2410	154000	7860	275	5840	3720	340	3410
8	12700	1130	38700	7740	275	5750	3690	290	2890
9	20400	1100	60600	7740	235	4910	3500	250	2360
10	20200	770	42000	7500	215	4350	3580	250	2420
11	20200	650	35500	6660	190	3420	3480	230	2160
12	19800	520	27800	5600	180	2720	3400	240	2200
13	17500	490	23200	4670	180	2270	3140	220	1870
14	16200	470	20600	4580	205	2540	2150	150	871
15	16200	450	19700	5500	335	4970	1400	90	340
16	19200	1560	80900	4230	240	2740	1360	75	275
17	15400	2280	94800	3640	240	2360	1400	70	265
18	11800	960	30600	3980	275	2960	1260	70	238
19	12700	1350	46300	3980	200	2150	854	60	138
20	18600	2380	120000	3980	200	2150	854	60	138
21	14800	1620	64700	3300	200	1780	787	60	127
22	10600	640	18300	3440	150	1390	787	50	106
23	7360	425	8470	2670	130	937	645	50	87
24	5600	300	4540	1890	125	638	740	50	100
25	4670	260	3280	2150	120	697	740	40	80
26	3640	315	3100	2220	130	779	1020	770	2120
27	4670	600	7570	2220	150	899	3980	1400	15000
28	6300	800	13600	2080	150	842	3220	490	4260
29	6900	660	12300	1930	360	1980	1990	160	860
30	7140	735	14200	2120	2020	11600	1540	200	852
31	7980	480	10300	2150	510	2960	---	---	---
TOTAL	481480	---	2079960	148830	---	137272	71227	---	69187

FOX RIVER BASIN

05495000 FOX RIVER AT WAYLAND, MO

LOCATION.--Lat 40°23'33", long 91°35'50", in NW¼ sec.31, T.65 N., R.6 W., Clark County, Hydrologic Unit 07110001, on left bank 90 ft (27 m) downstream from bridge on U.S. Highway 136, 0.8 mi (1.3 km) west of Wayland, and 5.0 mi (8.0 km) downstream from Brush Creek, and at mile 15.2 (24.3 km).

DRAINAGE AREA.--400 mi² (1,040 km²), approximately.

PERIOD OF RECORD.--February 1922 to current year.

REVISED RECORDS.--WSP 785: 1934.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 501.52 ft (152.863 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1929, nonrecording gage at bridge 2.8 mi (4.5 km) upstream at different datum. Oct. 1, 1929, to June 11, 1936, nonrecording gage, at bridge 90 ft (27 m) upstream at present datum.

REMARKS.--Records fair. Several observations of water temperature and specific conductance made during the year. National Weather Service gage height telemeter at station.

COOPERATION.--Four discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE--59 years, 241 ft³/s (6.825 m³/s), 8.18 in/yr (208 mm/yr), 174,600 acre-ft/yr (215 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,400 ft³/s (748 m³/s) Apr. 22, 1973, gage height, 21.71 ft (6.617 m); no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 4,000 ft³/s (113 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 9	1600	7,100 201	15.41 4.697	June 26	0130	5,330 151	13.71 4.179
May 15	0400	6,060 172	14.45 4.404	June 30	1800	4,950 140	13.30 4.054
May 19	0700	7,740 219	15.87 4.837	July 6	0530	*12,300 348	*18.53 5.648
June 14	0300	6,370 180	14.74 4.493	July 20	1600	5,350 152	13.73 4.185
June 23	0300	4,960 140	13.31 4.057	July 26	2230	4,090 116	12.16 3.706

Minimum daily discharge, 12 ft³/s (0.340 m³/s) Sept. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	UCI	NUV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	65	33	51	23	245	32	50	75	1390	177	58
2	42	65	33	53	23	183	37	43	74	454	142	64
3	40	58	31	55	27	140	44	37	67	357	789	41
4	38	45	28	65	21	127	49	35	60	6240	712	31
5	37	39	25	51	19	302	49	34	67	11300	281	27
6	35	34	31	36	18	243	47	33	63	11800	165	22
7	34	32	804	40	17	169	23	30	42	2800	159	24
8	33	29	5450	34	17	122	22	28	38	495	134	39
9	25	29	6610	33	15	101	24	35	36	273	96	61
10	18	26	4280	34	21	93	26	546	232	198	86	54
11	16	26	612	30	29	87	187	380	100	157	76	34
12	15	25	381	29	29	81	1450	118	639	134	64	26
13	14	23	268	28	29	76	1840	65	4840	112	57	21
14	15	24	204	27	29	70	2920	3360	3760	101	66	18
15	14	24	163	26	39	64	1730	4280	609	816	437	17
16	15	26	145	28	55	60	480	995	1670	1560	271	23
17	20	28	127	26	94	56	288	403	1710	332	150	27
18	36	26	114	26	148	51	206	5420	448	261	88	17
19	38	23	97	26	191	46	201	7000	257	3650	59	16
20	26	23	127	24	151	42	242	2230	217	4940	50	15
21	20	22	84	23	109	42	158	552	157	1200	42	13
22	17	23	67	25	130	42	852	344	3200	439	36	13
23	15	25	58	26	490	40	1570	249	2930	512	33	12
24	16	27	55	26	1300	39	605	702	1900	468	32	13
25	18	32	63	27	1130	38	270	516	5160	250	54	21
26	21	38	60	30	936	38	160	296	4520	1270	36	163
27	38	34	55	36	462	38	113	545	3470	3210	33	498
28	42	32	52	45	300	37	84	267	614	2910	33	161
29	86	33	49	46	---	36	68	157	451	947	77	74
30	99	33	48	35	---	35	58	154	3960	414	51	47
31	86	---	50	29	---	34	---	99	---	243	78	---
TOTAL	1013	969	20204	1070	5852	2777	13835	29003	41366	59233	4564	1650
MEAN	32.7	32.3	652	34.5	209	89.6	461	936	1379	1911	147	55.0
MAX	99	65	6610	65	1300	302	2920	7000	5160	11800	789	498
MIN	14	22	25	23	15	34	22	28	36	101	32	12
CFSM	.08	.08	1.63	.09	.52	.22	1.15	2.34	3.45	4.78	.37	.14
IN.	.09	.09	1.88	.10	.54	.26	1.29	2.70	3.85	5.51	.42	.15
AC-FT	2010	1920	40070	2120	11610	5510	27440	57530	82050	117500	9050	3270
CAL YR 1980	TOTAL	130749.5	MEAN 357	MAX 12800	MIN 9.4	CFSM .89	IN 12.16	AC-FT 259300				
WTR YR 1981	TOTAL	181536.0	MEAN 497	MAX 11800	MIN 12	CFSM 1.24	IN 16.88	AC-FT 360100				

WYACONDA RIVER BASIN

05496000 WYACONDA RIVER ABOVE CANTON, MO

LOCATION.--Lat 40°08'31", long 91°33'55", in SW¼SW¼NE¼ sec.28, T.62 N., R.6 W., Lewis County, Hydrologic Unit 07110001, on left bank on downstream side of bridge on State Highway 16, 1.9 mi (1.8 km) upstream from Sugar Creek, and 2.5 mi (4.0 km) west of Canton, and at mile 16.7 (26.9 km) upstream from mouth.

DRAINAGE AREA.--393 mi² (1018 km²).

PERIOD OF RECORD.--October 1932 to September 1972, October 1979 to current year.

GAGE.--Water-stage recorder and crest stage gage. Datum of gage is 517.41 (157.706 m) National Geodetic Vertical Datum of 1929. Prior to May 1, 1939, nonrecording gage at present site and datum, 1972 to 1979 nonrecording gage at present site and datum two feet lower.

REMARKS.--Records fair.

COOPERATION.--Four discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--42 years, (water years 1933-72, 1980-81), 224 ft³/s (6.344 m³/s), 7.74 in/yr (196 mm/yr), 162,300 acre-ft/yr, (200 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,700 ft³/s (501 m³/s) July 30, 1933, gage height, 30.00 ft (9.144 m), from floodmarks; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 10	0445	5,720	162	20.74	6.322	June 26	1745	4,860	138	19.27	5.873
Apr. 14	0015	3,460	98	16.44	5.011	July 1	0745	3,320	94	16.11	4.910
May 16	0715	5,170	146	19.82	6.041	July 6	1515	*9,690	274	*24.81	7.562
May 20	0245	7,390	209	22.62	6.894	July 20	0030	3,930	111	17.53	5.343
June 15	0230	8,000	226	23.24	7.084	July 29	0230	4,190	119	18.04	5.499

Minimum daily discharge, 11.0 ft³/s (0.312 m³/s) Oct. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	35	23	50	19	154	28	82	130	2630	162	38
2	17	28	25	50	17	125	26	68	97	668	116	34
3	15	26	25	48	8.3	102	24	60	84	212	120	29
4	16	25	18	39	10	94	23	57	69	3540	171	24
5	17	20	25	32	7.4	218	23	68	56	5970	131	30
6	17	20	24	30	10	293	23	59	51	9150	91	46
7	16	20	260	25	11	139	21	51	45	6780	68	53
8	15	22	3130	24	11	103	20	47	46	1910	67	38
9	14	22	4290	22	11	82	19	49	111	441	49	31
10	13	21	5210	19	11	74	24	367	115	204	74	24
11	12	19	1390	18	6.5	70	25	1360	64	114	30	22
12	15	18	374	18	9.0	65	153	302	182	104	25	20
13	13	18	181	18	12	57	1650	165	3630	72	26	19
14	12	20	122	18	13	52	3040	1380	6500	60	25	18
15	11	19	95	18	23	47	1920	3670	6830	1100	35	40
16	15	19	85	19	47	43	550	4520	3620	2180	98	25
17	25	19	93	18	92	38	264	1190	1560	587	106	20
18	35	21	93	17	231	39	198	4120	465	374	75	18
19	30	19	71	18	89	39	230	5770	359	2620	44	17
20	25	17	49	19	198	36	493	6800	226	3720	45	16
21	20	17	52	16	105	35	240	6000	221	3040	47	17
22	16	18	41	17	187	35	552	2000	2370	709	29	16
23	13	18	37	19	668	35	2610	450	2930	1220	29	15
24	14	20	33	19	1160	34	1160	300	1670	1860	92	14
25	13	21	22	22	930	33	363	200	4420	631	41	13
26	12	24	33	27	668	33	207	220	4650	2150	29	50
27	35	26	32	31	286	34	162	250	2960	3980	29	80
28	20	26	31	33	184	33	130	210	522	3920	80	66
29	36	23	34	27	---	32	107	160	204	3200	82	50
30	56	25	36	27	---	31	95	250	2000	845	27	40
31	39	---	43	23	---	30	---	170	---	289	42	---
TOTAL	627	646	15977	781	5024.2	2235	14380	41395	46789	64280	2085	923
MEAN	20.2	21.5	515	25.2	179	72.1	479	1335	1560	2074	67.3	30.8
MAX	56	35	5210	50	1160	293	3040	6800	6830	9150	171	80
MIN	11	17	18	16	6.5	30	19	47	45	60	25	13
CFSM	.05	.06	1.31	.06	.46	.18	1.22	3.40	3.97	5.28	.17	.08
IN.	.06	.06	1.51	.07	.48	.21	1.36	3.92	4.43	6.08	.20	.09
AC-FT	1240	1280	31690	1550	9970	4430	28520	82110	92610	127500	4140	1830

CAL YR 1980 TOTAL 93651.5 MEAN 256 MAX 7560 MIN 4.2 CFSM .65 IN 8.88 AC-FT 186200
WIR YR 1981 TOTAL 195142.2 MEAN 535 MAX 9150 MIN 6.5 CFSM 1.36 IN 18.47 AC-FT 387100

FABIUS RIVER BASIN

05497000 NORTH FABIUS RIVER AT MONTICELLO, MO

LOCATION.--Lat 40°06'30", long 91°42'51", in SW¼SE¼ sec.6, T.61 N., R.7 W., Lewis County, Hydrologic Unit 07110002, on right bank upstream from bridge on State Highway 16, 1.0 mi (1.6 km) south of Monticello, and 19.0 mi (30.6 km) upstream from Middle Fabius River.

DRAINAGE AREA.--452 mi² (1,171 km²).

PERIOD OF RECORD.--February 1922 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 925: 1937-39(M). WSP 1308: 1922(M), 1924-26(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 540.73 ft (164.815 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 22, 1930, nonrecording gage at site 400 ft (122 m) downstream at datum 0.03 ft (0.009 m) lower. Nov. 22, 1930, to Nov. 28, 1967, nonrecording gage at present site and datum.

REMARKS.--Records poor. Several observations of water temperature and specific conductance made during the year.

COOPERATION.--Three discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--59 years, 275 ft³/s (7.788 m³/s), 8.26 in/yr (210 mm/yr), 199,200 acre-ft/yr (246 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,700 ft³/s (586 m³/s) Apr. 22, 1973, gage height, 33.03 ft (10.068 m), from graph based on gage readings; no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1874, 30.8 ft (9.39 m) June 30, 1933.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (142 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 9	0515	8,690 246	23.58 7.187	June 13	1000	5,930 168	20.25 6.172
May 15	0200	5,640 160	19.79 6.032	July 6	Unknown	*13,600 385	+27.75 8.458
May 19	1830	9,010 255	23.40 7.132	July 28	1045	5,880 167	20.16 6.145

Minimum daily discharge, 2.9 ft³/s (0.082 m³/s) Feb. 12, 13.

* From graph based on observer readings

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1981
MEAN VALUES

DAY	UCI	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	60	31	68	11	233	39	84	98	1170	248	70
2	28	48	30	69	8.8	180	36	68	82	538	191	46
3	25	41	18	74	9.3	147	32	60	74	1290	203	39
4	26	38	15	38	5.3	139	30	56	63	5570	295	33
5	28	33	13	51	5.3	277	31	64	57	10900	201	29
6	28	29	12	46	5.0	389	31	66	52	10800	135	27
7	28	28	100	38	6.0	222	29	53	47	2400	110	31
8	28	27	632	41	8.3	156	28	41	68	894	116	55
9	27	25	6620	39	9.3	126	30	61	615	588	90	55
10	23	23	7190	40	4.7	113	29	887	177	460	84	44
11	21	23	1940	33	4.1	103	36	904	95	371	69	32
12	25	22	444	32	2.9	94	86	247	1640	460	63	26
13	22	22	338	31	2.9	94	2280	140	5410	289	56	25
14	22	25	249	30	3.8	84	2700	2900	5150	253	54	23
15	22	28	200	28	8.3	77	1470	4930	1460	1190	135	28
16	26	27	164	20	28	69	457	1550	3190	2100	295	22
17	50	27	129	20	74	60	290	684	1260	574	162	21
18	61	24	80	27	237	83	224	5390	447	1310	87	19
19	39	22	44	27	231	63	247	8610	1150	4060	66	18
20	29	21	23	29	134	56	377	3280	458	4570	65	18
21	24	20	97	28	89	52	247	834	262	1300	52	16
22	23	20	76	37	35	51	610	491	1270	494	49	16
23	19	21	52	40	629	51	2540	366	695	1840	39	15
24	24	22	68	42	1420	51	1000	325	1300	2240	114	15
25	21	24	65	44	1010	47	393	554	5400	771	21	57
26	35	52	66	44	788	46	257	295	4700	2550	39	73
27	68	33	65	50	391	46	186	239	640	5380	36	108
28	39	25	63	28	279	46	148	171	403	5380	67	89
29	116	28	76	19	---	47	126	201	253	1920	43	48
30	92	29	73	9.3	---	44	97	572	2650	647	47	30
31	74	---	70	13	---	43	---	142	---	371	55	---
TOTAL	1126	867	19043	1135.3	5440.0	3289	14086	34265	39366	72680	3287	1128
MEAN	36.3	28.9	614	36.6	194	106	470	1105	1312	2345	106	37.6
MAX	116	60	7190	74	1420	389	2700	8610	5410	10900	295	108
MIN	19	20	12	9.3	2.9	43	28	41	47	253	21	15
CFSM	.08	.06	1.36	.08	.43	.24	1.04	2.45	2.90	5.19	.24	.08
IN.	.09	.07	1.57	.09	.45	.27	1.16	2.62	3.24	5.98	.27	.09
AC-FT	2230	1720	37770	2250	10790	6520	27940	67960	78080	144200	6520	2240
CAL YR 1980	TOTAL	109084.5	MEAN 298	MAX 9460	MIN 6.0	CFSM .66	IN 8.98	AC-FT 216400				
WTR YR 1981	TOTAL	195712.3	MEAN 536	MAX 10900	MIN 2.9	CFSM 1.19	IN 16.11	AC-FT 388200				

FABIUS RIVER BASIN

05498000 MIDDLE FABIUS RIVER NEAR MONTICELLO, MO

LOCATION.--Lat 40°05'37", long 91°44'08", in SE¼ sec.12, T.61 N., R.8 W., Lewis County, Hydrologic Unit 07110002, on left bank on downstream end of bridge pier on State Highway 16, 2.5 mi (4.0 km) southwest of Monticello, 8 mi (13 km) downstream from Radish Branch, and 17 miles (27 km) upstream from mouth.

DRAINAGE AREA.--393 mi² (1,018 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 540.46 ft (164.732 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 4, 1967, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance made during the year.

COOPERATION.--Three discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--36 years, 252 ft³/s (7.137 m³/s), 8.71 in/yr (221 mm/yr), 182,600 acre-ft/yr (225 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,700 ft³/s (501 m³/s) Apr. 23, 1973, gage height, 27.14 ft (8.272 m); no flow at times in 1953-56.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 17, 1945, reached a stage of 23.3 ft (7.10 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s (99.1 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 11	0300	6,140 174	18.12 5.523	June 15	2115	5,290 150	17.52 5.340
Apr. 13	1245	4,380 124	15.58 4.749	June 25	0900	4,100 116	15.61 4.758
May 14	1630	3,980 113	15.37 4.685	July 7	1245	*8,590 243	*21.33 6.501
May 18	1530	5,680 161	18.10 5.517	July 26	2300	6,090 172	18.61 5.672

Minimum discharge, 3.75 ft³/s (0.106 m³/s); minimum gage height, 3.21 ft (0.978 m) at 0015 Nov. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	UCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	53	22	55	26	152	35	66	82	1790	273	30
2	24	39	39	56	22	126	33	57	66	2090	184	29
3	22	31	24	52	17	104	31	50	58	640	136	23
4	21	27	21	51	18	98	29	46	51	2990	113	23
5	19	23	25	42	16	146	28	59	45	4300	120	20
6	18	19	20	44	16	406	26	45	41	5640	88	18
7	17	18	246	35	17	246	27	41	37	6180	74	21
8	16	12	2390	28	16	140	28	41	185	3060	64	25
9	16	7.4	3410	27	15	104	30	45	827	436	56	24
10	15	5.4	4980	24	17	88	27	712	678	269	52	28
11	14	4.3	3170	23	16	82	34	956	171	184	45	27
12	13	8.1	461	21	17	77	49	328	424	221	43	23
13	12	17	269	20	17	71	2510	152	3190	171	41	19
14	12	31	195	20	22	65	1360	2800	3720	91	36	17
15	14	18	155	20	32	61	1470	3670	4820	714	711	39
16	14	16	131	19	51	56	583	3520	2460	1540	254	71
17	15	15	118	17	66	52	272	1670	1510	969	157	19
18	12	15	106	18	148	49	199	4970	460	1390	82	14
19	19	16	87	20	179	45	279	5080	700	1720	52	13
20	32	17	76	21	145	42	367	4940	530	2540	40	12
21	22	16	79	22	112	40	269	5020	241	2110	33	12
22	17	15	69	22	123	41	556	478	226	462	29	11
23	15	16	58	22	427	41	1620	320	236	1630	26	11
24	16	16	53	25	1050	47	1680	211	558	2380	80	12
25	14	15	52	28	1060	48	408	164	3850	1450	62	57
26	12	15	50	30	506	43	200	222	3690	3550	25	105
27	13	29	49	30	257	40	135	238	3170	5600	25	77
28	33	31	47	30	179	40	107	217	746	4350	27	51
29	31	25	44	34	---	40	89	124	368	3960	29	44
30	101	21	44	29	---	38	75	224	600	1730	32	29
31	69	---	51	28	---	36	---	128	---	452	33	---
TOTAL	693	591.2	16551	913	4589	2664	12556	34594	53740	66609	3022	904
MEAN	22.4	19.7	534	29.5	164	85.9	419	1116	1125	2149	97.5	30.1
MAX	101	53	4980	56	1060	406	2510	5080	4820	8180	711	105
MIN	12	4.3	20	17	15	36	26	41	37	91	25	11
CFSM	.06	.05	1.36	.08	.42	.22	1.07	2.84	2.86	5.47	.25	.08
IN.	.07	.06	1.57	.09	.43	.25	1.19	3.27	3.19	6.30	.29	.09
AL-FT	1370	1170	52830	1810	9100	5280	24900	68620	66920	132100	5990	1790

CAL YR 1980 TOTAL 84612.9 MEAN 231 MAX 7860 MIN 4.3 CFSM .59 IN 8.01 AC-FT 167800
WTR YR 1981 TOTAL 177426.2 MEAN 486 MAX 6180 MIN 4.3 CFSM 1.24 IN 16.79 AC-FT 351900

FABIUS RIVER BASIN

05498000 MIDDLE FABIUS RIVER NEAR MONTICELLO, MO--continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1980 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT: January 1980 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,870 mg/L July 15, 1981; minimum daily mean, 2 mg/L November 17, 19, 27, 1980 and January 8, 1981.

SUSPENDED SEDIMENT LOAD: Maximum daily, 33,800 tons (30,700 metric tons) April 13, 1981; minimum daily, 0.08 tons (0.07 metric tons) November 17, 1981.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,870 mg/L July 15; minimum daily mean, 2 mg/L November 17, 19, 20, and January 8.

SUSPENDED SEDIMENT LOAD: Maximum daily, 33,800 tons (30,700 metric tons) April 13; minimum daily, 0.08 tons (0.07 metric tons) November 17.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTANTANEOUS (CFS) (00061)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
APR										
13...	3950	55	63	69	82	97	98	99	100	100
14...	957	53	64	70	83	98	98	100	100	100
JUL										
06...	5860	42	45	46	52	63	68	74	86	97
15...	430	44	50	64	84	99	100	100	100	100
28...	4280	44	49	53	63	80	85	99	100	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
NOV										
19...	0	1	4	33	80	93	97	99	100	100
MAR										
04...	0	0	4	47	55	56	57	61	78	100
APR										
07...	1	1	5	33	69	74	78	83	88	100
13...	3	6	14	39	87	94	97	99	100	100
MAY										
28...	5	8	21	46	62	67	76	80	87	100
JUL										
06...	1	4	23	50	71	84	89	91	94	100
15...	2	6	22	62	92	98	100	100	100	100
AUG										
25...	1	3	13	31	47	52	57	63	70	92

FABIUS RIVER BASIN

05498000 MIDDLE FABIUS RIVER NEAR MONTICELLO, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	25	35	2.4	53	12	1.7	22	15	.89
2	24	25	1.6	39	---	---	39	10	1.1
3	22	23	1.4	31	---	---	24	4	.26
4	21	15	.85	27	---	---	21	4	.23
5	19	12	.62	23	---	---	25	5	.34
6	18	13	.63	19	---	---	20	12	.65
7	17	15	.69	18	---	---	246	408	271
8	16	17	.73	12	9	.29	2390	1390	8870
9	16	20	.86	7.4	16	.32	3410	815	7500
10	15	16	.65	5.4	11	.16	4980	685	9210
11	14	21	.79	4.3	11	.13	3170	600	5140
12	13	15	.53	8.1	13	.28	461	310	386
13	12	11	.36	17	9	.41	269	130	94
14	12	12	.39	31	13	1.1	195	73	38
15	14	12	.45	18	12	.58	155	36	15
16	14	14	.53	16	4	.17	131	25	8.8
17	15	15	.61	15	2	.08	118	25	8.0
18	12	13	.42	15	7	.28	106	20	5.7
19	19	14	.72	16	2	.09	87	17	4.0
20	32	16	1.4	17	5	.23	76	14	2.9
21	22	12	.71	16	14	.60	79	12	2.6
22	17	11	.50	15	12	.49	69	---	---
23	15	11	.45	16	12	.52	58	---	---
24	16	10	.43	16	15	.65	53	---	---
25	14	13	.49	15	14	.57	52	---	---
26	12	8	.26	15	13	.53	50	---	---
27	13	5	.18	29	2	.16	49	---	---
28	33	8	.71	31	5	.42	47	---	---
29	31	6	.50	25	17	1.1	49	---	---
30	101	12	3.3	21	8	.45	49	---	---
31	69	19	3.5	---	---	---	51	55	7.6
TOTAL	693	---	27.66	591.2	---	11.31	16551	---	31567.07
JANUARY			FEBRUARY			MARCH			
1	55	40	5.9	26	34	2.4	152	220	90
2	56	32	4.8	22	37	2.2	126	124	42
3	52	33	4.6	17	26	1.2	104	75	21
4	51	30	4.1	18	40	1.9	98	70	19
5	42	34	3.9	16	37	1.6	146	160	63
6	44	32	3.8	16	34	1.5	406	670	741
7	35	8	.76	17	28	1.3	246	514	341
8	28	2	.15	16	32	1.4	140	280	106
9	27	6	.44	15	36	1.5	104	142	40
10	24	13	.84	17	35	1.6	88	70	17
11	23	10	.62	18	70	3.4	82	45	10
12	21	8	.45	17	43	2.0	77	36	7.5
13	20	8	.43	17	22	1.0	71	33	6.3
14	20	7	.38	22	33	2.0	65	33	5.8
15	20	6	.32	32	32	2.8	61	33	5.4
16	19	6	.31	51	27	3.7	56	31	4.7
17	17	8	.37	66	50	8.9	52	43	6.0
18	18	7	.34	148	67	27	49	38	5.0
19	20	7	.38	179	72	35	45	41	5.0
20	21	40	2.3	145	80	31	42	46	5.2
21	22	68	4.0	112	86	26	40	37	4.0
22	22	53	3.1	123	122	41	41	36	4.0
23	22	47	2.8	427	452	521	41	40	4.4
24	25	41	2.8	1050	1750	4960	47	48	6.1
25	28	42	3.2	1060	2080	5950	48	46	6.0
26	30	37	3.0	506	1370	1870	43	40	4.6
27	30	37	3.0	257	920	638	40	36	3.9
28	30	37	3.0	179	565	273	40	48	5.2
29	34	28	2.6	---	---	---	40	52	5.6
30	29	31	2.4	---	---	---	38	42	4.3
31	28	40	3.0	---	---	---	36	37	3.6
TOTAL	913	---	68.09	4589	---	14412.4	2664	---	1592.6

FABIUS RIVER BASIN

05498000 MIDDLE FABIUS RIVER NEAR MONTICELLO, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL				MAY			JUNE		
1	35	33	3.1	66	85	15	82	360	80
2	33	38	3.4	57	93	14	66	190	34
3	31	40	3.3	50	79	11	58	190	30
4	29	44	3.4	46	96	12	51	140	19
5	28	42	3.2	59	96	15	45	100	12
6	26	44	3.1	45	64	7.8	41	80	8.9
7	27	83	6.1	41	67	7.4	37	160	16
8	28	86	6.5	41	74	8.2	185	520	260
9	30	88	7.1	45	100	12	827	2450	5470
10	27	77	5.6	712	906	1740	678	2040	3730
11	34	64	5.9	956	1720	2000	171	830	383
12	49	85	11	328	610	540	424	580	664
13	2510	3650	33800	152	120	49	3190	2340	20200
14	1360	2450	9000	2800	1300	12800	3720	1270	12800
15	1470	3030	12000	3670	2500	24800	4820	730	9500
16	583	2050	3230	3520	1100	10500	2460	1010	6710
17	272	750	551	1670	802	3620	1510	1030	4200
18	199	400	215	4970	1510	20300	460	660	820
19	279	270	203	5080	620	8500	700	2750	6110
20	367	280	277	4940	440	5870	530	1660	2380
21	269	390	283	3020	320	2610	241	670	436
22	556	1640	2460	478	240	310	226	350	214
23	1620	3350	14700	320	170	147	236	410	261
24	1680	1240	5620	211	125	71	558	1010	1520
25	408	---	---	164	130	58	3850	2670	27800
26	200	---	---	222	190	114	3690	1210	12100
27	135	---	---	238	330	212	3170	720	6160
28	107	---	---	217	510	299	746	540	1090
29	89	---	---	124	410	137	368	420	417
30	75	---	---	224	270	163	600	4060	6580
31	---	---	---	128	560	194	---	---	---
TOTAL	12556	---	82400.7	34594	---	95136.4	33740	---	130004.9
JULY				AUGUST			SEPTEMBER		
1	1790	2300	11100	273	160	118	30	140	11
2	2090	970	5470	184	100	50	29	100	7.8
3	640	750	1300	136	75	28	23	100	6.2
4	2990	2850	25300	113	70	21	23	100	6.2
5	4300	1300	15100	120	80	26	20	110	5.9
6	5640	670	10200	88	85	20	18	120	5.8
7	8180	380	8390	74	60	12	21	130	7.4
8	3060	200	1650	64	65	11	25	100	6.8
9	436	260	306	56	60	9.1	24	90	5.8
10	269	210	153	52	70	9.8	28	70	5.3
11	184	170	84	45	70	8.5	27	60	4.4
12	221	230	137	43	80	9.3	23	100	6.2
13	171	140	65	41	60	6.6	19	120	6.2
14	91	190	47	36	100	9.7	17	120	5.5
15	714	3870	7460	711	1170	2250	39	110	12
16	1540	3470	14400	254	1230	844	71	120	23
17	969	1230	3220	157	490	208	19	145	7.4
18	1390	3200	12000	82	150	33	14	150	5.7
19	1720	2460	11400	52	120	17	13	110	3.9
20	2540	1330	9120	40	100	11	12	80	2.6
21	2110	860	4900	33	90	8.0	12	70	2.3
22	462	570	711	29	75	5.9	11	90	2.7
23	1630	2430	10700	26	125	8.8	11	100	3.0
24	2380	1890	12100	80	2400	518	12	80	2.6
25	1450	1880	7360	62	1250	209	57	180	28
26	3550	3030	29000	25	180	12	105	310	88
27	5600	860	13000	25	170	11	77	150	31
28	4350	600	7050	27	170	12	51	130	18
29	3960	550	5880	29	210	16	44	150	18
30	1730	550	2570	32	230	20	29	120	9.4
31	452	340	415	33	160	14	---	---	---
TOTAL	66609	---	230588	3022	---	4536.7	904	---	348.1
YEAR	177426.2		590693.93						

FABIUS RIVER BASIN

05500000 SOUTH FABIUS RIVER NEAR TAYLOR, MO

LOCATION.--Lat 39°53'49", long 91°34'49", in SW¼NW¼ sec.21, T.59 N., R.6 W., Marion County, Hydrologic Unit 07110003, on right bank at downstream side of highway bridge, 4.5 mi (7.2 km) southwest of Taylor, 5.0 mi (8.0 km) downstream from Grassy Creek, and 5.3 mi (8.5 km) upstream from confluence with North Fabius River.

DRAINAGE AREA.--620 mi² (1,606 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1934 to current year. Prior to December 1934 monthly discharge only, published in WSP 1308.

REVISED RECORDS.--WSP 825: 1936.

GAGE.--Water-stage recorder. Datum of gage is 482.91 ft (147.191 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to May 14, 1936, nonrecording gage at bridge 4.0 mi (6.4 km) downstream at datum 21.94 ft (6.687 m) lower. May 14, 1936, to Dec. 2, 1940, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance made during the year.

COOPERATION.--Five discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--47 years, 646 ft³/s (18.29 m³/s), 8.47 in/yr (215 mm/yr), 280,400 acre-ft/yr (346 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,700 ft³/s (558 m³/s) June 8, 1947, gage height, 19.5 ft (5.94 m), from rating curve extended above 11,000 ft³/s (312 m³/s); no flow at times in several years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1928 reached a stage of 18.49 ft (5.636 m), from floodmark, at present site and datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,100 ft³/s (144 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 16	1300	5,500 156	9.51 2.899	July 4	1300	6,730 191	10.72 3.267
May 18	1230	9,280 263	13.05 3.978	July 28	1015	*11,400 323	*14.82 4.517
June 26	0200	5,220 148	9.24 2.816	Aug. 30	2230	6,060 172	10.06 3.066

Minimum daily discharge, 3.1 ft³/s (.088 m³/s) Oct. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	17	11	34	23	155	33	95	333	1340	946	302
2	9.0	54	14	38	26	123	28	80	172	966	550	113
3	7.5	41	19	45	25	105	33	70	126	998	372	78
4	7.0	22	18	52	25	95	33	65	109	5190	206	70
5	7.0	19	16	32	25	162	28	107	241	4930	162	54
6	7.0	16	14	32	20	284	28	538	139	4450	137	45
7	6.0	14	254	33	14	372	28	185	86	3690	123	41
8	6.0	11	2820	32	15	239	26	109	171	2590	103	39
9	5.5	10	3530	30	14	155	26	83	458	466	89	42
10	5.0	8.5	2670	28	16	115	27	645	504	288	80	41
11	3.8	7.0	2080	30	26	93	39	3420	222	309	73	34
12	3.6	6.5	530	27	42	80	45	1510	141	227	65	36
13	3.8	6.0	281	25	42	75	463	498	769	160	60	38
14	3.8	11	197	23	38	66	3720	2990	3250	119	56	33
15	3.1	10	150	23	36	62	2770	4970	3930	105	236	28
16	4.0	9.6	125	20	53	57	572	5410	4620	459	1480	27
17	6.5	10	101	20	85	54	344	4550	2270	251	850	28
18	3.8	9.6	101	19	152	47	242	8510	815	1110	236	26
19	4.0	10	97	18	145	45	490	8640	950	1630	137	24
20	5.0	10	93	16	180	42	1580	8120	604	2010	97	22
21	6.0	11	91	17	125	39	675	5300	765	1460	75	20
22	7.0	11	56	18	142	39	710	1900	706	604	62	20
23	7.0	12	60	18	568	38	1770	631	671	1720	53	18
24	9.6	12	71	19	640	36	1830	735	324	2070	48	16
25	10	11	78	19	756	37	958	431	3340	1820	103	22
26	9.0	11	56	25	514	33	375	260	4280	6660	85	117
27	10	11	50	25	305	39	227	270	3380	9130	76	195
28	14	13	46	19	215	41	167	326	1530	11000	95	107
29	14	14	37	22	---	42	132	410	446	9250	111	73
30	13	13	32	19	---	38	109	1890	2130	6020	1070	56
31	12	---	32	20	---	38	---	546	---	2880	1740	---
TOTAL	224.0	421.2	13730	798	4267	2866	17510	63294	37482	83902	9576	1765
MEAN	7.23	14.0	443	25.7	152	92.5	584	2042	1249	2707	309	58.8
MAX	14	54	3530	52	756	372	3720	8640	4620	11000	1740	302
MIN	3.1	6.0	11	16	14	33	26	65	86	105	48	16
CFSM	.01	.02	.72	.04	.25	.15	.94	3.29	2.02	4.37	.50	.10
IN.	.01	.03	.82	.05	.26	.17	1.05	3.80	2.25	5.03	.57	.11
AC-FT	444	835	27230	1580	8460	5680	34730	125500	74350	166400	18990	3500
CAL YR 1980 TOTAL	54249.4			MEAN 148	MAX 3530	MIN 2.9	CFSM .24	IN 3.25	AC-FT 107600			
WTR YR 1981 TOTAL	235835.2			MEAN 646	MAX 11000	MIN 3.1	CFSM 1.04	IN 14.15	AC-FT 467800			

FABIUS RIVER BASIN

05500000 SOUTH FABIUS RIVER NEAR TAYLOR, MO.--continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	AGENCY CUL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACU3) (00900)	
OCT 08...	1028	29001	5.5	298	8.1	19.0	8.2	87	35	70	130
NOV 05...	1028	29001	10	365	7.7	10.5	11.2	100	33	50	--
DEC 03...	1028	29001	18	456	7.9	2.0	14.8	107	19	2	--
JAN 07...	1028	29001	20	558	7.9	.5	13.4	93	<1	30	260
FEB 11...	1028	29001	20	655	7.0	1.0	15.0	106	19	40	--
MAR 04...	1028	29001	97	369	7.8	5.5	11.2	89	15	52	--
APR 08...	1028	29001	34	530	8.3	17.0	10.7	110	22	23	240
MAY 06...	1028	29001	497	407	8.1	16.5	7.0	71	44	5800	--
JUN 04...	1028	29001	100	390	8.3	25.5	7.2	88	27	640	--
JUL 08...	1028	29001	3000	160	7.9	27.0	6.2	78	7	1000	91
AUG 05...	1028	29001	158	350	8.2	27.5	7.8	98	22	1400	--
SEP 03...	1028	29001	74	269	7.8	22.0	9.4	107	30	5800	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CU3) (00902)	CALCIUM DTS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CJ3) (00445)	ALKA- LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE, DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 08...	3	37	7.8	6.4	5.2	148	0	121	1.9	25	6.1
NOV 05...	--	--	--	--	--	160	0	131	5.1	--	--
DEC 03...	--	--	--	--	--	248	0	203	5.0	--	--
JAN 07...	76	76	17	17	5.4	224	0	184	4.5	84	19
FEB 11...	--	--	--	--	--	148	0	121	24	--	--
MAR 04...	--	--	--	--	--	120	0	98	3.0	--	--
APR 08...	63	68	17	19	4.8	216	0	177	1.7	89	15
MAY 06...	--	--	--	--	--	172	0	141	2.2	--	--
JUN 04...	--	--	--	--	--	168	0	138	1.3	--	--
JUL 08...	32	28	5.1	4.9	5.2	72	0	59	1.5	15	4.7
AUG 05...	--	--	--	--	--	168	0	138	1.7	--	--
SEP 03...	--	--	--	--	--	120	0	98	3.0	--	--

[illegible]

NORTH RIVER BASIN

05501000 NORTH RIVER AT PALMYRA, MO

LOCATION.--Lat 39°49'06", long 91°31'13", in SE¼SW¼ sec.13, T.58 N., R.6 W., Marion County, Hydrologic Unit 07110004, on right bank 100 ft (30 m) upstream from City Waterworks dam, 1,000 ft (305 m) upstream from upstream bridge on dual U.S. Highways 24 and 61, 0.5 mi (0.8 km) north of Palmyra, and 7.0 mi (11.3 km) upstream from mouth.

DRAINAGE AREA.--373 mi² (966 km²).

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 464.81 ft (141.674 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1945, nonrecording gage at bridge 1,000 ft (305 m) downstream, Oct. 1, 1945, to June 22, 1951, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance made during the year.

COOPERATION.--Four discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--46 years, 241 ft³/s (6.825 m³/s), 8.77 in/yr (223 mm/yr), 174,600 acre-ft/yr (215 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,500 ft³/s (1,630 m³/s) Apr. 21, 1973, gage height, 29.70 ft (9.053 m); no flow on many days in 1936, 1941, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage prior to 1934, about 28.0 ft (8.53 m), from floodmarks, date unknown, at site 1,000 ft (305 m) downstream, present datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,500 ft³/s (241 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (m)	Discharge (m ³ /s)	Gage height (ft)
May 18	1715	*23,800	674	*23.88	7.279
July 28	1500	14,500	411	21.14	6.443

Minimum daily discharge, 0.17 ft³/s (0.005 m³/s) Oct. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	UCI	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	2.5	4.5	4.2	13	8.4	39	15	39	170	393	212	242		
2	2.3	4.5	4.2	12	7.8	31	15	35	134	175	288	122		
3	2.0	3.9	4.2	12	7.1	27	15	31	102	122	979	79		
4	1.7	3.1	4.2	9.7	5.8	31	15	31	90	4270	248	63		
5	2.3	2.5	4.5	9.7	4.5	71	13	33	75	2150	155	51		
6	2.5	2.5	21	9.7	4.5	110	13	165	68	526	122	43		
7	2.3	1.7	51	8.4	5.2	79	13	130	63	248	106	41		
8	2.0	2.0	1240	9.1	5.2	60	15	65	60	160	98	41		
9	1.7	2.3	889	7.8	7.8	43	17	49	54	122	83	37		
10	1.4	2.3	449	7.1	7.8	35	18	358	46	102	75	35		
11	.85	2.3	142	7.1	4.2	29	60	1520	43	83	71	33		
12	.17	2.5	87	6.5	3.7	25	122	662	43	68	63	29		
13	.17	2.5	63	7.1	3.9	23	330	212	43	60	60	27		
14	.51	3.1	51	7.1	4.5	22	1030	2620	118	51	54	25		
15	.85	3.4	45	7.1	9.1	21	782	1990	230	46	146	23		
16	.51	3.1	37	6.5	33	18	267	1110	1220	43	185	23		
17	1.2	3.1	33	6.5	75	18	122	386	337	43	83	22		
18	2.0	4.2	29	6.5	98	17	83	14000	146	323	71	22		
19	2.3	2.5	22	7.1	75	17	358	8160	106	1860	57	22		
20	2.0	1.4	19	8.4	65	18	1200	1350	267	606	49	22		
21	2.0	2.0	18	9.7	63	18	428	442	175	236	41	27		
22	2.0	2.8	16	8.4	65	18	309	288	122	122	39	23		
23	2.5	2.5	16	8.4	150	17	853	236	130	835	35	18		
24	3.7	3.1	16	9.1	248	16	393	766	83	622	54	17		
25	4.2	2.8	13	9.7	155	17	170	344	5280	1230	248	25		
26	3.9	3.1	12	9.1	90	16	110	200	925	8410	180	60		
27	4.2	3.4	12	9.1	60	15	79	337	302	13100	71	130		
28	4.5	3.7	12	9.1	46	16	63	281	175	12200	54	68		
29	5.2	3.9	15	8.4	---	17	51	206	122	1680	102	43		
30	4.5	3.9	15	7.8	---	17	46	1260	1160	534	1750	33		
31	5.2	---	13	7.1	---	16	---	302	---	309	2190	---		
TOTAL	73.16	88.6	3355.3	264.3	1312.5	917	7005	37608	11889	50729	7969	1446		
MEAN	2.36	2.95	108	8.53	46.9	29.6	234	1213	396	1636	257	48.2		
MAX	5.2	4.5	1240	13	248	110	1200	14000	5280	13100	2190	242		
MIN	.17	1.4	4.2	6.5	3.7	15	13	31	43	43	35	17		
CFSM	.006	.008	.29	.02	.13	.08	.63	3.25	1.06	4.39	.69	.13		
IN.	.01	.01	.33	.03	.13	.09	.70	3.75	1.19	5.06	.79	.14		
AC-FT	145	176	6660	524	2600	1820	13890	74600	23580	100600	15810	2870		
CAL YR 1980	TOTAL	22891.86	MEAN	62.5	MAX	2000	MIN	.17	CFSM	.17	IN	2.28	AC-FT	45410
WTR YR 1981	TOTAL	122656.86	MEAN	336	MAX	14000	MIN	.17	CFSM	.90	IN	12.23	AC-FT	243300

BEAR CREEK BASIN

05502000 BEAR CREEK AT HANNIBAL, MO

LOCATION.--Lat 39°40'43", long 91°24'41", in SE¼NW¼ sec.1, T.56 N., R.5 W., Ralls County, Hydrologic Unit 07110004, on right bank 42 ft (13 m) upstream from upstream bridge on dual U.S. Highway 61 at Hannibal, and 4.8 mi (7.7 km) upstream from mouth.

DRAINAGE AREA.--31.0 mi² (80.3 km²).

PERIOD OF RECORD.--October 1938 to September 1942, October 1947 to current year in reports of Geological Survey. Monthly discharge only for some periods, published in WSP 1308. October 1936 to November 1938 (gage heights and discharge measurements only) in reports of Missouri Geological Survey.

REVISED RECORDS.--WSP 1115: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 508.91 ft (155.116 m) National Geodetic Vertical Datum of 1929. Prior to Mar. 26, 1948, nonrecording gage, and Mar. 26, 1948, to Sept. 30, 1953, water-stage recorder, present site and at datum 2.00 ft (0.610 m) higher. Oct. 1, 1953, to Oct. 30, 1961, water-stage recorder at present site, Oct. 31, 1961, to Sept. 5, 1972, water-stage recorder 400 ft (122 m) downstream at present datum.

REMARKS.--Records poor. High flow regulated by Bear Creek reservoir, 1.0 mi (1.6 km) upstream, since Aug. 7, 1961. Several observations of water temperature and specific conductance made during the year.

AVERAGE DISCHARGE.--38 years, 19.4 ft³/s (0.549 m³/s), 8.50 in/yr (216 mm/yr), 14,060 acre-ft/yr (17.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,500 ft³/s (184 m³/s) Aug. 3, 1957, gage height, 14.05 ft (4.282 m), present datum; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,300 ft³/s (36.8 m³/s) May 19, gage height, 9.24 ft (2.816 m); minimum daily, 0.10 ft³/s (0.003 m³/s) Oct. 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	.46	.32	1.5	1.3	1.8	1.4	2.2	6.4	6.9	442	127
2	.32	.43	.27	1.2	2.2	1.7	1.3	2.1	6.4	5.4	282	164
3	.24	.43	.18	1.2	.97	1.5	2.0	2.0	4.7	34	32	12
4	.24	.43	.18	.88	1.5	3.8	2.7	2.3	5.6	422	20	9.2
5	.24	.53	.27	.66	1.2	14	2.0	2.6	12	503	16	8.5
6	.27	.73	.32	.80	1.2	6.0	1.8	2.2	6.6	626	46	7.3
7	.27	.88	13	1.4	1.3	3.5	1.7	1.9	4.7	145	56	8.3
8	.15	.46	26	1.1	2.5	2.6	1.6	1.8	4.5	14	18	7.8
9	.15	.49	8.7	.97	3.0	2.5	1.6	2.3	3.7	10	14	6.9
10	.13	.49	3.7	.73	3.7	2.1	1.6	117	3.2	9.7	22	5.8
11	.12	.49	2.5	.66	3.5	2.0	19	144	3.3	31	19	5.6
12	.12	.46	2.2	94	2.3	1.8	22	22	3.7	9.7	14	5.4
13	.10	.46	2.2	3.3	4.2	1.8	77	13	3.3	7.3	13	4.9
14	.10	.53	1.8	.80	3.3	1.6	60	27	2.9	6.2	13	4.9
15	.18	.56	1.6	.80	14	1.6	13	15	15	6.2	118	4.7
16	.32	.49	1.5	.83	47	1.6	8.5	10	43	6.2	111	4.9
17	.43	.49	1.4	.88	23	3.9	6.6	38	6.9	5.4	102	4.2
18	.24	.49	1.4	.95	10	9.5	5.0	460	4.2	21	13	4.0
19	.15	.49	1.2	1.0	6.2	4.0	35	784	4.0	202	9.2	3.8
20	.15	.46	.73	.98	4.2	1.6	27	289	4.2	267	7.1	3.8
21	.15	.46	.66	.97	3.2	1.7	10	29	5.0	345	6.2	3.7
22	.15	.49	.88	.88	11	1.8	22	24	10	73	5.6	3.7
23	.12	.56	1.1	.97	12	1.8	20	24	3.3	198	5.4	3.3
24	.32	.56	1.3	.97	6.0	1.8	8.5	83	20	175	7.6	3.5
25	.30	.49	1.2	1.1	3.2	1.7	5.8	44	207	97	25	4.7
26	.21	.53	1.1	1.3	2.6	1.7	4.7	17	213	296	38	5.4
27	.66	.53	1.1	1.2	2.2	1.7	3.8	13	12	371	41	4.0
28	.97	.66	1.1	1.1	2.0	1.6	3.3	11	7.8	411	11	2.7
29	.46	.66	1.6	.97	---	2.2	3.2	9.2	5.8	594	8.7	2.6
30	.35	.53	1.6	.88	---	2.1	2.7	9.7	23	562	29	1.3
31	.35	---	1.5	.88	---	1.7	---	7.6	---	523	5.4	---
TOTAL	8.36	15.72	82.61	125.86	178.77	88.7	374.8	2209.9	655.2	5983.0	1550.2	437.9
MEAN	.27	.52	2.66	4.06	6.38	2.86	12.5	71.3	21.8	193	50.0	14.6
MAX	.97	.88	26	94	47	14	77	784	213	626	442	164
MIN	.10	.43	.18	.66	.97	1.5	1.3	1.8	2.9	5.4	5.4	1.3
CFSM	.009	.02	.04	.13	.21	.09	.40	2.30	.70	6.23	1.61	.47
IN.	.01	.02	.10	.15	.21	.11	.45	2.65	.79	7.18	1.86	.53
AC-FT	17	31	164	250	355	176	743	4380	1300	11870	3070	869

CAL YR 1980 TOTAL 5141.28 MEAN 14.0 MAX 283 MIN .10 CFSM .45 IN 6.17 AC-FT 10200
WTR YR 1981 TOTAL 11711.02 MEAN 32.1 MAX 784 MIN .10 CFSM 1.04 IN 14.05 AC-FT 23230

SALT RIVER BASIN

05502300 SALT RIVER AT HAGERS GROVE, MO

LOCATION.--Lat 39°49'40", long 92°14'10", in NE¼ sec.15, T.58 N., R.12 W., Shelby County, Hydrologic Unit 07110005, at bridge on State Highway 151, 200 ft (61 m) downstream from old channel carrying Bear and other creeks, 0.25 mi (0.40 km) west of Hagers Grove, 2.5 mi (4.0 km) upstream from Ten Mile Creek, and at mile 143.8 (231.4 km).

DRAINAGE AREA.--365 mi² (945 km²).

PERIOD OF RECORD.--September 1974 to current year. September 1939 to August 1974, gage height and miscellaneous measurements published by Corps of Engineers, St. Louis, Mo.

GAGE.--Water-stage recorder. Datum of gage is 702.30 ft (214.061 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for winter periods, which are poor. Several observations of water temperature and specific conductance made during the year.

AVERAGE DISCHARGE.--7 years, 226 ft³/s (6.400 m³/s), 8.41 in/yr (214 mm/yr), 163,700 acre-ft/yr (202 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 19.7 ft (6.0 m) June 6, 1947, discharge, 26,900 ft³/s (762 m³/s).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1928 reached a stage of 19.1 ft (5.82 m), according to information furnished by Corps of Engineers, Rock Island, IL.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (142 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 14	2345	8,440 239	16.98 5.176	July 5	1400	6,880 195	16.33 4.977
May 19	0315	12,500 354	18.09 5.514	July 27	2000	*14,000 396	*18.41 5.611
June 13	2245	8,090 229	16.86 5.139				

Minimum daily discharge, 4.0 ft³/s (0.113 m³/s) Oct. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	17	7.2	20	5.5	86	26	71	57	1130	192	20
2	7.2	12	6.8	20	4.5	59	22	68	40	236	110	20
3	6.4	9.0	7.6	17	4.5	44	20	64	39	155	92	13
4	6.2	7.7	6.4	16	5.2	45	18	63	35	3250	89	13
5	6.2	7.0	7.2	11	5.5	367	16	228	56	6550	70	13
6	6.0	5.9	11	8.4	6.6	364	17	105	36	2690	51	10
7	5.7	5.9	212	7.7	7.0	137	16	74	30	552	42	11
8	5.6	6.2	3980	8.4	7.3	77	16	65	45	236	37	11
9	5.6	5.5	2140	9.5	7.0	57	202	71	137	158	33	24
10	5.5	5.5	414	8.4	7.3	48	149	1650	64	122	31	22
11	5.5	5.2	199	8.4	7.3	44	119	1010	44	206	28	15
12	4.5	7.0	128	9.0	7.7	39	100	248	1750	105	27	14
13	4.1	7.7	91	9.5	8.0	35	79	151	6210	82	25	10
14	4.0	7.0	58	11	11	33	84	4910	3730	94	24	12
15	4.8	7.0	39	11	22	31	495	5810	1220	118	304	8.4
16	6.0	6.6	33	11	39	30	202	2630	1800	250	379	8.0
17	6.8	7.0	28	9.5	118	30	146	898	598	128	70	7.7
18	6.0	5.9	23	11	184	29	106	8800	236	216	33	7.7
19	6.4	5.5	16	11	121	30	484	8800	667	691	28	7.3
20	5.4	5.9	21	11	75	27	718	2560	220	1020	21	7.3
21	5.3	4.8	18	11	60	25	273	474	384	212	17	7.3
22	5.1	4.5	13	10	82	27	805	238	322	103	15	7.0
23	4.8	8.4	12	9.5	841	41	2390	311	128	925	13	6.6
24	5.9	8.0	12	9.0	1540	44	592	186	592	823	12	8.4
25	5.4	9.5	13	7.7	610	34	188	151	3910	1220	13	26
26	5.1	16	15	7.0	273	32	114	122	1540	5020	18	32
27	14	12	15	6.6	155	32	86	186	295	12900	20	59
28	15	8.4	16	6.2	114	31	68	121	168	9070	14	34
29	14	9.5	17	6.6	---	31	62	126	182	3200	12	20
30	31	9.0	18	6.6	---	29	59	518	1320	589	12	12
31	23	---	20	5.9	---	27	---	91	---	275	12	---
TOTAL	251.7	236.6	7599.2	314.9	4328.4	1965	7672	40800	25855	52326	1844	466.7
MEAN	8.12	7.89	245	10.2	155	63.4	256	1316	862	1688	59.5	15.6
MAX	31	17	3980	20	1540	367	2390	8800	6210	12900	379	59
MIN	4.0	4.5	6.8	5.9	4.5	25	16	63	30	82	12	6.6
CFSM	.02	.02	.67	.03	.43	.17	.70	3.61	2.36	4.63	.16	.04
IN.	.03	.02	.77	.03	.44	.20	.78	4.16	2.64	5.33	.19	.05
AC-FT	499	469	15070	625	8590	3900	15220	80930	51280	103800	3660	926
CAL YR 1980	TOTAL	35036.58	MEAN	95.7	MAX	3980	MIN	.68	CFSM	.26	IN	3.57
WTR YR 1981	TOTAL	143659.50	MEAN	394	MAX	12900	MIN	4.0	CFSM	1.08	IN	14.64
									AC-FT	69500		
										284900		

SALT RIVER BASIN

05502300 SALT RIVER AT HAGERS GROVE, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.23	1.38	---	1.41	1.07	1.80	.99	1.17	1.05	6.56	2.22	.37
2	1.20	1.30	---	1.43	1.17	1.58	.96	1.13	.90	2.58	1.53	.41
3	1.18	1.26	---	1.39	1.11	1.45	.91	1.08	.85	1.92	1.22	.32
4	1.17	1.22	---	1.38	1.13	1.39	.90	1.03	.69	9.94	1.32	.10
5	1.17	1.21	---	1.27	1.14	2.42	.86	3.95	1.14	16.19	1.11	.28
6	1.17	---	---	1.24	1.19	3.42	.88	1.58	.73	9.61	.91	.20
7	1.16	---	---	1.20	1.20	2.12	.88	1.22	.64	3.63	.82	.19
8	1.16	---	---	1.22	1.20	1.70	.86	1.09	.63	2.47	.75	.24
9	1.16	---	---	1.25	1.20	1.48	.88	1.09	1.93	2.02	.70	.54
10	1.14	---	---	1.22	1.21	1.39	.87	5.44	1.12	1.64	.69	.50
11	1.16	---	---	1.22	1.19	1.34	.99	5.84	.85	2.47	.63	.34
12	1.12	---	2.29	1.23	1.11	1.28	1.46	2.85	.75	1.36	.62	.25
13	1.11	---	2.06	1.25	1.23	1.21	6.12	2.03	14.75	1.19	.62	.20
14	1.10	---	1.80	1.27	1.26	1.16	10.04	13.01	12.80	1.05	.59	.19
15	1.11	---	1.62	1.28	1.30	1.12	3.77	16.93	5.60	1.04	.86	.17
16	1.15	---	1.56	1.25	1.37	1.07	2.43	10.24	8.63	2.56	3.59	.14
17	1.19	---	1.52	1.23	1.55	1.06	2.17	4.12	4.36	1.66	1.39	.13
18	1.17	---	1.45	1.26	2.29	1.03	1.98	16.67	2.69	1.15	.86	.13
19	1.31	---	1.30	1.27	1.97	1.05	1.81	17.95	6.05	2.62	.67	.11
20	1.23	---	1.44	1.28	1.53	1.00	4.97	10.59	2.83	6.33	.43	.11
21	1.17	---	1.40	1.26	1.57	.98	2.75	3.80	2.45	2.40	.38	.11
22	1.17	---	1.31	1.23	1.53	1.00	2.09	2.70	3.08	1.50	.33	.10
23	1.15	---	1.29	1.23	4.30	1.11	10.60	2.36	1.84	3.92	.28	.09
24	1.17	---	1.28	1.22	7.90	1.18	4.30	2.40	1.52	5.61	.26	.07
25	1.16	---	1.30	1.22	4.07	1.08	2.48	2.33	12.61	3.43	.26	.43
26	1.16	---	1.33	1.13	2.86	1.06	1.98	1.56	7.63	10.14	.33	.46
27	1.37	---	1.34	1.12	2.22	1.05	1.71	2.25	2.88	18.38	.41	.79
28	1.37	---	1.35	1.18	1.96	1.05	1.51	1.88	2.07	17.61	.32	.64
29	1.34	---	1.36	1.20	---	1.06	1.41	1.21	1.72	11.76	.26	.41
30	1.62	---	1.39	1.22	---	1.03	1.35	4.69	3.29	4.00	.26	.26
31	1.49	---	1.40	1.14	---	1.01	---	1.49	---	2.73	.26	---

SALT RIVER BASIN

05503500 NORTH FORK SALT RIVER NEAR HUNNEWELL, MO

LOCATION.--Lat 39°40'05", long 91°54'11", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$, sec.9, T.56 N., R.9 W., Shelby County, Hydrologic Unit 07110005, on right bank near downstream end of bridge on State Route 36, 1.5 mi (2.4 km) downstream from Black Creek and 2 mi (3.2 km) west of Hunnewell, Mo., at mile 105.8 (170.2 km).

DRAINAGE AREA.--626 mi² (1,621 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1930 to September 1931 (fragmentary) October 1931 to September 1940 (published as Salt River near Hunnewell, Mo) March 1966 to June 1967 (gage heights only) July 1967 to September 1979 (published by Corps of Engineers) and October 1979 to current year.

GAGE.--Water stage recorder and crest-stage gage. Datum of gage is 615.64 ft (187.647 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--11 years (water years 1932-1940, 1980-1981), 348 ft³/s (9.855 m³/s), 7.55 in/yr (192 mm/yr), 252,100 acre-ft/yr (311 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,560 ft³/s (639 m³/s) April 23, 1973, gage height, 25.16 ft (7.669 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,300 ft³/s (170 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
May 16	Unknown	8,250	234	16.70	5.090
May 19	2400	11,200	317	19.24	5.864
July 29	0845	*14,800	419	*21.26	6.480

Minimum daily discharge, 3.7 ft³/s (0.105 m³/s) Oct. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	UCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	35	11	19	12	109	21	65	231	2180	650	41
2	8.3	26	9.2	21	12	85	20	45	125	775	452	26
3	7.5	18	10	21	9.8	132	20	40	92	336	511	31
4	7.3	14	10	20	8.6	520	19	36	74	1650	261	30
5	6.5	12	9.8	16	8.0	277	15	36	61	4920	233	23
6	5.8	10	8.6	15	7.2	165	14	221	75	6660	323	17
7	5.1	7.5	24	15	7.0	117	13	150	69	5210	150	22
8	5.1	5.6	1600	13	7.0	94	12	85	53	692	108	20
9	4.9	6.5	4380	12	7.5	80	12	60	46	310	86	18
10	4.6	7.0	2790	11	7.8	73	16	95	170	205	76	18
11	4.6	7.5	541	10	7.8	64	17	2230	106	145	66	37
12	3.9	7.5	245	9.8	7.2	57	21	1320	65	207	54	30
13	3.9	6.3	171	9.5	6.8	50	608	514	2280	98	51	21
14	3.7	5.1	132	9.2	6.8	43	2870	3220	4560	67	42	16
15	4.4	4.9	96	9.5	7.5	56	2400	5520	4950	51	42	14
16	5.8	5.3	74	9.5	13	48	613	7390	2810	49	580	12
17	6.7	5.8	62	9.5	30	44	280	7220	2250	280	333	11
18	5.8	12	54	9.2	47	36	203	7520	583	136	134	9.6
19	8.3	9.8	43	9.2	211	24	465	9410	577	407	81	8.8
20	7.0	9.2	31	9.8	191	24	1700	12100	874	1120	58	8.0
21	6.0	8.6	21	10	125	26	866	8830	392	603	45	9.1
22	10	8.6	24	10	112	26	437	1450	576	246	36	11
23	8.3	8.6	21	11	253	37	1930	901	307	504	32	9.9
24	7.2	8.1	19	12	1230	40	2120	978	156	1890	30	7.7
25	6.2	8.1	16	13	1260	33	563	580	3460	1630	31	8.0
26	6.2	10	15	14	541	30	268	407	5440	4360	26	42
27	7.8	19	15	16	289	32	180	339	3130	8020	25	94
28	8.6	13	15	15	173	31	131	344	569	13000	30	109
29	8.9	10	15	13	---	25	100	251	295	14300	37	82
30	21	10	15	12	---	25	79	749	1590	10000	104	44
31	56	---	17	12	---	24	---	640	---	1780	194	---
TOTAL	264.3	319.0	10494.6	396.2	4598.0	2427	16013	72746	35766	81831	4881	830.1
MEAN	8.53	10.6	339	12.8	164	78.3	534	2347	1192	2640	157	27.7
MAX	56	35	4380	21	1260	520	2870	12100	5440	14300	650	109
MIN	3.7	4.9	8.6	9.2	6.8	24	12	36	46	49	25	7.7
CFSM	.01	.02	.54	.02	.26	.13	.85	3.75	1.90	4.22	.25	.04
IN.	.02	.02	.62	.02	.27	.14	.95	4.32	2.13	4.86	.29	.05
AC-FT	524	633	20620	786	9120	4810	31760	144300	70940	162300	9680	1650
CAL YR 1980 TOTAL	38557.0	MEAN 105	MAX 4380	MIN 1.1	CFSM .17	IN 2.29	AC-FT 76460					
WIR YR 1981 TOTAL	230566.2	MEAN 632	MAX 14300	MIN 3.7	CFSM 1.01	IN 13.70	AC-FT 457300					

SALT RIVER BASIN

05503500 NORTH FORK SALT RIVER NEAR HUNNEWELL, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.22	2.62	2.21	2.41	2.26	3.25	2.30	2.91	4.04	8.80	5.27	2.80
2	2.20	2.52	2.14	2.43	2.16	3.06	2.30	2.75	3.54	6.27	4.60	2.59
3	2.17	2.40	2.17	2.46	2.13	3.06	2.23	2.68	3.32	4.52	4.72	2.61
4	2.16	2.32	2.17	2.42	2.11	5.03	2.28	2.62	3.18	4.39	4.00	2.65
5	2.13	2.27	2.17	2.35	2.09	4.08	2.21	2.61	3.07	12.62	3.71	2.55
6	2.10	2.18	2.13	2.36	2.07	3.56	2.18	4.12	3.07	14.92	4.45	2.45
7	2.07	2.10	2.36	2.28	2.06	3.26	2.16	3.55	3.17	15.14	3.58	2.53
8	2.07	2.01	2.41	2.27	2.03	3.08	2.13	3.03	3.03	5.48	3.29	2.50
9	2.05	2.04	12.12	2.23	2.07	2.98	2.12	2.82	3.00	4.46	3.14	2.45
10	2.05	2.04	10.33	2.18	2.09	2.91	2.25	2.95	3.90	3.94	3.07	2.47
11	2.05	2.07	5.16	2.18	2.03	2.83	2.25	7.10	3.48	3.61	2.98	2.72
12	2.01	2.09	4.12	2.15	2.07	2.77	2.30	7.38	3.13	4.04	2.90	2.68
13	2.01	2.03	3.74	2.14	2.03	2.70	2.99	4.77	8.33	3.36	2.82	2.54
14	2.01	2.00	3.51	2.14	2.04	2.64	9.55	9.97	12.26	3.14	2.78	2.43
15	2.02	1.97	3.27	2.14	2.06	2.71	10.03	13.53	13.78	2.94	2.77	2.39
16	2.11	1.97	3.08	2.13	2.20	2.63	5.26	15.42	8.59	2.85	2.90	2.34
17	2.16	2.01	2.97	2.14	2.49	2.60	4.04	16.18	9.18	4.53	4.34	2.29
18	2.12	2.22	2.88	2.14	2.63	2.53	3.72	15.00	5.48	3.62	3.48	2.25
19	2.20	2.17	2.80	2.14	3.64	2.38	3.58	17.05	4.47	5.47	3.13	2.22
20	2.15	2.15	2.58	2.15	3.46	2.38	7.92	19.82	6.31	6.51	2.93	2.19
21	2.11	2.12	2.45	2.17	3.27	2.37	5.98	18.50	4.83	5.95	2.81	2.21
22	2.28	2.12	2.52	2.17	3.14	2.41	4.38	7.10	4.62	4.15	2.73	2.27
23	2.20	2.12	2.48	2.19	3.49	2.51	7.47	5.65	4.45	3.80	2.67	2.27
24	2.16	2.10	2.43	2.20	6.30	2.58	9.66	6.34	3.75	8.42	2.62	2.19
25	2.10	2.10	2.36	2.24	7.30	2.49	4.96	5.27	10.77	6.51	2.64	2.18
26	2.10	2.09	2.34	2.28	5.05	2.48	4.02	4.61	13.47	10.93	2.60	2.35
27	2.18	2.39	2.33	2.32	4.10	2.46	3.62	4.07	11.69	15.76	2.57	3.16
28	2.21	2.27	2.33	2.31	3.67	2.46	3.35	4.25	5.21	20.03	2.61	3.30
29	2.22	2.17	2.33	2.23	---	2.39	3.16	4.26	4.36	21.22	2.69	3.19
30	2.43	2.17	2.33	2.22	---	2.37	3.00	4.05	8.78	19.12	2.71	2.84
31	2.83	---	2.37	2.22	---	2.36	---	4.49	---	7.21	2.63	---

SALT RIVER BASIN

05503500 NORTH FORK SALT RIVER NEAR HUNNEWELL, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT: July 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,400 mg/L June 13, 1981; minimum daily mean, 1 mg/L November 29, 30 and December 3, 1980.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 30,900 tons (28,000 metric tons) June 25, 1981; minimum daily, 0.03 tons (0.03 metric tons) November 29, 30 and December 3, 1980.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,400 mg/L June 13; minimum daily mean, 1 mg/L November 29, 30 and December 3.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 30,900 tons (28,000 metric tons) June 25; minimum daily, 0.03 tons (0.03 metric tons) November 29, 30 and December 3.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTANTANEOUS (CFS)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
APR 14...	3200	54	60	68	80	98	99	100	100	100
MAY 15...	4860	57	62	64	72	91	95	99	100	100
16...	5980	47	51	55	60	69	71	74	96	100
19...	7320	71	74	77	79	86	88	91	98	100
JUN 26...	4940	76	82	85	88	96	97	100	100	100
JUL 29...	12300	60	63	65	68	80	86	91	100	100

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
JULY			AUGUST			SEPTEMBER			
1	8.2	---	---	2.5	81	.55	9.8	46	1.2
2	19	---	---	2.7	93	.68	29	156	12
3	50	---	---	2.4	99	.64	1520	750	3080
4	42	---	---	2.1	100	.57	600	560	907
5	35	---	---	2.0	100	.54	475	400	513
6	28	---	---	1.8	95	.46	737	583	1160
7	25	---	---	1.5	103	.42	870	560	1320
8	21	---	---	1.4	98	.37	337	270	246
9	18	---	---	1.3	85	.30	131	157	56
10	15	---	---	1.1	102	.30	72	132	26
11	14	---	---	3.1	88	.74	39	105	11
12	12	---	---	4.3	87	1.0	24	94	6.1
13	9.2	---	---	3.3	81	.72	32	100	8.6
14	8.4	---	---	3.2	89	.77	301	260	211
15	4.5	---	---	8.3	107	2.4	313	590	499
16	3.7	---	---	12	178	5.8	137	260	96
17	3.2	---	---	16	279	12	92	230	57
18	3.1	---	---	169	168	77	1030	1630	4530
19	2.9	112	.88	189	175	89	376	530	538
20	2.9	113	.88	95	192	49	167	238	107
21	2.8	102	.77	43	180	21	98	179	47
22	2.6	75	.53	31	165	14	59	151	24
23	2.6	85	.60	23	148	9.2	39	130	14
24	2.5	102	.69	20	137	7.4	27	116	8.5
25	2.5	105	.71	33	135	12	21	97	5.5
26	2.8	112	.85	23	110	6.8	18	100	4.9
27	3.1	120	1.0	14	77	2.9	16	85	3.7
28	3.4	110	1.0	11	42	1.2	14	74	2.8
29	4.1	84	.93	10	40	1.1	13	71	2.5
30	4.3	82	.95	8.9	50	1.2	12	70	2.3
31	3.3	73	.65	8.9	59	1.4	---	---	---
TOTAL	359.1	---	10.44	747.8	---	321.46	7608.8	---	13500.1

SALT RIVER BASIN

05503500 NORTH FORK SALT RIVER NEAR HUNNEWELL, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	8.9	60	1.4	31	31	2.6	11	3	.09
2	8.3	50	1.1	24	41	2.7	9.2	2	.05
3	7.5	45	.91	19	44	2.3	10	1	.03
4	7.3	55	1.1	14	57	2.2	10	2	.05
5	6.5	58	1.0	12	40	1.3	9.8	2	.05
6	2.8	67	.51	10	42	1.1	8.6	18	.42
7	4.5	88	1.1	7.5	55	1.1	24	375	24
8	4.5	112	1.4	5.6	53	.80	1430	1230	1170
9	4.1	53	.59	6.5	57	1.0	3780	1040	10600
10	4.1	48	.53	7.0	53	1.0	2790	470	3540
11	4.1	60	.66	7.5	53	1.1	526	300	426
12	3.5	43	.41	7.5	50	1.0	245	188	124
13	3.5	42	.40	6.3	51	.87	171	124	57
14	3.6	42	.41	5.1	50	.69	132	90	32
15	4.0	47	.51	4.9	42	.56	96	60	16
16	5.8	46	.72	4.9	28	.37	74	50	10
17	6.7	43	.78	5.8	27	.42	62	33	5.5
18	5.8	40	.63	12	18	.58	54	30	4.4
19	11	33	.98	9.8	7	.19	43	28	3.3
20	6.7	37	.67	9.2	4	.10	31	---	---
21	8.3	40	.90	8.6	6	.14	21	---	---
22	18	43	2.1	8.6	3	.07	24	---	---
23	11	52	1.5	8.0	4	.09	21	---	---
24	9.8	42	1.1	8.1	2	.04	19	---	---
25	8.1	27	.59	8.1	3	.07	16	---	---
26	8.1	25	.55	10	4	.11	15	---	---
27	10	27	.73	19	3	.15	15	---	---
28	8.6	23	.53	13	2	.07	15	---	---
29	8.9	28	.67	10	1	.03	15	---	---
30	13	36	1.3	10	1	.03	15	---	---
31	30	35	2.8	---	---	---	17	---	---
TOTAL	247.0	---	28.58	313.0	---	22.78	9709.6	---	16012.89
JANUARY			FEBRUARY			MARCH			
1	19	---	---	12	---	---	109	205	60
2	21	---	---	12	---	---	85	97	22
3	21	---	---	9.8	---	---	132	60	21
4	20	---	---	8.6	---	---	520	40	56
5	16	---	---	8.0	---	---	277	84	63
6	15	---	---	7.2	---	---	165	340	151
7	15	---	---	7.0	---	---	117	462	146
8	13	---	---	7.0	---	---	94	195	49
9	12	---	---	7.5	---	---	80	108	23
10	11	---	---	7.8	---	---	73	80	16
11	10	---	---	7.8	---	---	64	62	11
12	9.8	---	---	7.2	---	---	57	51	7.8
13	9.5	---	---	6.8	---	---	50	53	7.2
14	9.2	---	---	6.8	---	---	43	40	4.6
15	9.5	---	---	7.5	---	---	56	33	5.0
16	9.5	---	---	13	---	---	48	34	4.4
17	9.5	---	---	30	---	---	44	26	3.1
18	9.2	---	---	47	---	---	36	23	2.2
19	9.2	---	---	211	---	---	24	20	1.3
20	9.8	---	---	191	76	39	24	20	1.3
21	10	---	---	125	82	28	26	25	1.8
22	10	---	---	112	80	24	26	21	1.5
23	11	---	---	253	108	108	37	25	2.5
24	12	---	---	1230	1610	5350	40	30	3.2
25	13	---	---	1260	2020	6870	33	30	2.7
26	14	45	1.7	541	925	1350	30	28	2.3
27	16	40	1.7	289	575	449	32	23	2.0
28	15	41	1.7	173	320	149	31	15	1.3
29	13	39	1.4	---	---	---	25	16	1.1
30	12	---	---	---	---	---	25	20	1.4
31	12	---	---	---	---	---	24	20	1.3
TOTAL	396.2	---	6.5	4598.0	---	14367	2427	---	676.0

SALT RIVER BASIN

05503500 NORTH FORK SALT RIVER NEAR HUNNEWELL, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
APRIL				MAY				JUNE	
1	21	21	1.2	65	80	14	217	440	258
2	20	18	.97	45	75	9.1	131	280	99
3	20	22	1.2	40	60	6.5	89	218	52
4	19	24	1.2	36	60	5.8	71	175	34
5	15	15	.61	36	75	7.3	58	150	23
6	14	15	.57	221	145	87	73	108	21
7	13	20	.70	150	290	117	65	90	16
8	12	30	.97	85	300	69	51	75	10
9	21	70	4.0	60	200	32	44	80	9.5
10	16	66	2.9	95	175	45	166	150	67
11	17	60	2.8	2230	860	5180	103	90	25
12	21	78	4.4	1320	400	1430	62	120	20
13	608	452	189	514	282	341	2280	3400	189
14	2870	2900	22500	3220	1370	11900	4560	1820	22400
15	2400	1260	8160	5520	801	11900	4950	920	12300
16	640	550	950	7390	810	16200	2810	970	7360
17	299	340	274	7220	640	12500	2250	975	5920
18	216	220	128	7520	769	15600	583	580	913
19	490	480	674	9410	460	11700	377	475	608
20	1700	1270	5830	12100	365	11900	874	2590	6110
21	878	550	1300	8830	250	5960	392	900	953
22	448	250	302	1400	260	983	576	695	1080
23	1930	1490	7760	831	265	595	307	1260	1040
24	2120	1350	7730	909	550	1350	156	670	282
25	563	520	790	504	570	776	3460	3030	30900
26	268	260	188	352	250	238	5440	1550	22800
27	180	135	66	292	160	126	3130	760	6420
28	131	115	41	302	220	179	569	500	768
29	100	100	27	219	440	260	295	280	223
30	79	80	17	724	892	2430	1590	2580	11100
31	---	---	---	616	1200	2000	---	---	---
TOTAL	16129	---	56947.52	72256	---	113990.7	35729	---	132000.5
JULY				AUGUST				SEPTEMBER	
1	2180	2830	16700	650	210	369	41	240	27
2	775	1120	2340	452	200	244	26	100	7.0
3	336	520	472	511	360	497	31	125	10
4	1650	1670	9590	261	240	169	30	150	12
5	4920	1590	21100	233	180	113	23	120	7.5
6	6660	670	12000	323	250	218	17	110	5.0
7	5210	440	6190	150	190	77	22	80	4.8
8	692	380	710	108	130	38	20	80	4.3
9	310	240	201	86	90	21	18	80	3.9
10	210	180	102	76	60	12	18	90	4.4
11	139	125	47	66	75	13	31	100	8.4
12	200	150	81	54	90	13	30	100	8.1
13	94	120	30	46	60	7.5	21	100	5.7
14	64	120	21	42	90	10	16	90	3.9
15	47	175	22	42	790	90	14	90	3.4
16	45	210	26	580	360	564	12	80	2.6
17	269	260	189	333	175	157	11	80	2.4
18	130	210	74	134	175	63	9.6	60	1.6
19	398	892	1180	81	180	39	8.8	60	1.4
20	1160	2320	7640	58	180	28	8.0	60	1.3
21	603	1150	1870	45	150	18	9.1	90	2.2
22	236	520	331	36	180	17	11	90	2.7
23	494	900	1750	32	200	17	9.9	80	2.1
24	1890	1800	9220	30	280	23	7.7	90	1.9
25	1630	1110	4990	31	150	13	8.3	90	2.0
26	4360	1440	17000	26	80	5.6	58	100	16
27	8020	640	13900	25	90	6.1	97	90	24
28	13000	400	14000	30	180	15	114	80	25
29	14300	270	10400	37	290	29	88	90	21
30	10000	220	5940	104	380	107	46	90	11
31	1780	360	1730	194	440	230	---	---	---
TOTAL	81802	---	159846	4876	---	3223.2	856.4	---	232.6
YEAR	229339.2		497354.27						

SALT RIVER BASIN

05503800 CROOKED CREEK NEAR PARIS, MO

LOCATION.--Lat 39°35'06", long 91°59'36", near NW corner S½ sec.2, T.55 N., R.10 W., Monroe County, Hydrologic Unit 07110005, on right bank downstream from gravel road bridge, 7 mi (11.3 km) north of Paris, 1.4 mi (2.3 km) north of State Route 15, and at mile 8.9 (14.3 km).

DRAINAGE AREA.--80.0 mi² (207.2 km²).

PERIOD OF RECORD.--March 1966 to current year. Prior to October 1979 published by U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 650.00 ft (198.120 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 8, 1967 wire weight gage and Nov. 9, to Sept. 1979 recording gage at datum 50 ft (15.240 m) lower.

REMARKS.--Records fair due to lack of shifting control definition at various stages. Several observations of water temperature and specific conductance made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,100 ft³/s (342 m³/s) April 21, 1973, gage height, 15.53 ft (4.734 m) gage datum; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 3,910 ft³/s (111 m³/s), May 18, gage height 10.87 ft (3.313 m) from crest-stage gage; no flow at times during the year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.12	.00	1.8	.24	.13	23	94	25	1.2
2	.00	.00	.00	.12	.00	1.2	.20	.07	12	32	279	.32
3	.00	.00	.00	.12	.00	1.0	.13	.02	13	15	543	.08
4	.00	.00	.00	.07	.00	.94	.12	.00	8.8	370	79	.00
5	.00	.00	.00	.01	.00	2.5	.10	.00	7.4	384	169	.00
6	.00	.00	.00	.00	.00	6.2	.07	.00	7.0	58	136	.00
7	.00	.00	1.5	.00	.00	5.0	.04	.00	6.6	21	36	.00
8	.00	.00	163	.00	.00	4.0	.02	.00	6.2	11	16	.00
9	.00	.00	100	.00	.00	2.2	.00	.00	6.2	8.2	9.2	.00
10	.00	.00	22	.00	.00	1.7	.00	105	6.0	6.8	8.0	.00
11	.00	.00	8.0	.00	.00	1.0	.28	385	6.2	6.0	7.6	.00
12	.00	.00	4.7	.00	.00	.80	1.0	74	7.6	5.6	6.2	.00
13	.00	.00	2.5	.00	.00	.76	1.7	20	7.0	4.9	5.4	.00
14	.00	.00	1.8	.00	.00	.64	7.3	648	24	4.9	4.7	.00
15	.00	.00	1.3	.00	.00	.56	3.3	1110	35	4.3	4.7	.00
16	.00	.00	.99	.00	.00	.45	2.4	96	306	4.3	4.3	.00
17	.00	.00	.83	.00	.00	.34	1.8	125	102	4.3	3.6	.00
18	.00	.00	.64	.00	12	.32	3.0	2680	21	48	2.7	.00
19	.00	.00	.40	.30	10	.25	31	2370	9.8	298	2.1	.00
20	.00	.00	.40	.63	7.3	.20	262	302	9.6	165	1.6	.00
21	.00	.00	.30	130	6.2	.18	64	63	292	25	1.3	.00
22	.00	.00	.23	137	6.9	.33	87	55	73	9.2	1.3	.05
23	.00	.00	.20	.00	20	.36	140	109	38	776	1.2	.11
24	.00	.00	.23	.00	29	.36	43	244	40	1150	1.3	.12
25	.00	.00	.10	.00	16	.30	12	70	2050	1310	13	.16
26	.00	.00	.14	.00	7.6	.28	6.2	28	1120	2450	9.0	.20
27	.00	.00	.12	.00	4.4	.28	3.4	19	99	2980	2.5	.20
28	.00	.00	.12	.00	2.7	.26	1.6	12	38	1770	2.2	.20
29	.00	.00	.12	.00	---	.27	.86	9.2	15	211	1.2	.24
30	.00	.00	.12	.00	---	.28	.32	220	314	78	1.6	.48
31	.00	---	.12	.00	---	.28	---	89	---	43	3.5	---
TOTAL	.00	.00	309.86	268.57	122.10	35.04	673.08	9033.42	4703.4	12347.5	1381.2	3.36
MEAN	.000	.000	10.0	8.66	4.36	1.13	22.4	291	157	398	44.6	.11
MAX	.00	.00	163	137	29	6.2	262	2680	2050	2980	543	1.2
MIN	.00	.00	.00	.00	.00	.18	.00	.00	6.0	4.3	1.2	.00
CFSM	.000	.000	.13	.11	.06	.01	.28	3.64	1.96	4.98	.56	.001
IN.	.00	.00	.14	.12	.06	.02	.31	4.20	2.19	5.74	.64	.00
AC-FT	.00	.00	615	532	242	70	1340	17920	9330	24490	2740	6.7
CAL YR 1980 TOTAL	5185.33	MEAN 14.2	MAX 696	MIN .00	CFSM .18	IN 2.41	AC-FT 10290					
WTR YR 1981 TOTAL	28877.33	MEAN 74.1	MAX 2980	MIN .00	CFSM .99	IN 13.43	AC-FT 57280					

SALT RIVER BASIN

05503800 CROOKED CREEK NEAR PARIS, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.70	1.66	1.58	1.73	1.64	1.96	1.86	1.74	2.73	3.25	2.53	2.21
2	1.68	1.58	1.58	1.73	1.64	1.91	1.85	1.72	2.57	2.80	2.43	2.08
3	1.68	1.62	1.58	1.73	1.64	1.89	1.83	1.71	2.62	2.62	5.19	2.03
4	1.67	1.64	1.58	1.72	1.64	1.86	1.83	1.70	2.48	2.56	3.01	2.01
5	1.66	1.64	1.58	1.70	---	1.95	1.83	1.70	2.41	4.90	2.81	1.99
6	1.64	1.64	1.58	1.69	---	2.23	1.82	1.68	2.38	3.02	3.42	1.96
7	1.64	1.63	1.69	1.70	---	2.16	1.81	1.68	2.36	2.69	2.72	1.96
8	1.63	1.63	3.57	1.70	---	2.14	1.81	1.66	2.34	2.55	2.52	2.02
9	1.62	1.62	3.20	1.70	---	2.02	1.79	1.66	2.34	2.46	2.41	2.04
10	1.61	1.61	2.60	1.69	---	1.99	1.79	1.75	2.33	2.38	2.34	2.04
11	1.58	1.60	2.33	---	---	1.95	1.87	4.63	2.33	2.33	2.34	2.01
12	1.57	1.59	2.15	---	---	1.90	1.93	3.02	2.42	2.32	2.29	2.00
13	1.56	1.58	2.01	---	---	1.90	2.04	2.56	2.39	2.27	2.26	2.01
14	1.54	1.57	1.94	1.71	---	1.90	2.32	5.80	2.36	2.27	2.24	2.01
15	1.53	1.57	1.92	1.69	---	1.90	2.07	6.93	2.66	2.24	2.25	2.02
16	1.57	1.57	1.88	1.69	---	1.90	2.01	3.13	4.02	2.24	2.25	2.05
17	1.60	1.57	1.86	3.06	---	1.89	1.96	2.67	3.30	2.24	2.22	2.05
18	1.60	1.57	1.84	---	---	1.88	2.05	8.80	2.69	2.25	2.16	2.04
19	1.60	1.57	1.80	---	2.43	1.87	2.07	9.01	2.54	4.55	2.14	2.03
20	1.60	1.56	1.80	1.92	2.24	1.85	4.26	4.04	2.46	3.85	---	2.03
21	1.59	1.56	1.78	1.76	2.21	1.85	2.94	3.04	5.04	2.76	2.10	2.10
22	1.57	1.55	1.77	1.80	2.22	1.88	2.53	2.81	3.00	2.51	2.11	2.17
23	1.57	1.56	1.75	1.64	2.50	1.89	3.45	2.78	2.66	6.94	2.11	2.20
24	1.58	1.57	1.76	1.64	2.67	1.89	2.79	4.14	2.55	5.27	2.11	2.23
25	1.58	1.57	1.74	1.64	2.49	1.87	2.44	3.10	8.64	6.38	2.16	2.24
26	1.58	1.57	1.74	1.64	2.28	1.87	2.24	2.76	7.30	8.96	2.53	2.25
27	1.61	1.57	1.73	1.64	2.14	1.87	2.08	2.66	3.10	9.37	2.26	2.25
28	1.65	1.57	1.73	1.64	2.03	1.87	1.94	2.57	2.78	8.36	2.25	2.25
29	1.65	1.58	1.73	1.64	---	1.86	1.85	2.50	2.61	3.68	2.13	2.25
30	1.66	1.58	1.73	1.64	---	1.87	1.78	3.67	4.46	2.92	2.18	2.29
31	1.66	---	1.73	1.64	---	1.87	---	3.21	---	2.67	2.42	---

SALT RIVER BASIN

05505000 SOUTH FORK SALT RIVER AT SANTA FE, MO

LOCATION--Lat 39°21'45" long 91°49'05", in NW¼NE¼ sec.20, T.53 N., R.8 W., Monroe County, Hydrologic Unit 07110006, on left bank near upstream end of bridge on county road, 0.3 mi (0.5 km) south of Santa Fe, and 1.0 mi (1.6 km) upstream from Elm Creek, and at mile 96.2 (154.8 km) above mouth of Salt River.

DRAINAGE AREA--298 mi² (772 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD--October 1939 to current year. Published as "near Santa Fe" October 1968 to September 1975.

GAGE--Water-stage recorder and crest-stage gage. Datum of gage is 613.05 ft (186.858 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 5, 1940, nonrecording gage, and Feb. 5, 1940, to Sept. 30, 1968, water-stage recorder, present site and datum, Oct. 1, 1968, to Sept. 30, 1975, water-stage recorder 6.3 mi (10.1 km) upstream at datum 26.04 ft (7.937 m) higher.

REMARKS--Records fair. Several observations of water temperature and specific conductance made during the year.

AVERAGE DISCHARGE--42 years, 188 ft³/s (5.324 m³/s), 8.57 in/yr (218 mm/yr), 136,200 acre-ft/yr (168 hm³/yr).

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 28,800 ft³/s (816 m³/s) Oct. 13, 1969, gage height, 28.24 ft (8.608 m), at site and datum then in use; no flow at times in several years.

EXTREMES FOR CURRENT YEAR--Peak discharges above base of 3,000 ft³/s (85 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 19	1630	4,460 126	11.93 3.636	July 26	0930	10,600 300	18.53 5.648
June 22	1500	*12,200 346	*19.98 6.090	July 28	0300	9,130 259	17.08 5.206
July 23	1945	11,000 312	18.81 5.733				

Minimum daily discharge, 0.14 ft³/s (0.004 m³/s) Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.25	5.9	11	2.0	2.4	3.6	2.1	6.0	13	433	184	13
2	.35	3.8	13	2.0	2.4	2.9	5.1	5.0	13	191	124	16
3	.30	2.3	9.9	2.0	2.4	2.5	5.0	4.1	13	111	90	11
4	.30	2.8	9.4	2.0	3.9	2.5	5.0	3.9	18	521	72	6.8
5	.30	3.9	9.0	2.0	3.3	3.3	4.2	3.9	37	986	59	4.4
6	.26	5.2	7.6	2.0	2.9	3.9	7.2	3.6	43	420	52	4.2
7	.25	4.7	6.5	2.0	2.7	3.9	8.4	3.1	56	175	64	4.4
8	.25	5.4	9.7	1.9	1.9	5.3	6.3	4.7	29	89	46	4.1
9	.24	5.8	23	1.7	2.0	5.3	6.0	4.1	18	59	33	8.2
10	.22	6.0	15	1.7	2.0	3.9	4.7	25	14	74	28	11
11	.14	6.9	6.7	1.7	2.0	3.9	4.6	122	13	36	45	7.4
12	.15	7.8	4.8	1.7	2.0	3.6	6.0	95	57	23	66	4.9
13	.15	7.4	3.3	1.7	3.1	2.9	6.7	51	124	17	45	3.2
14	.17	7.2	2.2	1.6	3.1	2.9	11	40	47	14	32	2.5
15	.26	7.0	1.8	1.2	3.1	2.7	11	58	38	12	22	2.1
16	.62	7.0	1.6	1.2	4.4	2.4	9.4	74	292	12	17	61
17	1.7	7.7	1.0	1.2	7.4	2.4	8.6	52	210	84	14	47
18	5.4	7.8	1.2	1.5	8.1	2.3	7.9	3250	79	60	12	20
19	6.7	8.2	1.2	1.2	8.5	2.0	9.1	4310	44	690	11	12
20	6.0	9.8	1.1	1.1	6.9	2.1	230	2570	1280	1980	9.4	8.6
21	3.0	11	1.2	1.2	7.4	2.4	156	270	6480	633	8.1	7.4
22	2.7	8.5	1.2	1.5	8.5	2.8	58	143	11100	287	8.1	5.7
23	1.8	7.3	1.2	1.6	8.0	3.0	139	102	5470	6560	7.4	4.8
24	4.4	7.8	1.5	2.0	7.3	2.9	179	70	452	8130	8.6	4.0
25	6.3	7.4	1.2	2.4	8.0	2.9	63	58	246	8630	68	3.6
26	6.6	7.4	1.6	2.5	7.6	4.2	33	44	467	6170	391	3.1
27	8.1	10	2.0	2.5	6.0	4.1	20	37	222	4630	120	2.5
28	16	12	1.7	2.5	4.4	3.0	13	23	108	6870	46	2.5
29	24	12	1.9	2.4	---	2.7	10	17	72	2280	27	2.6
30	15	11	1.9	2.2	---	2.9	7.8	13	369	471	17	2.3
31	8.5	---	2.4	2.2	---	2.5	---	11	---	282	12	---
TOTAL	120.41	217.0	156.6	56.4	131.7	97.7	1037.1	11473.4	27424	50930	1738.6	290.3
MEAN	3.88	7.23	5.06	1.82	4.70	3.15	34.6	370	914	1643	56.1	9.68
MAX	24	12	23	2.5	8.5	5.3	230	4310	11100	8630	391	61
MIN	.14	2.3	1.0	1.1	1.9	2.0	2.1	3.1	13	12	7.4	2.1
CFSM	.01	.02	.02	.006	.02	.01	.12	1.24	3.07	5.51	.19	.03
IN.	.02	.03	.02	.01	.02	.01	.13	1.43	3.42	6.36	.22	.04
AC-FT	239	430	311	112	261	194	2060	22760	54400	101000	3450	576
CAL YR 1980 TOTAL	14814.34			40.5			2790		1.14	1.85		29380
WTR YR 1981 TOTAL	93673.41			257			11100		.14	11.69		185800

SALT RIVER BASIN

05505000 SOUTH FORK SALT RIVER AT SANTA FE, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.57	1.90	2.06	---	1.73	1.74	1.62	1.74	1.86	4.00	3.12	---
2	1.62	1.83	2.12	---	1.73	1.71	1.76	1.72	1.89	3.15	2.84	---
3	1.66	1.75	2.06	---	1.73	1.68	1.74	1.67	1.88	2.75	2.63	---
4	1.66	1.76	2.05	---	1.79	1.68	1.74	1.66	1.89	2.95	2.50	1.82
5	1.66	1.80	2.04	---	1.79	1.70	1.71	1.68	2.21	---	2.39	1.73
6	1.66	1.86	2.01	---	1.76	1.73	1.70	1.65	2.10	---	2.33	1.71
7	1.65	1.85	2.00	---	1.75	1.73	1.86	1.64	2.41	3.05	2.51	1.73
8	1.64	1.85	2.18	---	---	1.76	1.79	1.69	2.11	2.65	2.29	1.72
9	1.64	1.89	2.23	---	---	1.78	1.77	1.69	1.99	2.40	2.16	1.69
10	1.63	1.90	2.19	---	---	1.72	1.72	1.90	1.92	2.66	2.09	1.91
11	1.62	1.92	2.00	---	---	1.70	1.72	2.81	1.88	2.15	2.47	1.83
12	1.60	1.95	1.93	---	---	1.70	1.78	2.70	1.87	2.05	2.22	1.74
13	1.60	1.95	1.87	1.69	---	1.65	1.77	2.37	2.86	1.97	2.03	1.68
14	1.60	1.95	1.80	1.67	---	1.65	1.88	2.24	2.33	1.92	1.94	1.64
15	1.59	1.94	1.76	1.65	---	1.64	1.89	2.43	2.12	1.90	---	1.62
16	1.66	1.94	1.75	1.65	---	1.62	1.85	2.59	3.71	1.85	---	1.59
17	1.78	1.97	1.70	1.64	---	1.65	1.82	2.34	3.38	2.75	---	2.37
18	1.86	1.97	1.70	1.74	1.90	1.65	1.80	10.49	2.59	2.45	1.89	2.04
19	1.99	1.97	1.69	1.64	1.91	1.64	1.81	10.91	2.28	---	1.85	1.87
20	1.98	1.99	---	1.64	1.87	1.62	1.91	9.98	6.75	---	1.82	1.78
21	1.85	2.09	---	1.61	1.88	1.64	3.10	3.43	12.70	4.23	---	1.72
22	1.82	2.00	---	1.66	1.91	1.65	2.44	2.72	19.02	3.57	---	1.63
23	1.80	1.96	---	1.61	1.88	1.68	2.19	2.73	15.76	12.31	---	1.61
24	1.83	1.98	---	1.70	1.88	1.67	3.21	2.50	4.02	14.92	---	1.58
25	1.94	1.98	---	1.72	1.87	1.67	2.47	2.41	3.36	18.04	---	1.55
26	1.94	1.98	---	1.74	1.89	1.71	2.20	2.25	4.46	17.95	---	1.54
27	1.95	2.05	---	1.74	1.83	1.73	2.03	2.24	3.30	11.04	---	1.42
28	2.19	2.08	---	1.74	1.78	1.68	1.91	2.08	2.76	16.17	---	1.50
29	2.35	2.10	---	1.74	---	1.66	1.85	1.98	2.49	9.75	---	1.50
30	2.12	2.07	---	1.72	---	1.66	1.80	1.92	---	4.09	---	1.50
31	1.98	---	---	1.72	---	1.66	---	1.87	---	3.49	---	---

SALT RIVER BASIN

05505000 SOUTH FORK SALT RIVER AT SANTA FE, MO

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1981 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT: July 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 3020 mg/L July 20, 1981; minimum daily mean, 1 mg/L on many days.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 46,700 tons (42,400 metric tons) June 21, 1981; minimum daily, 0.00 tons (0.00 metric tons) on many days.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 3020 mg/L July 20; minimum daily mean, 1 mg/L on many days.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 46,700 tons (42,400 metric tons) June 21; minimum daily, 0.00 tons (0.00 metric tons) on many days.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
MAY 18...	3780	55	61	71	83	94	95	99	100	100
JUN 27...	12100	73	80	84	88	97	98	99	100	100
JUL 24...	6620	59	69	77	85	98	98	99	100	100

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	2.7	---	---	.35	29	.03	.68	77	.14
2	2.9	---	---	.25	29	.02	16	147	6.4
3	2530	---	---	.20	31	.02	12	99	3.2
4	2790	---	---	.20	28	.02	7.8	80	1.7
5	205	---	---	.25	32	.02	8.3	95	2.1
6	75	---	---	.40	31	.03	5.9	75	1.2
7	43	---	---	.45	33	.04	8.3	56	1.3
8	26	---	---	.50	39	.05	5.7	63	.97
9	16	94	4.1	.35	51	.05	3.9	79	.83
10	12	99	3.2	.30	54	.04	3.0	94	.76
11	10	81	2.2	.25	48	.03	2.4	62	.40
12	7.4	66	1.3	.20	37	.02	2.0	44	.24
13	7.0	56	1.1	.67	48	.09	1.9	48	.25
14	6.0	49	.79	1.0	58	.16	1.9	42	.22
15	4.6	36	.45	1.4	64	.24	2.0	86	.46
16	4.1	42	.46	1.5	63	.26	3.7	106	1.1
17	3.3	36	.32	1.5	59	.24	4.2	66	.75
18	3.0	33	.27	1.4	76	.29	3.9	33	.35
19	2.8	43	.33	1.0	93	.25	5.1	25	.34
20	2.3	40	.25	.72	93	.18	5.4	27	.39
21	1.9	43	.22	.68	81	.15	3.7	20	.20
22	1.9	45	.23	1.3	62	.22	2.5	29	.20
23	1.7	38	.17	1.3	46	.16	2.0	60	.32
24	1.4	42	.16	1.2	26	.08	2.4	50	.32
25	1.2	34	.11	.91	12	.03	1.8	35	.17
26	.99	24	.06	.79	7	.01	1.0	33	.09
27	.91	29	.07	.62	22	.04	.68	31	.06
28	.78	29	.06	.47	29	.04	.43	20	.02
29	.60	28	.05	.39	28	.03	.26	18	.01
30	.50	26	.04	.32	30	.03	.16	17	.00
31	.42	24	.03	.25	36	.02	---	---	---
TOTAL	5765.40	---	15.97	21.12	---	2.89	119.01	---	24.49

SALT RIVER BASIN

05505000 SOUTH FORK SALT RIVER AT SANTA FE, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TNS/DAY)
OCTOBER				NOVEMBER			DECEMBER		
1	.32	20	.02	5.9	53	.84	11	3	.09
2	.54	25	.04	3.8	59	.61	13	2	.07
3	.57	27	.04	2.3	42	.26	9.9	2	.05
4	.45	53	.06	2.8	39	.29	9.4	2	.05
5	.40	14	.02	3.9	34	.36	9.0	2	.05
6	.32	7	.00	5.2	31	.44	7.6	1	.02
7	.25	8	.00	4.7	31	.39	6.5	5	.09
8	.25	16	.01	5.4	32	.47	9.7	11	.29
9	.24	12	.00	5.8	23	.36	23	4	.25
10	.22	14	.00	6.0	22	.36	15	6	.24
11	.14	10	.00	6.9	22	.41	6.7	6	.11
12	.15	17	.00	7.8	17	.36	4.8	7	.09
13	.15	43	.02	7.4	21	.42	3.3	7	.06
14	.17	17	.00	7.2	21	.41	2.2	6	.04
15	.26	18	.01	7.0	22	.42	1.8	6	.03
16	.62	11	.02	7.0	15	.28	1.6	6	.03
17	1.7	27	.12	7.7	14	.29	1.0	5	.01
18	5.4	43	.63	7.8	16	.34	1.2	4	.01
19	6.7	53	.60	8.2	15	.33	1.2	4	.01
20	6.0	34	.55	9.8	31	.82	1.1	5	.01
21	3.0	36	.29	11	62	1.8	1.2	4	.01
22	2.7	35	.26	8.5	42	.96	1.2	2	.00
23	1.8	35	.17	7.3	23	.45	1.2	2	.00
24	4.4	38	.45	7.8	4	.08	1.5	2	.00
25	6.3	34	.58	7.4	6	.12	1.2	2	.00
26	6.6	37	.66	7.4	12	.24	1.6	2	.00
27	8.1	59	.85	10	37	1.0	2.0	2	.01
28	16	42	1.8	12	34	1.1	1.7	3	.01
29	24	50	3.2	12	12	.39	1.9	2	.01
30	15	44	1.8	11	3	.09	1.9	2	.01
31	8.5	49	1.1	---	---	---	2.4	1	.00
TOTAL	121.25	---	15.30	217.0	---	14.69	156.8	---	1.65
JANUARY				FEBRUARY			MARCH		
1	2.0	1	.00	2.4	1	.00	3.6	5	.05
2	2.0	1	.00	2.4	2	.01	2.9	5	.04
3	2.0	1	.00	2.4	2	.01	2.5	5	.03
4	2.0	4	.02	3.9	1	.01	2.5	7	.05
5	2.0	4	.02	3.3	1	.00	3.3	8	.07
6	2.0	2	.01	2.9	1	.00	3.9	11	.12
7	2.0	1	.00	2.7	1	.00	3.9	9	.09
8	1.9	1	.00	1.9	2	.01	5.3	7	.10
9	1.7	1	.00	2.0	2	.01	5.3	8	.11
10	1.7	1	.00	2.0	7	.04	3.9	8	.08
11	1.7	1	.00	2.0	3	.02	3.9	7	.07
12	1.7	1	.00	2.0	2	.01	3.6	8	.08
13	1.7	1	.00	3.1	2	.02	2.9	7	.05
14	1.6	2	.00	3.1	4	.03	2.9	8	.06
15	1.2	1	.00	3.1	2	.02	2.7	8	.06
16	1.2	1	.00	4.4	3	.04	2.4	8	.05
17	1.2	1	.00	7.4	2	.04	2.4	8	.05
18	1.5	2	.00	8.1	1	.02	2.3	11	.07
19	1.2	5	.02	8.5	1	.02	2.0	6	.03
20	1.1	3	.00	6.9	2	.04	2.1	5	.03
21	1.2	2	.00	7.4	3	.06	2.4	5	.03
22	1.5	2	.00	8.5	3	.07	2.8	5	.04
23	1.6	2	.00	8.0	1	.02	3.0	6	.05
24	2.0	2	.01	7.3	1	.02	2.9	6	.05
25	2.4	1	.00	8.0	1	.02	2.9	6	.05
26	2.5	1	.00	7.6	2	.04	4.2	4	.05
27	2.5	1	.00	6.0	2	.03	4.1	5	.06
28	2.5	1	.00	4.4	3	.04	3.0	5	.04
29	2.4	1	.00	---	---	---	2.7	3	.02
30	2.2	1	.00	---	---	---	2.9	3	.02
31	2.2	1	.00	---	---	---	2.5	3	.02
TOTAL	56.4	---	0.08	131.7	---	0.65	97.7	---	1.72

SALT RIVER BASIN

05505000 SOUTH FORK SALT RIVER AT SANTA FE, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
APRIL				MAY				JUNE	
1	2.1	3	.02	3.6	101	.98	13	64	2.2
2	5.1	2	.03	2.9	105	.82	13	63	2.2
3	5.0	3	.04	2.3	123	.76	13	71	2.5
4	5.0	4	.05	2.2	94	.56	18	70	3.4
5	4.2	2	.02	2.3	94	.58	37	70	7.0
6	7.2	2	.04	2.0	88	.48	43	76	8.8
7	8.4	1	.02	1.8	106	.52	56	72	11
8	6.3	3	.05	2.6	90	.63	29	66	5.2
9	6.0	5	.08	2.3	75	.47	18	66	3.2
10	4.7	6	.08	1.9	92	4.7	14	75	2.8
11	4.6	8	.10	105	126	36	13	82	2.9
12	6.0	9	.15	81	117	26	57	169	26
13	6.7	11	.20	43	75	8.7	124	220	74
14	11	15	.45	52	91	7.9	47	380	48
15	11	15	.45	50	127	17	38	1090	112
16	9.4	14	.36	62	112	14	292	1140	899
17	8.6	17	.39	45	85	10	210	950	539
18	7.9	22	.47	3130	1500	12700	79	700	149
19	9.1	18	.44	4140	750	8380	44	610	72
20	230	312	194	2470	690	4600	1280	3020	10400
21	156	259	109	252	225	153	6480	2670	46700
22	41	123	14	154	155	56	11100	1020	30600
23	119	117	38	98	249	66	5470	620	9160
24	158	135	58	68	145	27	452	400	488
25	53	120	17	58	115	18	246	214	142
26	26	124	8.7	44	98	12	467	255	322
27	14	135	5.1	38	98	10	222	325	195
28	9.2	127	3.2	26	90	6.3	108	360	105
29	7.1	113	2.2	19	85	4.4	72	300	58
30	4.9	107	1.4	16	77	3.3	369	432	430
31	---	---	---	13	70	2.5	---	---	---
TOTAL	946.5	---	454.04	10965.0	---	26173.60	27424	---	100570.2
JULY				AUGUST				SEPTEMBER	
1	433	640	748	184	60	30	13	56	2.0
2	191	358	185	124	55	18	16	48	2.1
3	111	312	94	90	40	9.7	11	44	1.3
4	521	395	556	72	40	7.8	6.8	52	.95
5	986	1110	2960	59	33	5.3	4.4	42	.50
6	420	900	1020	52	26	3.7	4.2	38	.43
7	175	500	236	64	22	3.8	4.4	26	.31
8	89	320	77	46	21	2.6	4.1	26	.29
9	59	230	37	33	19	1.7	8.2	28	.62
10	74	202	40	29	23	1.7	11	30	.89
11	36	190	18	45	23	2.8	7.4	26	.52
12	23	200	12	66	26	4.6	4.9	18	.24
13	17	180	8.3	45	25	3.0	3.2	20	.17
14	14	162	6.1	32	25	2.2	2.5	20	.14
15	12	126	4.1	22	19	1.1	2.1	25	.14
16	12	140	4.5	17	20	.92	61	50	8.2
17	84	320	73	14	18	.68	47	20	2.5
18	60	180	29	12	19	.62	20	20	1.1
19	690	1010	1880	11	21	.62	12	14	.45
20	1980	1460	7810	9.4	23	.58	8.6	16	.37
21	633	500	855	8.1	21	.46	7.4	18	.36
22	287	320	248	8.1	22	.48	5.7	24	.37
23	6560	2400	42500	7.4	19	.38	4.8	28	.36
24	8130	890	19500	8.6	17	.39	4.0	24	.26
25	8630	628	14600	68	22	4.0	3.6	22	.21
26	6170	1560	26000	391	130	137	3.1	20	.17
27	4630	1060	13300	120	172	56	2.5	18	.12
28	6870	720	13400	46	76	9.4	2.5	22	.15
29	2280	380	2340	27	68	3.0	2.6	18	.13
30	471	170	216	17	86	3.9	2.3	18	.11
31	262	80	61	12	82	2.7	---	---	---
TOTAL	50930	---	148818.0	1738.6	---	321.13	290.3	---	25.46
YEAR	93075.25		276394.52						

SALT RIVER BASIN

05506000 YOUNGS CREEK NEAR MEXICO, MO

LOCATION.--Lat 39°18'39", long 91°56'51", in NW¼SW¼ sec.5, T.52 N., R.9 W., Audrain County, Hydrologic Unit 07110006, on downstream side of bridge on State Highway 15, 6 mi (9.7 km) upstream from Long Branch, and 11 mi (17.7 km) north of Mexico.

DRAINAGE AREA.--67.4 mi² (174.6 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1930 to current year. (Fragmentary prior to August 1936 and September 1969 to July 1980.)

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 700.31 ft (213.454 m) National Geodetic Vertical Datum (levels by Missouri Highway Department). Prior to June 1, 1956, nonrecording gage on upstream side of bridge, and June 1, 1956 to Nov. 1, 1965, water-stage recorder at present site and datum 4.00 ft higher.

AVERAGE DISCHARGE.--34 years, 44.5 ft³/s (1.260 m³/s), 8.96 in/yr (228 mm/yr), 32240 acre-ft/yr (39.8 hm³/yr).

REMARKS.--Records fair. Several observations of water temperature and specific conductance made during the year.

REVISIONS.--WSP 875: 1932, 1937. WSP 1308: 1939(M).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,120 ft³/s (230 m³/s) July 10, 1969, gage height, 17.81 ft (5.426 m); no flow at times in many years. Maximum stage known, about 19.1 ft (5.821 m) present datum, from floodmarks, date unknown.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,400 ft³/s (39.6 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
May 19	0545	2,150	60.9	11.15	3.398
June 21	1845	*8,720	247	*18.20	5.547
July 24	0145	3,850	109	13.71	4.179
July 26	0500	5,070	144	15.10	4.602

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.24	.27	.37	.79	.30	.51	1.7	94	8.1	1.1
2	.00	.00	.23	.27	.58	.65	.24	.37	18	41	6.2	.65
3	.00	.00	.24	.24	.51	.51	.24	.27	180	38	5.0	.51
4	.00	.00	.25	.24	.51	.58	.44	.44	31	131	4.3	.24
5	.00	.00	.27	.18	.24	.79	.51	.37	9.5	180	4.0	.18
6	.00	.00	.27	.18	.24	.72	1.4	.30	4.5	56	3.6	.09
7	.00	.00	.30	.21	.21	1.0	1.0	.27	3.0	32	4.3	.06
8	.00	.00	1.4	.09	.37	1.0	.72	.24	2.4	24	3.2	.03
9	.00	.00	1.8	.06	.27	.93	.93	.27	1.8	21	2.6	.03
10	.00	.00	3.1	.06	.37	.72	.79	2.2	1.6	31	2.6	.00
11	.00	.00	1.8	.06	.30	.51	.79	15	1.8	17	2.6	.00
12	.00	.00	1.3	.05	.27	.37	.65	16	1.7	15	4.5	.00
13	.00	.00	1.1	.05	.15	.27	.58	7.8	2.6	14	4.0	.00
14	.00	.00	.85	.05	.21	.30	.93	21	5.6	13	2.8	.00
15	.00	.00	.70	.05	.51	.21	1.1	35	21	12	2.1	.09
16	.00	.00	.58	.15	1.1	.15	.86	16	221	12	1.8	.09
17	.00	.00	.51	.12	1.5	.06	1.1	9.2	43	18	1.7	.12
18	.00	.00	.37	.09	1.8	.12	.93	1120	12	40	1.5	.09
19	.00	.00	.27	.09	1.6	.12	1.5	1710	6.5	94	1.1	.09
20	.00	.00	.21	.15	1.4	.12	3.4	522	558	176	.93	.12
21	.00	.00	.17	.18	1.8	.12	3.6	34	3870	61	.86	.12
22	.00	.00	.15	.27	2.0	.24	3.4	15	3010	37	.79	.13
23	.00	.00	.15	.24	2.2	.24	3.4	8.5	169	2480	.72	.11
24	.00	.00	.09	.27	2.2	.21	3.0	6.2	66	2450	.72	.09
25	.00	.00	.06	.27	2.8	.24	2.4	6.5	151	1270	.26	.07
26	.00	.00	.06	.27	2.1	.27	2.4	8.1	130	2280	1.4	.10
27	.00	.00	.09	.24	1.6	.44	1.8	4.8	44	1130	.58	.06
28	.00	.06	.12	.27	1.1	.37	1.4	3.4	31	1160	18	.02
29	.00	.24	.18	.24	---	.37	1.0	2.4	27	102	6.5	.00
30	.00	.27	.30	.24	---	.57	.79	2.1	225	22	2.8	.00
31	.00	---	.37	.18	---	.57	---	1.8	---	12	1.8	---
TOTAL	.00	.57	17.53	5.33	28.31	13.16	41.60	3570.04	8849.7	12063	101.36	4.19
MEAN	.000	.019	.57	.17	1.01	.42	1.39	115	295	389	3.27	.14
MAX	.00	.27	3.1	.27	2.8	1.0	3.6	1710	3870	2480	18	1.1
MIN	.00	.00	.06	.05	.15	.06	.24	.24	1.6	12	.26	.00
CFSM	.000	.000	.006	.003	.02	.006	.02	1.71	4.38	5.77	.05	.002
IN.	.00	.00	.01	.00	.02	.01	.02	1.97	4.88	6.66	.06	.00
AC-FT	.00	1.1	35	11	56	26	83	7080	17550	23930	201	8.3

WTR YR 1981 TOTAL 24694.79 MEAN 67.7 MAX 3870 MIN .00 CFSM 1.00 IN 13.63 AC-FT 48980

SALT RIVER BASIN

05506000 YOUNGS CREEK NEAR MEXICO, MO

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED SEDIMENT CONCENTRATIONS: Maximum daily mean, 4200 mg/L July 25, 1981; minimum daily mean, 1 mg/L on many days.

SUSPENDED SEDIMENT LOADS: Maximum daily, 16,900 tons (15,300 metric tons) June 21, 1981; minimum daily, 0.00 tons (0.00 metric tons) on many days.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED SEDIMENT CONCENTRATIONS: Maximum daily mean, 4200 mg/L July 25; minimum daily mean, 1 mg/L on many days.

SUSPENDED SEDIMENT LOADS: Maximum daily, 16,900 tons (15,300 metric tons) July 21; minimum daily, 0.00 tons (0.00 metric tons) on many days.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SED. SUSP. FALL DIAM.	SED. SUSP. FALL DIAM.	SED. SUSP. FALL DIAM.	SED. SUSP. FALL DIAM.	SED. SUSP. FALL DIAM.	SED. SUSP. FALL DIAM.	SED. SUSP. FALL DIAM.	SED. SUSP. FALL DIAM.	SED. SUSP. FALL DIAM.	SED. SUSP. FALL DIAM.
		% FINER THAN .002 MM (70337)	% FINER THAN .004 MM (70338)	% FINER THAN .008 MM (70339)	% FINER THAN .016 MM (70340)	% FINER THAN .062 MM (70342)	% FINER THAN .125 MM (70343)	% FINER THAN .250 MM (70344)	% FINER THAN .500 MM (70345)	% FINER THAN 1.00 MM (70346)	% FINER THAN 2.00 MM (70347)
JUL , 1981 23...	2260	62	68	78	87	95	96	98	100	100	100

05506000 YOUNGS CREEK NEAR MEXICO, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	.00		.00	---	---	.24	133	.09	
2	.00		.00	---	---	.24	58	.04	
3	.00		.00	---	---	.24	26	.02	
4	.00		.00	---	---	.24	17	.01	
5	.00		.00	---	---	.24	25	.02	
6	.00		.00	---	---	.18	11	.00	
7	.00		.00	---	---	.18	30	.01	
8	.00		.00	---	---	1.0	16	.04	
9	.00		.00	---	---	1.5	6	.02	
10	.00		.00	---	---	2.6	12	.08	
11	.00		.00	---	---	1.5	17	.07	
12	.00		.00	---	---	1.0	22	.06	
13	.00		.00	---	---	.86	21	.05	
14	.00		.00	---	---	.65	24	.04	
15	.00		.00	---	---	.51	23	.03	
16	.00		.00	---	---	.37	13	.01	
17	.00		.00	---	---	.30	12	.00	
18	.00		.00	---	---	.24	9	.00	
19	.00		.00	---	---	.18	15	.00	
20	.00		.00	---	---	.18	22	.01	
21	.00		.00	---	---	.18	35	.02	
22	.00		.00	---	---	.18	25	.01	
23	.00		.00	---	---	.15	24	.00	
24	.00		.00	---	---	.09	13	.00	
25	.00		.00	---	---	.09	10	.00	
26	.00		.00	---	---	.09	10	.00	
27	.00		.00	---	---	.09	11	.00	
28	.00		.06	1900	.31	.09	12	.00	
29	.00		.24	1290	.84	.09	10	.00	
30	.00		.27	495	.36	.15	8	.00	
31	.00		---	---	---	.21	10	.00	
TOTAL	0.00		0.57	---	---	1.51	13.86	---	0.63
JANUARY			FEBRUARY			MARCH			
1	.27	11	.00	.72	30	.06	.79	4	.00
2	.27	9	.00	.72	16	.03	.65	12	.02
3	.27	8	.00	.72	9	.02	.51	18	.02
4	.27	16	.01	.72	9	.02	.58	7	.01
5	.27	9	.00	.72	9	.02	.79	9	.02
6	.27	11	.00	.72	10	.02	.72	3	.00
7	.27	30	.02	.72	12	.02	1.0	8	.02
8	.27	33	.02	.72	12	.02	1.0	6	.02
9	.27	19	.01	.72	18	.03	.93	4	.01
10	.27	6	.00	.72	19	.04	.72	3	.00
11	.27	6	.00	.72	17	.03	.51	5	.00
12	.27	10	.00	.72	15	.03	.37	7	.00
13	.27	9	.00	.72	12	.02	.27	8	.00
14	.27	9	.00	.72	10	.02	.30	6	.00
15	.27	12	.00	.93	9	.02	.21	5	.00
16	.27	15	.01	1.2	6	.02	.15	2	.00
17	.27	17	.01	1.5	6	.02	.06	1	.00
18	.27	17	.01	1.8	4	.02	.12	1	.00
19	.27	19	.01	1.6	7	.03	.12	2	.00
20	.27	21	.02	1.4	6	.02	.12	1	.00
21	.30	22	.02	1.8	4	.02	.12	3	.00
22	.58	22	.03	2.0	2	.01	.24	3	.00
23	.72	28	.05	2.2	2	.01	.24	1	.00
24	.72	26	.05	2.2	2	.01	.21	3	.00
25	.72	39	.08	2.8	5	.04	.24	8	.00
26	.72	27	.05	2.1	4	.02	.27	8	.00
27	.72	29	.06	1.6	10	.04	.44	8	.00
28	.65	33	.06	1.1	15	.04	.37	6	.00
29	.65	41	.07	---	---	---	.37	4	.00
30	.65	28	.05	---	---	---	.37	3	.00
31	.65	28	.05	---	---	---	.37	3	.00
TOTAL	12.48	---	0.69	34.31	---	0.70	13.16	---	0.12

SALT RIVER BASIN

05506000 YOUNGS CREEK NEAR MEXICO, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
APRIL			MAY			JUNE			
1	.30	3	.00	.51	13	.02	1.7	50	.23
2	.24	4	.00	.37	51	.05	18	348	17
3	.24	2	.00	.27	87	.06	180	1040	505
4	.44	2	.00	.44	31	.04	31	308	26
5	.51	4	.00	.37	13	.01	9.5	133	3.4
6	1.4	2	.00	.30	45	.04	4.5	154	1.9
7	1.0	5	.01	.27	67	.05	3.0	148	1.2
8	.72	4	.00	.24	79	.05	2.4	112	.73
9	.93	2	.00	.27	23	.02	1.8	90	.44
10	.79	3	.00	2.2	23	.14	1.6	100	.43
11	.79	4	.00	15	35	1.4	1.8	100	.49
12	.65	2	.00	16	2850	123	1.7	80	.37
13	.58	4	.00	7.8	347	7.3	2.6	95	.67
14	.93	4	.01	21	1790	101	5.6	248	3.7
15	1.1	5	.01	35	1000	94	21	564	32
16	.86	6	.01	16	110	4.8	221	2410	1440
17	1.1	11	.03	9.2	331	8.2	43	564	65
18	.93	7	.02	1120	2080	6290	12	291	9.4
19	1.5	13	.05	1710	766	3540	6.5	272	4.8
20	3.4	20	.18	522	201	283	558	2170	3270
21	3.6	12	.12	34	77	7.1	3870	1620	16900
22	3.4	12	.11	15	72	2.9	3010	371	3020
23	3.4	11	.10	8.5	40	.92	169	128	58
24	3.0	7	.06	6.2	46	.77	66	90	16
25	2.4	14	.09	6.5	36	.63	151	146	60
26	2.4	8	.05	8.1	40	.87	130	164	58
27	1.8	18	.09	4.8	52	.67	44	164	19
28	1.4	29	.11	3.4	50	.46	31	314	26
29	1.0	29	.08	2.4	48	.31	27	140	10
30	.79	21	.04	2.1	55	.31	225	1180	717
31	---	---	---	1.8	50	.24	---	---	---
TOTAL	41.60	---	1.17	3570.04	---	10468.36	8849.7	---	26266.76
JULY			AUGUST			SEPTEMBER			
1	94	336	85	8.1	38	.83	1.1	133	.40
2	41	90	10	6.2	35	.59	.65	70	.12
3	38	175	18	5.0	55	.74	.51	35	.05
4	131	1110	393	4.3	190	2.2	.24	50	.03
5	180	864	420	4.0	353	3.8	.18	55	.03
6	56	270	41	3.6	122	1.2	.09	45	.01
7	32	143	12	4.3	128	1.5	.06	88	.01
8	24	156	10	3.2	275	2.4	.03	75	.00
9	21	1280	49	2.6	227	1.6	.03	62	.00
10	31	420	19	2.6	105	.74	.00	55	.00
11	17	138	6.3	2.6	100	.70	.00	80	.00
12	15	342	14	4.5	75	.91	.00	112	.00
13	14	418	16	4.0	138	1.5	.00	107	.00
14	13	191	6.7	2.8	55	.42	.00	302	.00
15	12	156	5.1	2.1	55	.31	.09	70	.02
16	12	221	7.2	1.8	38	.18	.09	38	.00
17	18	122	5.9	1.7	30	.14	.12	50	.02
18	40	275	30	1.5	80	.32	.09	35	.00
19	94	425	108	1.1	30	.09	.09	65	.02
20	176	468	222	.93	30	.08	.12	38	.01
21	61	2230	367	.86	25	.06	.12	38	.01
22	37	1970	197	.79	25	.05	.13	50	.02
23	2480	1530	10400	.72	40	.08	.11	85	.03
24	2450	2600	13500	.72	232	.45	.09	65	.02
25	1270	4200	14400	.26	107	.08	.07	221	.04
26	2280	987	6080	1.4	38	.14	.10	156	.04
27	1130	1060	3230	.58	75	.12	.06	133	.02
28	1160	646	2020	18	75	3.6	.02	45	.00
29	102	216	59	6.5	172	3.0	.00	80	.00
30	22	62	3.7	2.8	190	1.4	.00	50	.00
31	12	65	2.1	1.8	275	1.3	---	---	---
TOTAL	12063	---	51737.0	101.36	---	30.53	4.19	---	0.90
YEAR	24704.27		88508.37						

SALT RIVER BASIN

05506190 MIDDLE FORK SALT RIVER AT DUNCANS BRIDGE, MO

LOCATION.--Lat 39°34'25", long 92°15'54", in SE¼SW¼NE¼ sec. 8, T.55 N., R.12 W., Monroe County, Hydrologic Unit 07110006, on left bank at left end of State Highway J bridge, 3.7 mi (5.9 km) upstream from Mud Creek, 30.3 mi (48.8 km), upstream from gage at Paris, and at mile 134.8 (216.9 km) above mouth of Salt River.

DRAINAGE AREA.--200 mi² (518 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage is 675.00 ft (205.740 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor due to mechanical malfunctions of recording equipment. Several observations of water temperature and specific conductance made during the year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,820 ft³/s (221 m³/s) at 1245 July 27, gage height, 24.94 ft (7.602 m) minimum daily discharge, 0.15 ft³/s (.046 m³/s) Oct. 6-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	.18	1.1	1.5	2.4	20	2.5	6.3	62	657	58	3.5
2	.20	.30	.95	1.4	2.4	16	2.3	5.0	38	121	229	3.5
3	.20	.50	1.2	1.3	2.2	13	2.1	3.9	30	51	453	3.1
4	.20	.75	1.5	1.2	2.1	12	2.0	3.5	25	910	87	2.7
5	.20	.75	1.5	1.2	2.0	32	1.9	3.5	21	2040	153	2.5
6	.15	.70	2.5	1.2	1.9	111	1.8	82	38	2280	40	2.3
7	.15	.70	33	1.2	1.8	70	1.7	35	40	1750	28	2.6
8	.15	.66	426	1.2	2.0	34	1.6	14	23	92	22	3.0
9	.15	.70	745	1.2	1.7	21	1.5	10	21	59	17	3.1
10	.15	.76	225	1.2	1.8	16	5.4	292	23	25	17	3.5
11	.22	.80	61	1.4	1.9	13	13	1270	15	19	16	4.3
12	.48	.86	38	1.5	1.8	11	17	656	14	14	12	3.7
13	1.4	.88	25	1.1	1.8	9.7	199	92	37	11	10	2.7
14	.88	.88	22	1.1	1.8	8.6	560	1250	221	8.5	9.4	2.4
15	.60	.80	20	1.6	2.6	7.6	220	2230	110	6.9	8.3	5.5
16	.45	.78	15	1.8	6.1	7.0	43	2060	1430	7.0	8.3	31
17	.35	.78	11	1.6	7.0	5.9	30	872	1040	28	7.0	11
18	.25	.76	9.1	1.6	9.3	5.4	98	4220	91	38	6.4	5.2
19	.27	.70	7.0	1.7	10	4.7	704	6950	49	720	6.7	3.4
20	.20	.74	6.1	1.9	18	4.3	400	3690	558	446	6.4	2.5
21	.20	.62	5.0	2.0	21	3.9	200	1670	1290	103	5.7	1.9
22	1.3	.56	4.1	2.0	37	4.7	149	133	1100	40	5.1	1.6
23	.66	.54	3.5	2.3	142	4.0	384	123	135	1810	4.5	1.6
24	.45	.52	3.2	2.3	255	4.4	225	136	78	4120	5.4	1.6
25	1.4	.50	2.7	2.6	191	3.8	59	108	3000	3470	5.4	25
26	.80	.48	2.7	2.9	64	3.6	32	60	4340	4580	4.2	41
27	.30	.60	2.4	2.7	36	3.5	21	44	2530	6920	3.9	19
28	.21	.80	2.0	2.7	25	3.9	14	69	469	6140	3.6	13
29	.19	1.1	1.9	2.6	---	3.5	11	49	58	3400	3.6	6.4
30	.18	1.5	1.7	2.3	---	3.1	8.9	1000	300	1520	7.0	3.7
31	.18	---	1.6	2.3	---	2.7	---	332	---	106	4.5	---
TOTAL	12.72	21.20	1682.75	54.6	851.6	463.3	3410.7	27469.2	17186	41472.4	1247.4	216.3
MEAN	.41	.71	54.3	1.76	30.4	14.9	114	886	573	1338	40.2	7.21
MAX	1.4	1.5	745	2.9	255	111	704	6950	4340	6920	453	41
MIN	.15	.18	.95	1.1	1.7	2.7	1.5	3.5	14	6.9	3.6	1.6
AC-FT	25	42	3340	108	1690	919	6770	54490	34090	82260	2470	429
WIR YR 1981	TOTAL	94088.17	MEAN	258	MAX	6950	MIN	.15	AC-FT	186600		

SALT RIVER BASIN

05506190 MIDDLE FORK SALT RIVER AT DUNCANS BRIDGE, MO

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1980 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT: November 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2250 mg/L April 15, 1981; minimum daily mean, 1 mg/L November 28 and 30, 1980.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 10,000 tons (9,070 metric tons) June 25, 1981; minimum, 0.0 tons on many days.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2250 mg/L April 15; minimum daily mean, 1 mg/L November 28 and 30, 1980.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 10,000 tons (9,070 metric tons) June 25; minimum, 0.0 tons on many days.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)	SED. SUSP. FALL DIAM. % FINER THAN 2.00 MM (70347)
JUN , 1981											
25...	3140	75	87	92	92	98	100	100	100	100	100

SALT RIVER BASIN

05506190 MIDDLE FORK SALT RIVER AT DUNCANS BRIDGE, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER				NOVEMBER			DECEMBER		
1	.20			.18	---	---	1.1	3	.00
2	.20			.30	---	---	.95	5	.01
3	.20			.50	---	---	1.2	10	.03
4	.20			.75	---	---	1.5	4	.02
5	.20			.75	---	---	1.5	3	.01
6	.15			.70	---	---	2.5	91	.61
7	.15			.70	---	---	33	858	76
8	.15			.66	---	---	426	1610	1850
9	.15			.70	---	---	745	1000	2010
10	.15			.76	---	---	225	390	237
11	.22			.80	---	---	61	260	43
12	.48			.86	---	---	38	169	17
13	1.4			.88	---	---	25	91	6.1
14	.88			.88	---	---	22	74	4.4
15	.60			.80	---	---	20	65	3.5
16	.45			.78	---	---	15	60	2.4
17	.35			.78	---	---	11	52	1.5
18	.25			.76	---	---	9.1	42	1.0
19	.27			.70	---	---	7.0	38	.72
20	.20			.74	---	---	6.1	49	.81
21	.20			.62	5	.00	5.0	43	.58
22	1.3			.56	8	.01	4.1	30	.33
23	.66			.54	4	.00	3.5	31	.29
24	.45			.52	3	.00	3.2	26	.22
25	1.4			.50	8	.01	2.7	23	.17
26	.80			.48	6	.00	2.7	17	.12
27	.30			.60	3	.00	2.4	18	.12
28	.21			.80	1	.00	2.0	16	.09
29	.19			1.1	3	.00	1.9	13	.07
30	.18			1.5	1	.00	1.7	10	.05
31	.18			---	---	---	1.6	9	.04
TOTAL	12.72			21.20	---	0.02	1682.75	---	4256.19
JANUARY				FEBRUARY			MARCH		
1	1.5	8	.03	2.4	22	.14	20	99	5.3
2	1.4	8	.03	2.4	24	.16	16	39	1.7
3	1.3	8	.03	2.2	24	.14	13	35	1.2
4	1.2	9	.03	2.1	19	.11	12	36	1.2
5	1.2	8	.03	2.0	24	.13	32	54	4.7
6	1.2	12	.04	1.9	26	.13	111	156	47
7	1.2	8	.03	1.8	25	.12	70	83	16
8	1.2	10	.03	2.0	27	.15	34	62	5.7
9	1.2	9	.03	1.7	26	.12	21	67	3.8
10	1.2	10	.03	1.8	26	.13	16	46	2.0
11	1.4	10	.04	1.9	28	.14	13	49	1.7
12	1.5	13	.05	1.8	28	.14	11	51	1.5
13	1.1	10	.03	1.8	31	.15	9.7	65	1.7
14	1.1	9	.03	1.8	33	.16	8.6	66	1.5
15	1.6	12	.05	2.6	35	.25	7.6	61	1.3
16	1.8	12	.06	6.1	38	.63	7.0	58	1.1
17	1.6	12	.05	7.0	51	.96	5.9	41	.65
18	1.6	14	.06	9.3	56	1.4	5.4	22	.32
19	1.7	10	.05	10	51	1.4	4.7	5	.06
20	1.9	10	.05	18	46	2.2	4.3	12	.14
21	2.0	23	.12	21	80	4.5	3.9	16	.17
22	2.0	23	.12	37	421	42	4.7	21	.27
23	2.3	26	.16	142	684	262	4.0	32	.35
24	2.3	28	.17	255	690	475	4.4	38	.45
25	2.6	24	.17	191	746	385	3.8	41	.42
26	2.9	24	.19	64	375	65	3.6	50	.49
27	2.7	26	.19	36	269	26	3.5	52	.49
28	2.7	31	.23	25	191	13	3.9	52	.55
29	2.6	23	.16	---	---	---	3.5	61	.58
30	2.3	22	.14	---	---	---	3.1	65	.54
31	2.3	22	.14	---	---	---	2.7	56	.41
TOTAL	54.6	---	2.57	851.6	---	1281.26	463.3	---	103.29

SALT RIVER BASIN

05506190 MIDDLE FORK SALT RIVER AT DUNCANS BRIDGE, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)
APRIL				MAY			JUNE		
1	2.5	60	.41	6.3	160	2.7	62	200	33
2	2.3	69	.43	5.0	150	2.0	38	140	14
3	2.1	58	.33	3.9	100	1.1	30	110	8.9
4	2.0	48	.26	3.5	100	.95	25	120	8.1
5	1.9	41	.21	3.5	140	1.3	21	110	6.2
6	1.8	37	.18	82	380	84	38	90	9.2
7	1.7	36	.17	35	340	32	40	170	18
8	1.6	60	.26	14	230	8.7	23	150	9.3
9	1.5	60	.24	10	210	5.7	21	180	10
10	5.4	120	1.7	292	330	260	23	210	13
11	13	210	7.4	1270	710	2430	15	160	6.5
12	17	120	5.5	656	300	531	14	240	9.1
13	199	160	86	92	220	55	37	940	94
14	560	1940	2930	1250	500	1690	221	1020	609
15	220	2250	1340	2230	280	1690	110	1320	392
16	43	750	87	2060	210	1170	1430	370	1430
17	30	470	38	872	250	589	1040	250	702
18	98	380	101	4220	630	7180	91	780	192
19	704	500	950	6950	390	7320	49	1810	239
20	400	1000	1080	3690	200	1990	558	1240	1870
21	200	590	319	1670	180	812	1290	560	1950
22	149	400	161	133	390	140	1100	320	950
23	384	620	643	123	500	166	135	610	222
24	225	640	389	136	330	121	78	2070	436
25	59	310	49	108	150	44	3000	1240	10000
26	32	210	18	60	220	36	4340	497	5820
27	21	200	11	44	200	24	2530	150	1020
28	14	190	7.2	69	240	45	469	270	342
29	11	170	5.0	49	275	36	58	300	47
30	8.9	160	3.8	1000	2140	5780	300	840	680
31	---	---	---	332	490	439	---	---	---
TOTAL	3410.7	---	8235.09	27469.2	---	32686.45	17186	---	27140.3
JULY				AUGUST			SEPTEMBER		
1	657	1280	2270	58	107	17	3.5	64	.60
2	121	510	167	229	335	207	3.5	54	.51
3	51	380	52	453	977	1190	3.1	56	.47
4	910	788	1940	87	301	71	2.7	60	.44
5	2040	500	2750	153	701	290	2.5	62	.42
6	2280	380	2340	40	218	24	2.3	55	.34
7	1750	270	1280	28	91	6.9	2.6	48	.34
8	92	200	50	22	90	5.3	3.0	49	.40
9	39	100	11	17	81	3.7	3.1	62	.52
10	25	70	4.7	17	95	4.4	3.5	68	.64
11	19	60	3.1	16	78	3.4	4.3	60	.70
12	14	50	1.9	12	62	2.0	3.7	52	.52
13	11	50	1.5	10	61	1.6	2.7	53	.39
14	8.5	50	1.1	9.4	75	1.9	2.4	72	.47
15	6.9	65	1.2	8.3	81	1.8	5.5	110	1.6
16	7.0	64	1.2	8.3	80	1.8	31	112	9.4
17	28	63	4.8	7.0	65	1.2	11	123	3.7
18	38	84	8.6	6.4	57	.98	5.2	169	2.4
19	720	1340	2600	6.7	49	.89	3.4	122	1.1
20	446	850	1020	6.4	62	1.1	2.5	119	.80
21	103	365	102	5.7	47	.72	1.9	101	.52
22	40	171	18	5.1	53	.73	1.6	113	.49
23	1810	635	3100	4.5	52	.63	1.6	78	.34
24	4120	461	5130	5.4	64	.93	1.6	264	1.1
25	3470	476	4460	5.4	101	1.5	25	631	43
26	4580	297	3670	4.2	78	.88	41	434	48
27	6920	341	6370	3.9	48	.51	19	297	15
28	6140	253	4190	3.6	49	.48	13	242	8.5
29	3400	167	1530	3.6	86	.84	6.4	167	2.9
30	1520	128	525	7.0	252	4.8	3.7	124	1.2
31	106	136	39	4.5	139	1.7	---	---	---
TOTAL	41472.4	---	43642.1	1247.4	---	1849.69	216.3	---	146.81
YEAR	94088.17		119343.77						

SALT RIVER BASIN

05506500 MIDDLE FORK SALT RIVER AT PARIS, MO

LOCATION.--Lat 39°29'05", long 91°59'50", in NE¼NW¼NW¼ sec.11, T.54 N., R.10 W., Monroe County, Hydrologic Unit 07110006, on right bank near upstream side of bridge on E. Madison Street in Paris, 600 ft (183 m) downstream from Wabash Railroad bridge, 12.5 mi (20.1 km) upstream from Elk Fork Salt River, and at mile 104.5 (168.1 km) above mouth of Salt River.

DRAINAGE AREA.--356 mi² (922 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 621.88 ft (189.549 m) National Geodetic Vertical Datum of 1929, 1961 adjustment. Prior to Jan. 22, 1940, nonrecording gage, Jan. 22, 1940, to Sept. 30, 1968, water-stage recorder, 600 ft (183 m) upstream at present datum.

REMARKS.--Records good. Water diverted from river upstream from gage by City of Paris. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--42 years, 240 ft³/s (6.797 m³/s), 9.16 in/yr (233 mm/yr), 173,900 acre-ft/yr (214 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,000 ft³/s (1,270 m³/s) Apr. 21, 1973, gage height, 33.5 ft (10.21 m), from floodmark; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s (99.1 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)	
May 19	2300	10,100	286	19.81	6.038
June 22	0100	3,620	103	11.06	3.371
June 27	0945	5,190	147	13.53	4.124
July 28	1515	*10,900	309	20.65	6.294

Minimum daily discharge, 0.21 ft³/s (0.006 m³/s) Oct. 10-14, Oct. 30-Nov. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.23	.21	1.8	1.7	2.2	27	3.8	12	228	644	201	23
2	.27	.21	2.5	1.6	2.5	18	3.1	7.8	95	472	158	13
3	.30	.21	2.0	1.6	2.5	13	3.4	6.1	165	143	1310	9.0
4	.30	.21	2.0	1.5	2.2	13	2.8	5.6	68	274	509	6.7
5	.30	.21	2.5	1.5	1.8	13	3.1	5.1	58	1750	1000	5.9
6	.30	.26	2.5	1.5	1.8	75	3.4	3.8	48	1930	275	7.0
7	.29	.41	5.6	1.5	1.8	137	3.8	72	47	2100	97	5.1
8	.25	.66	175	1.5	1.6	80	2.9	55	68	924	63	7.6
9	.22	.82	803	1.5	1.8	47	2.3	27	51	104	49	5.8
10	.21	.88	627	1.6	6.1	32	2.1	90	46	55	40	5.1
11	.21	.78	208	1.6	7.8	24	23	1240	47	41	35	4.6
12	.21	.76	78	1.6	12	19	44	1150	50	32	33	5.3
13	.21	.76	43	1.7	7.2	15	32	435	50	23	28	4.7
14	.21	.98	27	1.8	6.6	13	40	1140	120	17	25	6.0
15	1.4	1.0	19	1.8	3.1	12	449	2250	271	13	22	178
16	.88	1.0	18	1.8	6.6	9.1	470	2120	895	9.4	20	26
17	.64	.98	13	2.2	9.8	8.6	123	1940	1700	6.4	18	20
18	.45	.88	8.0	1.8	19	7.2	46	4870	469	250	16	27
19	.35	.86	7.6	1.8	23	6.1	43	8620	126	862	15	16
20	.30	.88	6.0	1.7	19	5.6	769	8900	200	990	13	10
21	.25	.76	5.2	2.2	19	6.6	676	5450	2390	289	13	7.5
22	.25	.76	4.7	2.0	37	7.2	288	1450	3280	97	13	6.3
23	.25	.94	4.1	2.0	146	7.8	485	446	921	2380	12	4.1
24	1.5	.78	3.6	2.0	314	6.1	471	667	201	4640	12	2.8
25	.45	.56	3.2	2.2	340	6.6	201	330	2510	6150	19	2.4
26	.30	.54	2.7	2.2	199	5.6	86	228	3520	6930	17	2.8
27	1.6	.85	2.6	2.5	73	5.6	49	160	4940	8690	19	22
28	.81	1.5	2.4	2.5	40	5.1	33	126	2580	10700	14	35
29	.25	1.6	2.2	2.8	---	5.1	22	144	255	8580	13	24
30	.21	1.7	2.1	2.5	---	5.6	16	301	399	4930	14	16
31	.21	---	1.9	2.2	---	4.6	---	1010	---	1060	18	---
TOTAL	13.61	22.97	2086.0	58.4	1306.4	640.5	4396.7	45263.4	25798	65085.8	4091	508.7
MEAN	.44	.77	67.3	1.88	46.7	20.7	147	1396	860	2100	132	17.0
MAX	1.6	1.7	803	2.8	340	137	769	8900	4940	10700	1310	178
MIN	.21	.21	1.8	1.5	1.6	4.6	2.1	3.8	46	6.4	12	2.4
CFSM	.001	.002	.19	.005	.13	.06	.41	3.92	2.42	5.90	.37	.05
IN.	.00	.00	.22	.01	.14	.07	.46	4.52	2.70	6.80	.43	.05
AC-FT	27	46	4140	116	2590	1270	8720	85810	51170	129100	8110	1010

CAL YR 1980	TOTAL	26276.87	MEAN	71.8	MAX	2270	MIN	.13	CFSM	.20	IN	2.75	AC-FT	52120
WIR YR 1981	TOTAL	147271.48	MEAN	403	MAX	10700	MIN	.21	CFSM	1.13	IN	15.39	AC-FT	292100

SALT RIVER BASIN

05506500 MIDDLE FORK SALT RIVER AT PARIS, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.44	2.55	2.69	2.66	2.62	3.15	2.63	2.93	4.37	5.21	4.33	3.36
2	2.45	2.55	2.70	2.63	2.63	3.04	2.65	2.84	3.93	5.18	4.02	3.20
3	2.46	2.58	2.72	2.63	2.63	2.96	2.65	2.81	4.38	4.13	7.22	3.14
4	2.46	2.58	2.72	2.62	2.66	2.92	2.66	2.79	3.75	3.69	5.20	3.11
5	2.46	2.55	2.73	2.64	2.64	2.96	2.67	2.78	3.64	7.69	6.44	3.08
6	2.46	2.55	2.72	2.63	2.64	3.10	2.70	2.76	3.59	7.97	4.56	3.12
7	2.46	2.57	2.81	2.63	2.64	3.92	2.66	2.82	3.54	8.26	3.94	3.03
8	2.45	2.60	3.27	2.62	2.65	3.57	2.64	3.39	3.76	6.60	3.72	3.13
9	2.44	2.62	5.81	2.62	2.64	3.27	2.62	3.10	3.62	3.97	3.60	3.09
10	2.44	2.63	5.55	2.62	2.73	3.10	2.60	3.29	3.55	3.65	3.52	3.07
11	2.44	2.62	4.23	2.63	2.87	2.98	2.77	6.59	3.55	3.52	3.46	3.06
12	2.44	2.62	3.56	2.63	2.87	2.93	3.26	6.61	3.57	3.44	3.45	3.08
13	2.44	2.62	3.29	2.63	2.85	2.87	3.09	4.98	3.64	3.34	3.40	3.06
14	2.44	2.64	3.14	2.63	2.71	2.84	3.21	5.24	3.49	3.27	3.35	3.06
15	2.44	2.64	3.04	2.56	2.67	2.80	4.87	8.66	4.49	3.21	3.31	4.57
16	2.49	2.64	3.02	2.57	2.70	2.73	5.18	8.47	5.10	3.16	3.29	3.39
17	2.52	2.64	2.97	2.59	2.86	2.74	3.88	8.06	7.64	3.10	3.28	3.21
18	2.49	2.63	2.88	2.57	2.96	2.72	3.35	12.49	5.08	3.30	3.25	3.41
19	2.49	2.63	2.76	2.57	3.02	2.72	3.23	17.42	4.08	4.64	3.23	3.25
20	2.49	2.63	2.80	2.54	2.97	2.68	5.81	16.99	3.82	6.51	3.21	3.17
21	2.49	2.62	2.80	2.59	2.94	2.71	5.62	14.88	7.53	4.63	3.19	3.12
22	2.49	2.62	2.76	2.58	3.20	2.77	4.42	7.46	10.81	3.95	3.19	3.11
23	2.49	2.63	2.74	2.58	3.51	2.72	4.96	4.51	6.12	7.58	3.18	3.06
24	2.57	2.62	2.71	2.58	4.46	2.73	5.04	5.57	4.32	12.65	3.17	3.01
25	2.55	2.60	2.67	2.59	4.56	2.70	4.20	4.61	9.23	14.93	3.35	3.00
26	2.54	2.60	2.65	2.59	4.21	2.71	3.62	4.25	10.23	16.23	3.22	2.99
27	2.68	2.61	2.63	2.60	3.56	2.69	3.35	3.98	13.45	18.06	3.30	3.03
28	2.62	2.67	2.62	2.60	3.28	2.70	3.19	3.83	10.55	20.47	3.22	3.52
29	2.57	2.68	2.64	2.61	---	2.68	3.07	3.83	4.46	18.62	3.17	3.39
30	2.55	2.68	2.62	2.60	---	2.69	2.99	3.94	4.67	14.07	3.22	3.24
31	2.55	---	2.61	2.59	---	2.71	---	6.71	---	6.47	3.16	---

SALT RIVER BASIN
05506500 MIDDLE FORK SALT RIVER AT PARIS, MO
WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1980 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT: August 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 3170 mg/L July 23, 1981; minimum daily mean, 6 mg/L on many days.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 25,400 tons (23,000 metric tons) May 19, 1981; minimum daily 0.01 tons (0.01 metric tons) on many days.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 3170 mg/L July 23; minimum daily mean, 6 mg/L on many days.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 25,400 tons (23,000 metric tons) May 19; minimum daily 0.01 tons (0.01 metric tons) on many days.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	STREAM- FLOW INSTAN- TAN- TAN- (CFS)	SED. SUSP. FALL DIAM. % FINER THAN (70337)	SED. SUSP. FALL DIAM. % FINER THAN (70338)	SED. SUSP. FALL DIAM. % FINER THAN (70339)	SED. SUSP. FALL DIAM. % FINER THAN (70340)	SED. SUSP. FALL DIAM. % FINER THAN (70342)	SED. SUSP. FALL DIAM. % FINER THAN (70343)	SED. SUSP. FALL DIAM. % FINER THAN (70344)	SED. SUSP. FALL DIAM. % FINER THAN (70345)	SED. SUSP. FALL DIAM. % FINER THAN (70346)	SED. SUSP. FALL DIAM. % FINER THAN (70347)
MAY, 1981											
15...	2320	52	56	63	75	95	96	98	100	100	100
16...	5350	36	44	45	50	59	62	67	83	100	--
JUN											
25...	3230	55	61	68	82	94	95	96	98	99	100
JUL											
23...	3560	50	57	68	79	96	98	99	100	100	100
30...	5400	60	64	65	70	79	83	90	100	100	100

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	1.4		5.1	---	---	.37	32	.03	
2	.91		6.6	---	---	2.8	40	.30	
3	160		6.6	---	---	27	104	7.6	
4	88		3.8	---	---	13	392	14	
5	145		2.5	---	---	41	86	9.5	
6	45		6.8	34	.62	25	50	3.4	
7	22		8.4	40	.91	27	60	4.4	
8	13		20	41	2.2	33	69	6.1	
9	7.1		9.1	45	1.1	24	76	4.9	
10	4.5		4.6	43	.53	13	85	3.0	
11	4.1		2.5	41	.28	6.1	71	1.2	
12	3.1		1.2	52	.17	2.2	84	.50	
13	2.0		.54	41	.06	1.9	119	.61	
14	1.6		.25	42	.03	1.2	57	.18	
15	1.3		.54	53	.08	.88	50	.12	
16	1.3		.25	38	.03	1.3	36	.13	
17	1.2		.21	26	.01	1.2	43	.14	
18	.76		7.8	33	.69	1.3	37	.13	
19	.54		25	39	2.6	2.4	30	.19	
20	.54		16	50	2.2	24	29	1.9	
21	.45		9.8	159	4.2	26	28	2.0	
22	.45		6.6	425	7.6	11	26	.77	
23	.45		5.5	307	4.6	5.1	23	.32	
24	.45		3.4	57	.52	2.8	23	.17	
25	.37		1.8	50	.24	1.6	18	.08	
26	.30		1.0	39	.11	1.3	21	.07	
27	.76		.64	19	.03	.88	25	.06	
28	.64		.45	19	.02	.59	35	.06	
29	.54		.21	25	.01	.35	45	.04	
30	.76		.17	45	.02	.21	37	.02	
31	1.3		.13	52	.02	---	---	---	
TOTAL	509.82		157.49	---	28.88	298.48	---	61.92	

SALT RIVER BASIN

05506500 MIDDLE FORK SALT RIVER AT PARIS, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	.23	31	.02	.21	34	.02	1.8	8	.04
2	.27	39	.03	.21	43	.02	2.3	8	.05
3	.30	42	.03	.21	68	.04	2.0	6	.03
4	.30	24	.02	.21	35	.02	2.0	8	.04
5	.30	18	.01	.21	33	.02	2.5	6	.04
6	.30	17	.01	.26	52	.04	2.5	11	.07
7	.29	21	.02	.41	62	.07	5.6	26	.39
8	.25	20	.01	.66	49	.09	175	68	32
9	.22	29	.02	.82	28	.06	803	357	774
10	.21	33	.02	.88	36	.09	627	190	322
11	.21	34	.02	.78	38	.08	208	112	63
12	.21	24	.01	.76	23	.05	78	78	16
13	.21	10	.00	.76	27	.06	43	67	7.8
14	.21	10	.00	.98	42	.11	27	63	4.6
15	1.4	20	.08	1.0	41	.11	19	52	2.7
16	.88	29	.07	1.0	39	.11	18	33	1.6
17	.64	17	.03	.98	46	.12	13	29	1.0
18	.45	16	.02	.88	75	.18	8.0	27	.58
19	.35	34	.03	.88	40	.10	7.6	29	.60
20	.30	32	.03	.88	28	.07	6.0	29	.47
21	.25	19	.01	.76	24	.05	5.2	24	.34
22	.25	23	.02	.76	15	.03	4.7	23	.29
23	.25	31	.02	.94	22	.06	4.1	22	.24
24	1.5	32	.13	.78	21	.04	3.6	20	.19
25	.45	48	.06	.56	21	.03	3.2	18	.16
26	.30	61	.05	.54	7	.01	2.7	17	.12
27	1.6	46	.20	.85	10	.02	2.6	15	.11
28	.81	32	.07	1.5	12	.05	2.4	11	.07
29	.25	31	.02	1.6	7	.03	2.2	22	.13
30	.21	28	.02	1.7	6	.03	2.1	37	.21
31	.21	20	.01	---	---	---	1.9	12	.06
TOTAL	13.61	---	1.09	22.97	---	1.81	2086.0	---	1228.93
JANUARY			FEBRUARY			MARCH			
1	1.7	7	.03	2.2	9	.05	27	153	11
2	1.6	11	.05	2.5	9	.06	18	126	6.1
3	1.6	10	.04	2.5	9	.06	13	150	5.3
4	1.5	11	.04	2.2	10	.06	13	122	4.3
5	1.5	13	.05	1.8	11	.05	13	89	3.1
6	1.5	14	.06	1.8	11	.05	75	87	18
7	1.5	15	.06	1.8	8	.04	137	82	30
8	1.5	14	.06	1.6	10	.04	80	78	17
9	1.5	11	.04	1.8	11	.05	47	81	10
10	1.6	10	.04	6.1	11	.18	32	87	7.5
11	1.6	10	.04	7.8	12	.25	24	87	5.6
12	1.6	11	.05	12	10	.32	19	66	3.4
13	1.7	12	.06	7.2	10	.19	15	58	2.3
14	1.8	11	.05	6.6	10	.18	13	59	2.1
15	1.8	13	.06	3.1	12	.10	12	51	1.7
16	1.8	17	.08	6.6	20	.36	9.1	52	1.3
17	2.2	12	.07	9.8	19	.50	8.6	46	1.1
18	1.8	17	.08	19	23	1.2	7.2	57	1.1
19	1.8	22	.11	23	19	1.2	6.1	53	.87
20	1.7	18	.08	19	16	.82	5.6	41	.62
21	2.2	11	.07	19	18	.92	6.6	45	.80
22	2.0	9	.05	37	23	2.3	7.2	38	.74
23	2.0	12	.06	146	44	17	7.8	32	.67
24	2.0	9	.05	314	115	97	6.1	41	.68
25	2.2	9	.05	340	199	183	6.6	35	.62
26	2.2	10	.06	199	230	124	5.6	33	.50
27	2.5	11	.07	73	179	35	5.6	28	.42
28	2.5	12	.08	40	119	13	5.1	25	.34
29	2.8	11	.08	---	---	---	5.1	28	.39
30	2.5	10	.07	---	---	---	5.6	24	.36
31	2.2	10	.06	---	---	---	4.6	23	.29
TOTAL	58.4	---	1.85	1306.4	---	477.98	640.5	---	138.20

SALT RIVER BASIN

05506500 MIDDLE FORK SALT RIVER AT PARIS, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)
APRIL				MAY			JUNE		
1	3.8	27	.28	12	76	2.5	228	327	201
2	3.1	24	.20	7.8	70	1.5	95	227	58
3	3.4	19	.17	6.1	70	1.2	165	164	73
4	2.8	12	.09	5.6	63	.95	68	128	24
5	3.1	18	.15	5.1	66	.91	58	128	20
6	3.4	18	.17	3.8	59	.61	48	156	20
7	3.8	20	.21	72	59	11	47	119	15
8	2.9	32	.25	55	77	11	68	64	12
9	2.3	21	.13	27	65	4.7	51	55	7.6
10	2.1	13	.07	90	134	33	46	55	6.8
11	23	19	1.2	1240	1070	3580	47	55	7.0
12	44	24	2.9	1150	554	1720	50	74	10
13	32	36	3.1	435	240	282	50	46	6.2
14	40	25	2.7	1140	801	2470	120	56	18
15	449	835	1010	2250	1150	6990	271	149	109
16	470	1570	1990	2120	622	3560	895	448	1080
17	123	760	252	1940	428	2240	1700	775	3560
18	46	238	30	4870	1410	18500	469	328	415
19	43	153	18	6620	1090	25400	126	160	54
20	769	885	1840	8900	495	11900	200	210	113
21	676	730	1330	5450	340	5000	2390	1900	12300
22	288	213	166	1450	276	1080	3280	1000	8860
23	485	261	342	446	375	452	921	340	845
24	471	243	309	667	931	1680	201	166	90
25	201	255	138	330	394	351	2510	2400	16300
26	86	191	44	228	206	127	3520	1180	11200
27	49	180	24	160	126	54	4940	550	7340
28	33	91	8.1	128	126	44	2580	342	2380
29	22	84	5.0	144	70	27	255	247	170
30	16	102	4.4	301	81	66	399	324	349
31	---	---	---	1010	136	371	---	---	---
TOTAL	4396.7	---	7522.12	43263.4	---	85961.37	25798	---	65643.6
JULY				AUGUST			SEPTEMBER		
1	644	639	1110	201	412	224	23	46	2.9
2	472	908	1160	158	1700	725	13	41	1.4
3	143	393	152	1310	565	2000	9.0	40	.97
4	274	700	518	509	1380	1900	6.7	63	1.1
5	1750	2080	9830	1000	293	791	5.9	78	1.2
6	1930	385	2010	275	152	113	7.0	76	1.4
7	2100	395	2240	97	127	33	5.1	74	1.0
8	924	135	337	63	102	17	7.6	62	1.3
9	104	58	16	49	51	6.7	5.8	49	.77
10	55	48	7.1	40	449	48	5.1	57	.78
11	41	78	8.6	35	123	12	4.6	70	.87
12	32	68	5.9	33	31	2.8	5.3	83	1.2
13	23	49	3.0	28	31	2.3	4.7	79	1.0
14	17	59	2.7	25	26	1.8	6.0	59	.96
15	13	59	2.1	22	22	1.3	178	567	273
16	9.4	39	1.0	20	30	1.6	26	584	41
17	6.4	74	1.3	18	26	1.3	20	518	28
18	250	285	192	16	31	1.3	27	364	27
19	862	1190	2770	15	30	1.2	16	181	7.8
20	990	1210	3230	13	28	.98	10	127	3.4
21	289	370	289	13	28	.98	7.5	160	3.2
22	97	178	47	13	26	.91	6.3	143	2.4
23	2380	3170	20400	12	25	.81	4.1	111	1.2
24	4640	1420	17800	12	31	1.0	2.8	87	.66
25	6150	824	13700	19	16	.82	2.4	73	.47
26	6930	744	13900	17	26	1.2	2.8	66	.50
27	8690	598	14000	19	38	1.9	22	83	4.9
28	10700	442	12800	14	52	2.0	35	83	7.8
29	8580	338	7830	13	60	2.1	24	63	4.1
30	4930	257	3420	14	60	2.3	16	56	2.4
31	1060	171	489	18	42	2.0	---	---	---
TOTAL	65085.8	---	128271.7	4091	---	5900.30	508.7	---	424.68
YEAR	147271.48		295573.63						

SALT RIVER BASIN

05506800 ELK FORK SALT RIVER NEAR MADISON, MO

LOCATION.--Lat 39°26'05", long 92°10'04", in SW¼NE¼SW¼ sec.29, T.54 N., R.11 W., Monroe County, Hydrologic Unit 07110006, on downstream side of highway, 25 ft (8 m) to the left of bridge on State Highway AA, 500 ft (152 m) downstream from Allen Creek, 3.5 mi (5.6 km) southeast of Madison, and at mile 29.8 (47.9 km).

DRAINAGE AREA.--200 mi² (518 km²).

PERIOD OF RECORD.--October 1968 to current year.

REVISED RECORDS.--WRD MO 1973: 1970(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 690.16 ft (210.361 m) National Geodetic Vertical Datum of 1929 (Missouri State Highway Commission bench mark).

REMARKS.--Records poor. Several observations of water temperature and specific conductance made during the year.

AVERAGE DISCHARGE.--13 years, 164 ft³/s (4.644 m³/s), 11.14 in/yr (283 mm/yr), 118,800 acre-ft/yr (146 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,300 ft³/s (1,200 m³/s) Apr. 21, 1973, gage height, 33.4 ft (10.18 m), from floodmarks; no flow Aug. 4-10, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 9, 1967, reached a stage of 31.25 ft (9.525 m), from floodmark, discharge, 31,200 ft³/s (884 m³/s), by contracted-opening method. Flood in 1871 reached nearly the same stage, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 18	2115	9,410 266	22.33 6.806
June 21	Unknown	8,330 236	21.33 6.501
July 24	0345	*11,800 334	*24.19 7.373
July 27	0845	8,000 226	21.02 6.407

Minimum daily discharge, .01 ft³/s (0.0003 m³/s) Oct. 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.15	.70	1.5	2.1	2.1	2.0	1.5	1.5	30	258	88	5.3		
2	.14	.36	1.0	2.0	2.4	1.4	1.5	.85	60	104	112	4.7		
3	.13	.86	.80	2.1	2.4	1.6	1.3	.50	35	64	190	4.5		
4	.11	1.5	.60	2.0	2.1	2.0	1.3	.40	22	123	72	4.1		
5	.11	1.1	.50	1.7	2.0	2.7	1.2	.45	17	720	1640	3.4		
6	.10	.92	.40	1.5	2.0	4.3	.99	.37	25	147	179	3.4		
7	.09	.99	.48	1.7	2.1	6.2	.92	.37	20	54	80	3.2		
8	.07	1.1	26	1.6	2.4	10	.99	.90	17	31	47	3.4		
9	.06	.70	72	1.4	2.4	12	.92	2.2	15	17	33	2.9		
10	.06	.25	45	1.2	2.9	10	.99	130	14	65	28	3.2		
11	.04	.15	40	1.2	2.0	7.0	.99	100	13	91	27	3.6		
12	.02	.15	33	1.2	2.5	5.0	1.0	40	15	36	28	3.9		
13	.01	.40	25	1.1	3.2	3.5	1.5	50	20	14	20	3.6		
14	.01	.84	20	1.1	3.4	2.5	29	600	25	12	16	3.6		
15	.11	.80	15	1.2	3.9	1.7	10	100	300	10	13	3.6		
16	.20	1.0	8.0	1.2	3.6	1.1	8.7	150	250	10	11	16		
17	.42	.60	4.0	1.1	3.7	.85	10	250	100	14	9.0	27		
18	.18	.15	3.0	1.1	4.5	.70	8.0	8710	40	188	8.2	12		
19	.18	.12	2.7	1.2	4.2	.56	6.0	6770	25	408	5.7	7.1		
20	.77	.13	2.4	1.3	6.2	.56	5.5	1910	300	758	5.7	4.7		
21	.49	.14	2.2	1.5	5.1	1.1	73	400	6000	144	5.3	3.7		
22	.36	.15	2.2	1.6	4.5	1.0	35	300	2500	58	5.3	2.5		
23	.34	.25	2.2	1.6	5.7	.85	29	500	500	4880	5.1	1.9		
24	.59	.78	2.6	1.7	21	.70	73	300	183	8810	5.7	1.3		
25	.28	3.0	2.4	1.7	18	1.1	33	150	1710	3600	8.4	2.7		
26	.12	5.0	2.3	1.9	10	1.3	18	60	1210	6790	5.1	2.1		
27	1.6	5.6	2.2	2.0	7.0	4.3	11	35	172	7200	4.5	2.0		
28	.40	4.6	2.2	2.0	4.0	2.5	7.0	25	93	6920	4.9	2.2		
29	.05	3.7	2.1	2.0	---	1.7	4.6	20	122	1730	9.7	2.5		
30	.20	1.5	2.1	2.0	---	1.7	2.5	18	1030	227	10	3.6		
31	.50	---	2.0	2.1	---	1.6	---	35	---	129	7.9	---		
TOTAL	7.89	37.34	325.88	49.1	135.3	93.52	378.40	20660.54	14863	43672	2684.5	147.7		
MEAN	.25	1.24	10.5	1.58	4.83	3.02	12.6	666	495	1409	86.6	4.92		
MAX	1.6	5.6	72	2.1	21	12	73	8710	6000	8810	1640	27		
MIN	.01	.12	.40	1.1	2.0	.56	.92	.37	13	10	4.5	1.3		
CFSM	.001	.006	.05	.008	.02	.02	.06	3.33	2.48	7.05	.43	.03		
IN.	.00	.01	.06	.01	.03	.02	.07	3.84	2.76	8.12	.50	.03		
AC-FT	16	74	646	97	268	185	751	40980	29480	86620	5320	293		
CAL YR 1980	TOTAL	12602.56	MEAN	34.4	MAX	1300	MIN	.01	CFSM	.17	IN	2.34	AC-FT	25000
WTR YR 1981	TOTAL	83055.17	MEAN	228	MAX	8810	MIN	.01	CFSM	1.14	IN	15.45	AC-FT	164700

SALT RIVER BASIN

05506800 ELK FORK SALT RIVER NEAR MADISON, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.17	3.44	---	3.48	3.49	3.42	3.32	---	---	5.81	4.64	3.92
2	3.20	3.51	---	3.48	3.50	3.36	3.31	---	---	4.87	4.44	3.90
3	3.20	3.55	---	3.48	3.51	3.38	3.29	---	4.60	4.48	5.78	3.89
4	3.21	---	---	3.48	3.50	3.41	3.28	---	4.02	4.58	4.50	3.88
5	3.21	3.58	3.50	3.46	3.49	3.45	3.28	---	---	8.40	14.84	3.84
6	3.21	3.60	3.50	3.44	3.50	3.47	3.27	---	---	5.28	5.32	3.84
7	3.21	3.62	3.51	3.46	3.50	3.61	3.28	---	---	4.54	4.66	3.83
8	3.19	3.63	3.71	3.45	3.52	3.61	3.28	---	---	4.19	4.29	3.84
9	3.19	3.63	4.92	3.44	3.51	3.54	3.28	---	---	4.04	4.11	3.83
10	3.19	3.63	3.26	3.41	3.53	3.51	3.28	---	---	3.90	4.02	3.84
11	3.19	---	---	3.41	3.54	3.40	3.31	---	---	5.01	4.01	3.85
12	3.19	---	---	3.41	3.53	3.38	3.42	---	---	4.31	4.13	3.84
13	3.17	---	---	3.40	3.54	3.37	3.71	---	---	4.00	3.97	3.82
14	3.16	---	---	3.40	3.54	3.35	3.79	---	---	3.81	3.91	3.82
15	3.15	---	---	3.42	3.57	3.34	---	---	---	3.69	3.87	4.05
16	3.23	---	---	3.41	3.57	3.31	---	---	---	3.71	3.82	4.25
17	3.24	---	3.49	3.40	3.52	3.30	---	---	---	3.86	3.79	4.10
18	3.50	---	3.49	3.41	3.54	3.30	---	---	---	6.12	3.78	3.95
19	3.43	---	3.50	3.39	3.77	3.30	---	20.42	---	4.81	3.73	3.89
20	3.44	3.94	3.50	3.41	3.69	3.28	---	12.69	---	8.13	3.92	3.85
21	3.37	---	3.51	3.41	3.62	3.25	---	---	---	5.20	3.91	3.80
22	3.33	---	3.50	3.43	3.59	3.29	3.83	---	---	4.48	3.90	3.77
23	3.31	---	3.49	3.44	3.66	3.33	4.77	---	---	17.11	3.89	3.73
24	3.39	---	3.48	3.45	4.08	3.48	4.23	---	---	23.07	3.89	3.73
25	3.39	---	3.46	3.45	3.86	3.44	3.81	---	10.91	14.29	3.98	3.85
26	3.39	---	3.46	3.46	3.63	3.37	---	---	11.12	19.85	3.89	3.82
27	3.41	---	3.46	3.46	3.57	3.36	---	---	5.38	20.76	3.87	3.79
28	3.55	---	3.45	3.47	3.45	3.38	---	---	4.86	20.52	3.88	3.81
29	3.71	---	3.45	3.47	---	3.35	---	---	4.50	11.63	3.94	3.82
30	3.55	---	3.46	3.48	---	3.35	---	---	9.34	5.53	4.01	3.88
31	3.41	---	3.47	3.48	---	3.34	---	---	---	4.96	3.94	---

SALT RIVER BASIN

05507000 ELK FORK SALT RIVER NEAR PARIS, MO

LOCATION.--Lat 39°26'25", long 92°00'05", in SE¼SE¼, sec.22, T.54 N., R.10 W., Monroe County, Hydrologic Unit 07110006, on downstream side of highway, at the left end of bridge on State Highway 15, and 2.5 mi (4.0 km) south of Paris and 11 mi (17.7 km) upstream from mouth.

DRAINAGE AREA.--262 mi² (679 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Apr. 1, 1930 to September 1954, August 1980 to current year (fragmentary prior to February 1935 and monthly discharge only October 1934 to January 1935).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 628.86 ft (191.677 m) National Geodetic Vertical Datum of 1929. Prior to November 23, 1934, chain gage, Nov. 23, 1934 to Jan. 21, 1935, wire-weight gage, and Jan. 22, 1935 to Sept. 30, 1954, with stage recorder at same site and datum 2.00 ft higher.

REMARKS.--Record fair above gage height 7.0 ft (.198 m). Rest of record poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--21 years 185 ft³/s (5.239 m³/s), 9.589 in/yr (244 mm/yr), 134.000 acre-ft/yr (165 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,600 ft³/s (583 m³/s) June 27, 1942, gage height, 22.22 ft (6.163 m) present datum; maximum gage height 24.8 ft (7.559 m) April 1973, obtained from Missouri Highway and Transportation District Office, Hannibal, Missouri. Discharge not determined. Minimum, no flow.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 3,600 ft³/s (102 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
May 19	1000	10,600	300	16.67	5.081
June 22	1430	8,100	229	14.76	4.499
July 18	1045	5,630	159	12.48	3.804
July 24	2045	*13,600	385	*18.52	5.645

Minimum daily discharge, .06 ft³/s (.0017 m³/s) Oct. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.72	1.4	1.8	2.5	3.0	3.3	1.5	2.3	38	476	173	10
2	.59	.72	1.1	2.3	3.0	2.2	1.5	1.5	31	400	152	7.5
3	.59	.72	.85	2.2	2.8	2.0	1.4	.66	64	306	334	6.8
4	.33	2.8	.78	2.1	2.8	2.5	1.4	.50	39	183	177	5.4
5	.20	2.5	.72	2.0	2.5	3.8	1.3	.58	29	799	1680	4.0
6	.18	1.0	.59	1.8	2.5	5.4	1.1	.48	32	348	390	3.8
7	.16	1.2	.59	1.8	2.8	6.1	1.0	.38	34	127	173	3.5
8	.15	1.4	12	1.8	2.8	7.5	1.1	.66	27	68	95	3.8
9	.12	1.1	72	1.5	2.8	12	1.1	2.2	21	36	66	3.8
10	.12	.46	121	1.5	3.3	17	1.0	15	17	32	52	3.5
11	.08	.20	66	1.4	3.0	12	1.1	327	15	90	49	3.3
12	.06	.20	47	1.4	3.0	9.6	1.4	163	15	68	49	2.8
13	.06	.72	34	1.4	3.5	6.8	1.8	47	23	39	50	2.8
14	.10	1.1	27	1.5	3.6	4.0	32	373	27	31	41	4.7
15	.33	1.0	21	1.5	4.0	2.8	15	733	32	26	32	77
16	.46	1.1	15	1.4	4.0	1.8	10	212	313	24	31	32
17	.59	.90	8.9	1.4	4.7	.85	12	317	330	23	29	32
18	.46	.33	6.8	1.4	4.7	.72	11	8120	79	1580	23	19
19	.33	.14	3.5	1.4	5.4	.59	10	9330	36	600	12	10
20	1.1	.14	2.5	1.4	8.2	.59	6.1	3090	372	1230	11	7.5
21	1.1	.16	2.3	1.8	12	.59	124	496	3520	344	10	4.7
22	.46	.14	2.3	1.8	9.0	1.4	66	365	7410	131	9.6	3.3
23	.46	.46	2.3	1.8	8.2	1.1	54	337	2310	6360	7.5	2.3
24	.60	1.1	3.3	1.8	15	1.0	124	560	299	10100	8.2	1.5
25	.46	4.0	3.8	2.3	27	1.0	62	288	2130	7100	10	1.8
26	.25	5.4	3.8	2.3	26	1.1	31	127	2020	9610	17	2.0
27	2.3	5.4	3.5	2.5	11	1.5	15	66	327	9930	12	2.8
28	.46	6.1	3.3	2.5	6.1	5.4	8.2	47	169	9400	11	2.5
29	.15	4.7	3.3	2.5	---	3.0	4.0	38	104	3080	7.5	2.8
30	.20	3.3	3.3	2.5	---	2.0	2.8	32	1680	359	5.4	4.0
31	.59	---	2.8	2.5	---	1.8	---	27	---	212	10	---
TOTAL	13.76	49.89	477.13	58.0	186.9	121.44	603.8	25119.06	21543	63112	3727.2	270.9
MEAN	.44	1.66	15.4	1.67	6.68	3.92	20.1	810	718	2036	120	9.03
MAX	2.3	6.1	121	2.5	27	17	124	9330	7410	10100	1680	77
MIN	.06	.14	.59	1.4	2.5	.59	1.0	.38	15	23	5.4	1.5
CFSM	.002	.006	.06	.007	.03	.02	.08	3.09	2.74	7.77	.46	.03
IN.	.00	.01	.07	.01	.03	.02	.09	3.57	3.06	8.96	.53	.04
AC-FT	27	99	946	115	371	241	1200	49820	42730	125200	7390	537

WTR YR 1981 TOTAL 115283.08 MEAN 316 MAX 10100 MIN .06 CFSM 1.21 IN 16.3/ AC-FI 228700

SALT RIVER BASIN

05507000 ELK FORK SALT RIVER NEAR PARIS, MO

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1980 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT: August 1980 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT CONCENTRATION: Maximum daily mean, 4,060 mg/L June 21, 1981; minimum daily mean, 1 mg/L on many days.

SUSPENDED SEDIMENT LOAD: Maximum daily, 3,860 tons (3,500 metric tons) June 21, 1981; minimum daily 0.00 tons on many days.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED SEDIMENT CONCENTRATION: Maximum daily mean, 4,060 mg/L June 21; minimum daily mean, 1 mg/L on many days.

SUSPENDED SEDIMENT LOAD: Maximum daily, 3,860 tons (3,500 metric tons) June 21; minimum daily 0.00 tons on many days.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
JUL									
23...	39	52	55	66	74	75	77	84	94
29...	57	60	69	79	97	100	100	100	100

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1			---	---	---	.20	45	.02	
2			---	---	---	.72	45	.09	
3			---	---	---	.85	42	.10	
4			---	---	---	.85	67	.15	
5			.20	---	---	1.1	39	.12	
6			.33	---	---	9.6	33	.86	
7			.20	5	.00	1.8	25	.12	
8			.46	11	.01	.85	27	.06	
9			.18	15	.00	2.0	34	.18	
10			.18	30	.01	1.5	60	.24	
11			.16	32	.01	1.1	67	.20	
12			.16	38	.02	.85	49	.11	
13			.16	48	.02	.72	44	.09	
14			.12	36	.01	.85	44	.10	
15			.59	24	.04	.85	45	.10	
16			.18	6	.00	.72	43	.08	
17			.85	1	.00	.85	44	.10	
18			.85	1	.00	.85	37	.08	
19			.85	1	.00	.72	36	.07	
20			.59	1	.00	.98	35	.09	
21			.46	5	.00	.85	46	.11	
22			.33	22	.02	.72	70	.14	
23			.18	33	.02	.85	86	.20	
24			.16	27	.01	.85	57	.13	
25			.10	12	.00	.98	50	.13	
26			.14	17	.00	.85	54	.12	
27			.12	29	.00	.72	46	.09	
28			.12	40	.01	.72	39	.08	
29			.18	42	.02	.46	32	.04	
30			.14	42	.02	.59	63	.10	
31			.14	44	.02	---	---	---	
TOTAL			8.13	---	---	0.24	35.55	---	4.10

SALT RIVER BASIN

05507000 ELK FORK SALT RIVER NEAR PARIS, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER				NOVEMBER				DECEMBER	
1	.72	53	.10	1.4	102	.39	1.8	27	.13
2	.59	49	.08	.72	57	.11	1.1	44	.13
3	.59	52	.08	.72	84	.16	.85	79	.18
4	.33	37	.03	2.8	134	1.0	.78	44	.09
5	.20	30	.02	2.5	160	1.1	.72	43	.08
6	.18	42	.02	1.0	189	.51	.59	173	.28
7	.16	40	.02	1.2	119	.39	.59	226	.36
8	.15	43	.02	1.4	152	.57	12	75	2.4
9	.12	43	.01	1.1	128	.38	72	52	10
10	.12	97	.03	.46	206	.26	121	23	7.5
11	.08	124	.03	.20	126	.07	66	3	.53
12	.06	67	.01	.20	226	.12	47	1	.13
13	.06	82	.01	.72	202	.39	34	6	.55
14	.10	48	.01	1.1	157	.47	27	27	2.0
15	.33	50	.04	1.0	176	.48	21	15	.85
16	.46	32	.04	1.1	82	.24	15	4	.16
17	.59	40	.06	.90	38	.09	8.9	5	.12
18	.46	171	.21	.33	155	.14	6.8	4	.07
19	.33	74	.07	.14	66	.02	3.5	5	.05
20	1.1	183	.54	.14	97	.04	2.5	2	.01
21	1.1	132	.39	.16	174	.08	2.3	1	.00
22	.46	118	.15	.14	121	.05	2.3	1	.00
23	.46	70	.09	.46	1200	1.5	2.3	3	.02
24	.60	67	.11	1.1	130	.39	3.3	3	.03
25	.46	127	.16	4.0	73	.79	3.8	3	.03
26	.25	112	.08	5.4	42	.61	3.8	3	.03
27	2.3	96	.60	5.4	11	.16	3.5	2	.02
28	.46	185	.23	6.1	12	.20	3.3	2	.02
29	.15	127	.05	4.7	14	.18	3.3	2	.02
30	.20	126	.07	3.3	21	.19	3.3	2	.02
31	.59	227	.36	---	---	---	2.8	2	.02
TOTAL	13.76	---	3.72	49.89	---	11.08	477.13	---	25.83
JANUARY				FEBRUARY				MARCH	
1	2.5	1	.00	3.0	7	.06	3.3	9	.08
2	2.3	2	.01	3.0	5	.04	2.2	14	.08
3	2.2	2	.01	2.8	3	.02	2.0	10	.05
4	2.1	3	.02	2.8	6	.05	2.5	12	.08
5	2.0	3	.02	2.5	6	.04	3.8	17	.17
6	1.8	2	.00	2.5	7	.05	5.4	11	.16
7	1.8	2	.00	2.8	6	.05	6.1	9	.15
8	1.8	1	.00	2.8	3	.02	7.5	6	.12
9	1.5	2	.00	2.8	1	.00	12	5	.16
10	1.5	2	.00	3.3	3	.03	17	9	.41
11	1.4	2	.00	3.0	4	.03	12	13	.42
12	1.4	1	.00	3.0	4	.03	9.6	17	.44
13	1.4	1	.00	3.5	4	.04	6.8	20	.37
14	1.5	2	.00	3.8	4	.04	4.0	33	.36
15	1.5	3	.01	4.0	3	.03	2.8	30	.23
16	1.4	10	.04	4.0	6	.06	1.8	27	.13
17	1.4	5	.02	4.7	4	.05	.85	33	.08
18	1.4	4	.02	4.7	3	.04	.72	36	.07
19	1.4	3	.01	5.4	3	.04	.59	28	.04
20	1.4	4	.02	8.2	3	.07	.59	33	.05
21	1.8	6	.03	12	4	.13	.59	38	.06
22	1.8	3	.01	9.0	5	.12	1.4	31	.12
23	1.8	5	.02	8.2	6	.13	1.1	24	.07
24	1.8	4	.02	15	7	.28	1.0	42	.11
25	2.3	6	.04	27	12	.87	1.0	36	.10
26	2.3	4	.02	26	22	1.5	1.1	32	.10
27	2.5	6	.04	11	17	.50	1.5	33	.13
28	2.5	5	.03	6.1	8	.13	5.4	30	.44
29	2.5	7	.05	---	---	---	3.0	36	.29
30	2.5	6	.04	---	---	---	2.0	37	.20
31	2.5	5	.03	---	---	---	1.8	40	.19
TOTAL	58.0	---	0.51	186.9	---	4.45	121.44	---	5.46

SALT RIVER BASIN

05507000 ELK FORK SALT RIVER NEAR PARIS, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL				MAY			JUNE		
1	1.5	49	.20	2.3	57	.35	38	90	9.2
2	1.5	63	.26	1.3	52	.18	31	90	7.5
3	1.4	53	.20	.66	61	.11	64	90	16
4	1.4	65	.25	.50	56	.08	39	80	8.4
5	1.3	53	.19	.58	63	.10	29	100	7.8
6	1.1	45	.13	.48	69	.09	32	80	6.9
7	1.0	50	.14	.38	63	.06	34	90	8.3
8	1.1	83	.25	.66	61	.11	27	90	6.6
9	1.1	83	.25	2.2	84	.50	21	80	4.5
10	1.0	74	.20	15	142	5.8	17	100	4.6
11	1.1	72	.21	327	198	175	15	100	4.1
12	1.4	72	.27	163	120	53	15	140	5.7
13	1.8	59	.29	47	93	12	23	270	17
14	32	55	4.8	373	236	238	27	280	20
15	15	55	2.2	733	488	966	32	400	35
16	10	56	1.5	212	163	93	313	700	592
17	12	52	1.7	317	150	128	330	300	267
18	11	46	1.4	8120	1710	37500	79	170	36
19	10	64	1.7	9330	1050	26500	36	140	14
20	6.1	60	.99	3090	484	4040	372	928	932
21	124	54	18	496	190	254	3520	4060	38600
22	66	62	11	365	100	99	7410	1870	37400
23	54	63	9.2	337	250	227	2310	685	4270
24	124	56	19	560	730	1100	299	260	210
25	62	56	9.4	288	310	241	2130	1320	7590
26	31	63	5.3	127	240	82	2020	900	4910
27	15	68	2.8	66	230	41	327	310	274
28	8.2	62	1.4	47	170	22	169	150	68
29	4.0	60	.65	38	150	15	104	120	34
30	2.8	73	.55	32	150	13	1680	2100	9530
31	---	---	---	27	120	8.7	---	---	---
TOTAL	603.8	---	94.43	25119.06	---	71815.08	21543	---	104888.6
JULY				AUGUST			SEPTEMBER		
1	476	1280	1650	173	100	47	10	---	---
2	400	570	616	152	140	57	7.5	---	---
3	306	520	430	334	340	307	6.8	---	---
4	183	500	247	177	310	148	5.4	---	---
5	799	1100	2370	1680	1190	5400	4.0	---	---
6	348	790	742	390	780	821	3.8	---	---
7	127	370	127	173	250	117	3.5	---	---
8	68	170	31	95	140	36	3.8	---	---
9	36	160	16	66	100	18	3.8	---	---
10	32	160	14	52	70	9.8	3.5	---	---
11	90	140	34	49	70	9.3	3.3	---	---
12	68	120	22	49	60	7.9	2.8	---	---
13	39	70	7.4	50	50	6.8	2.8	---	---
14	31	40	3.3	41	32	3.5	4.7	---	---
15	26	30	2.1	32	62	5.4	77	105	22
16	24	40	2.6	31	44	3.7	32	75	6.5
17	23	50	3.1	29	19	1.5	32	83	7.2
18	1580	3000	12800	23	19	1.2	19	84	4.3
19	600	1530	2480	12	17	.55	10	120	3.2
20	1230	1950	6480	11	15	.45	7.5	132	2.7
21	344	690	641	10	18	.49	4.7	60	.76
22	131	300	106	9.6	18	.47	3.3	62	.55
23	6360	2000	34300	7.5	19	.38	2.3	137	.85
24	10100	1310	35700	8.2	23	.51	1.5	91	.37
25	7100	1850	35500	10	20	.54	1.8	60	.29
26	9610	1280	33200	17	---	---	2.0	40	.22
27	9930	754	20200	12	---	---	2.8	38	.29
28	9400	638	16200	11	---	---	2.5	48	.32
29	3080	531	4420	7.5	---	---	2.8	48	.36
30	359	260	252	5.4	---	---	4.0	46	.50
31	212	120	69	10	---	---	---	---	---
TOTAL	63112	---	208665.5	3727.2	---	7003.49	270.9	---	50.41

SALT RIVER BASIN

05507500 SALT RIVER NEAR MONROE CITY, MO

LOCATION.--Lat 39°32'25", long 91°40'20", in NE¼NW¼ sec.22, T.55 N., R.7 W., Ralls County, Hydrologic Unit 07110007, on left bank on downstream side of old bridge pier, 135 ft (41 m) upstream from highway bridge at Joanna, 2,500 ft (762 m) downstream from Indian Creek, 2.0 mi (3.2 km) upstream from Lick Creek, 8.0 mi (12.9 km) southeast of Monroe City, and at mile 63.5 (102.2 km).

DRAINAGE AREA.--2,230 mi² (5,780 km²), approximately.

PERIOD OF RECORD.--October 1939 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 520.04 ft (158.508 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 2, 1940, nonrecording gage at present site and datum.

REMARKS.--Gage-height record published are 8 AM readings which are good. Discharge are not listed as they were affected by impoundment behind Clarence Cannon Dam. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--41 years, 1,490 ft³/s (42.20 m³/s), 9.07 in/yr (230 mm/yr), 1,080,000 acre-ft/yr (1.33 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 102,000 ft³/s (2,890 m³/s) Apr. 22, 1973, gage height, 39.1 ft (11.92 m), from floodmark; no flow July 28-31, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1928 reached a stage of about 36 ft (11.0 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 64.75 ft (19.756 m) July 29, from floodmarks, caused by impoundment behind Clarence Cannon Dam. Discharge not determined.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.14	3.95	4.19	4.91	4.70	8.21	5.69	7.35	13.44	16.54	---	8.95
2	4.00	4.04	4.38	4.90	4.74	7.89	5.64	7.09	10.01	15.60	---	7.20
3	3.85	4.51	4.56	4.91	4.68	7.68	5.60	7.45	9.17	11.58	---	6.93
4	3.74	4.65	4.59	4.93	4.69	7.54	5.63	6.80	9.06	15.64	15.60	6.62
5	3.65	4.62	4.60	4.94	4.67	7.46	5.64	6.74	8.68	18.35	10.58	6.53
6	3.59	4.51	4.60	5.00	4.57	7.43	5.60	6.43	8.47	23.68	16.58	6.27
7	3.59	4.40	4.67	5.00	4.50	8.81	5.60	6.78	8.04	23.69	11.59	6.08
8	3.49	4.25	4.86	4.97	4.46	8.89	5.54	7.63	7.96	21.65	9.80	5.18
9	3.47	4.12	12.48	4.89	4.36	8.36	5.51	7.08	7.81	11.94	8.54	6.05
10	3.43	3.99	17.66	4.78	4.36	7.91	5.52	8.20	7.66	9.49	8.17	6.12
11	3.38	3.87	14.58	4.66	4.36	7.63	6.43	10.87	7.43	9.42	6.98	5.94
12	3.33	3.79	9.71	4.53	4.36	7.45	8.39	16.98	7.85	9.12	7.87	6.15
13	3.28	3.70	8.61	4.33	4.23	7.32	8.69	13.30	7.64	8.72	7.92	6.12
14	3.25	3.64	8.06	4.35	4.24	7.20	10.24	10.09	13.12	8.71	7.57	6.05
15	3.22	3.60	7.73	4.29	4.23	7.10	14.08	20.35	16.26	8.44	7.48	6.50
16	3.29	3.57	7.43	4.23	4.37	6.98	12.35	24.22	19.22	8.06	7.47	7.04
17	3.40	3.55	7.17	4.17	5.39	6.89	10.08	24.58	17.45	7.74	8.67	6.82
18	3.41	3.54	6.97	4.12	5.55	6.81	8.74	---	16.98	7.56	8.62	6.80
19	3.41	3.52	6.83	4.11	6.50	6.49	8.26	---	11.06	13.26	7.77	6.37
20	3.39	3.51	6.58	4.12	7.51	6.24	9.12	---	9.46	18.35	7.32	6.16
21	3.39	3.53	6.45	4.17	7.91	6.07	13.81	---	16.97	18.61	7.00	6.03
22	3.39	3.52	6.28	4.21	7.79	5.97	11.33	---	31.71	12.11	6.95	5.88
23	3.38	3.62	6.03	4.25	7.71	5.87	10.78	---	---	23.69	6.82	5.70
24	3.44	3.79	5.81	4.28	8.13	5.82	14.68	---	---	34.31	6.31	5.59
25	3.57	3.87	5.63	4.31	11.23	5.76	13.12	---	---	---	7.32	5.58
26	3.60	3.92	5.43	4.36	10.83	5.75	9.76	14.73	---	---	8.90	5.60
27	3.67	3.99	5.26	4.39	9.63	5.73	8.73	10.84	---	---	8.87	5.63
28	3.63	4.09	5.11	4.44	8.73	5.83	7.28	9.74	---	---	7.50	5.54
29	3.84	4.14	5.02	4.50	---	5.82	7.85	9.71	18.00	---	7.33	6.54
30	3.78	4.17	4.96	4.57	---	5.77	7.59	9.44	10.52	---	6.95	6.33
31	3.71	---	4.92	4.63	---	5.74	---	11.95	---	---	7.50	---

SALT RIVER BASIN

05507600 LICK CREEK AT PERRY, MO

LOCATION.--Lat 39°25'53", long 91°40'34", near center of NW¼SW¼ sec.27, T.54 N., R.7 W., Ralls County, Hydrologic Unit 07110007, on right bank and downstream side of State Highway 154 bridge, 0.1 mi (.16 km) west of Perry and at mile 11.9 (19 km).

DRAINAGE AREA.--104 mi² (269.4 km²).

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 625.00 ft (190.500 m) National Geodetic Vertical Datum of 1929. Prior to November 1967 non-recording gage at same site and datum.

REMARKS.--Records good. Several observations of water temperature and conductance were made during the year. Prior to October 1979 gages were maintained and operated by St. Louis District Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage 26.24 ft (7.998 m) Oct. 12, 1969 determined by Corps of Engineers; no flow on many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,000 ft³/s (226 m³/s) June 21 at 0530, gage height, 20.75 ft (6.325 m), no flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	UC1	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	.11	.14	.09	.05	.44	.20	.36	2.5	7.6	22	.44		
2	.00	.08	.12	.09	.10	.36	.20	.24	2.7	7.9	14	.44		
3	.00	.05	.10	.08	.18	.36	.28	.36	3.3	33	11	.48		
4	.00	.02	.09	.08	.78	.44	.60	.56	8.2	334	9.0	.44		
5	.00	.01	.08	.07	.52	1.0	.52	.44	4.7	458	7.3	.36		
6	.00	.00	.10	.07	.40	1.6	.48	.36	2.7	74	7.3	.32		
7	.00	.00	.14	.06	.30	1.1	.44	.36	1.8	30	5.3	.44		
8	.00	.00	.87	.06	.25	.87	.44	.36	1.4	14	4.4	.48		
9	.00	.00	.52	.05	.20	.77	.40	.32	1.1	9.7	4.1	.36		
10	.00	.00	.40	.05	.17	.56	.48	78	.77	9.0	4.1	.24		
11	.00	.00	.30	.04	.15	.48	1.4	66	.77	.17	4.4	.20		
12	.00	.00	.25	.04	.13	.44	7.3	17	.87	7.9	3.3	.20		
13	.00	.00	.20	.04	.12	.40	10	6.4	.87	4.4	2.9	.20		
14	.00	.01	.15	.04	.11	.32	1.4	23	.87	2.7	2.9	.18		
15	.00	.02	.10	.04	.10	.24	4.4	30	41	2.0	2.4	.12		
16	.00	.03	.09	.04	1.0	.20	2.2	14	163	1.7	2.9	.10		
17	.05	.05	.08	.04	6.0	.20	1.4	17	29	1.4	4.1	.08		
18	.00	.06	.07	.04	10	.20	1.6	2260	9.7	1.3	2.9	.06		
19	.00	.06	.08	.04	8.0	.19	2.7	611	5.0	22	2.2	.06		
20	.00	.07	.08	.05	5.0	.18	10	118	57	88	1.3	.06		
21	.00	.10	.07	.06	3.5	.18	8.8	33	3380	30	.87	.05		
22	.00	.07	.08	.07	2.5	.20	8.2	36	1490	12	.56	.04		
23	.00	.06	.09	.08	2.0	.20	3.9	22	132	2060	.44	.02		
24	.00	.06	.08	.09	1.5	.20	2.0	14	47	1450	.40	.00		
25	.00	.06	.07	.10	1.3	.20	2.0	11	91	1650	5.3	.00		
26	.00	.06	.08	.08	1.0	.18	1.0	8.8	34	3460	3.3	.00		
27	.27	.09	.10	.07	.78	.16	.77	7.9	17	1760	1.6	.00		
28	.26	.14	.09	.06	.52	.18	.60	12	9.7	3120	1.0	.00		
29	.19	.14	.08	.05	---	.32	.60	8.2	6.1	188	.77	.00		
30	.16	.10	.09	.04	---	.28	.48	5.3	9.4	35	.56	.00		
31	.13	---	.10	.04	---	.24	---	3.6	---	36	.44	---		
TOTAL	1.06	1.45	4.84	1.85	46.66	12.69	74.79	3405.56	5553.45	14926.6	133.04	5.37		
MEAN	.034	.048	.16	.060	1.67	.41	2.49	110	185	482	4.29	.18		
MAX	.27	.14	.87	.10	10	1.6	10	2260	3380	3460	22	.48		
MIN	.00	.00	.07	.04	.05	.16	.20	.24	.77	1.3	.40	.00		
CFSM	.000	.000	.002	.001	.02	.004	.02	1.06	1.78	4.64	.04	.002		
IN.	.00	.00	.00	.00	.02	.00	.03	1.22	1.99	5.34	.05	.00		
AC-FT	2.1	2.9	9.7	3.7	93	25	148	6750	11020	29610	264	11		
CAL YR 1980	TOTAL	5529.47	MEAN	15.1	MAX	1630	MIN	.00	CFSM	.15	IN	1.98	AC-FI	10970
WIR YR 1981	TOTAL	24167.41	MEAN	66.2	MAX	3460	MIN	.00	CFSM	.64	IN	8.64	AC-FT	47940

SALT RIVER BASIN

05507600 LICK CREEK AT PERRY, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.00	5.10	5.20	5.21	---	5.21	5.14	5.17	5.42	5.67	5.86	5.21
2	4.97	5.10	5.20	5.21	---	5.19	5.15	5.15	5.40	5.67	5.74	5.21
3	4.95	5.10	5.20	5.21	---	5.19	5.15	5.13	5.42	6.03	5.66	5.22
4	4.94	5.10	5.20	5.21	5.37	5.19	5.24	5.22	5.41	7.51	5.60	5.21
5	4.93	5.15	5.20	5.20	---	5.29	5.22	5.21	5.52	8.06	5.53	5.19
6	4.92	5.15	5.20	5.17	---	5.35	5.21	5.18	5.43	6.46	5.55	5.18
7	4.91	5.15	5.20	5.19	---	5.32	5.20	5.18	5.37	6.07	5.47	5.17
8	4.91	5.15	5.46	5.19	---	5.29	5.20	5.18	5.33	5.85	5.42	5.23
9	4.91	5.10	5.32	5.19	---	5.25	5.19	5.17	5.30	5.72	5.41	5.19
10	4.91	5.10	5.33	5.19	---	5.24	5.21	5.60	5.27	5.59	5.41	5.16
11	4.90	5.10	5.35	5.21	---	5.23	5.37	6.44	5.26	5.90	5.42	5.15
12	4.89	5.10	5.39	5.26	---	5.21	5.51	5.84	5.28	5.67	5.39	5.15
13	4.89	5.15	5.39	---	---	5.20	5.70	5.57	5.28	5.54	5.36	5.15
14	4.83	5.15	5.37	---	---	5.18	5.92	5.60	5.28	5.47	5.36	5.14
15	4.88	5.15	5.35	---	---	5.16	5.50	6.01	5.26	5.42	5.33	5.12
16	4.95	5.15	5.32	---	---	5.15	5.39	5.80	7.17	5.39	5.29	5.10
17	5.18	5.15	5.30	---	---	5.15	5.33	5.64	6.04	5.37	5.43	5.09
18	5.05	5.15	5.28	---	5.86	5.15	5.31	14.75	5.69	5.35	5.36	5.08
19	5.02	5.15	5.26	---	5.95	5.15	5.35	8.77	5.52	5.43	5.32	5.08
20	4.99	5.15	5.24	---	---	5.14	5.71	6.76	5.43	6.57	5.26	5.08
21	4.98	5.18	5.23	---	---	5.14	5.63	6.07	18.79	6.08	5.22	5.08
22	4.97	5.17	5.22	---	---	5.15	5.58	5.80	11.66	5.80	5.18	5.07
23	4.95	5.16	5.21	---	---	5.15	5.65	5.92	6.84	9.39	5.16	5.06
24	5.02	5.16	5.21	---	---	5.15	5.48	5.75	6.25	9.80	5.13	5.05
25	5.09	5.16	5.21	---	---	5.15	5.39	5.73	6.91	11.49	5.18	5.05
26	5.05	5.16	5.21	---	---	5.14	5.30	5.63	6.16	16.73	5.42	5.05
27	5.12	5.17	5.21	---	5.27	5.13	5.27	5.62	5.91	11.54	5.32	5.05
28	5.24	5.20	5.21	---	5.23	5.13	5.24	5.77	5.73	18.02	5.29	5.05
29	5.22	5.20	5.21	---	---	5.18	5.24	5.64	5.60	7.08	5.27	5.03
30	5.20	5.20	5.21	---	---	5.18	5.21	5.53	5.57	6.38	5.24	5.02
31	5.19	---	5.21	---	---	5.16	---	5.47	---	6.07	5.21	---

SALT RIVER BASIN

05507800 SALT RIVER NEAR CENTER, MO

LOCATION.--Lat 39°34'26", long 91°34'15", near SE corner, sec.4, T.55 N., R.6 W., Ralls County, Hydrologic Unit 07110007, on left bank at left downstream end of bridge on highway A, 5 mi (8.04 km) northwest of Center, at mile 53.1 (85.4 km).

DRAINAGE AREA.--2,350 mi² (6,090 km²), approximately.

PERIOD OF RECORD.--April 1963 to current year, prior to October 1979 gage heights only by St. Louis District Corps of Engineers.

GAGE.--Wire-weight gage. Datum of gage is 500.00 ft (152.400 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Several observations of water temperature and specific conductance were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge not determined, Apr. 22, 1973, gage height, 33.00 ft (10.06 m) minimum gage height, 2.6 ft (0.79 m) April 27, 1963 determined by U.S. Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 72,800 ft³/s (2062 m³/s) July 29 at 0145, gage height, 32.62 ft (9.943 m), minimum daily discharge 6.7 ft³/s (2.042 m³/s) Nov. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	18	12	38	34	332	42	197	1870	4360	23000	335
2	32	19	13	38	32	248	38	161	969	3900	13400	242
3	30	23	14	40	32	203	42	137	721	2120	6470	186
4	27	26	17	42	32	180	46	127	690	3640	3730	161
5	25	30	22	42	32	163	40	120	560	5820	1590	140
6	23	34	22	42	32	155	35	115	467	8420	2850	127
7	22	32	51	44	31	321	30	135	369	8710	2090	117
8	20	28	68	53	30	486	34	231	352	6930	832	112
9	18	24	1440	44	30	369	36	211	325	2270	557	105
10	17	20	4770	42	25	261	34	635	292	808	439	97
11	16	17	3370	40	18	194	208	2260	270	679	371	90
12	15	14	1030	34	16	152	486	4690	321	544	341	87
13	14	13	511	34	15	132	582	2740	289	516	322	90
14	13	12	335	32	14	115	1080	1710	2490	412	323	97
15	13	11	254	30	26	102	3210	7330	4570	329	309	97
16	13	10	210	26	60	95	2470	9680	5580	286	275	97
17	12	9.3	163	24	68	87	1170	9970	5290	319	285	194
18	12	8.5	140	24	50	85	587	17200	4450	489	533	177
19	11	7.8	120	24	35	85	406	19600	1610	3120	349	155
20	10	7.3	107	26	110	75	857	22800	976	5290	276	137
21	9.7	7.0	92	26	239	66	2930	24200	7750	5400	222	112
22	9.3	6.8	85	26	340	55	1930	23900	15300	2330	191	90
23	8.4	6.7	78	26	250	52	1410	21800	18700	3950	175	73
24	9.3	6.8	68	26	240	50	3700	16200	18100	15600	150	62
25	10	7.0	64	26	1460	48	2640	12200	16700	20600	135	55
26	11	7.1	62	24	1430	45	986	3860	15500	25500	362	53
27	13	7.9	57	24	833	45	573	1180	14500	26700	625	49
28	16	8.8	53	26	490	46	400	834	11600	33800	533	62
29	19	9.3	49	28	---	52	301	744	5070	65600	304	137
30	21	12	44	30	---	58	239	630	1850	45000	236	251
31	19	---	40	30	---	48	---	1380	---	31800	231	---
TOTAL	525.7	443.3	13361	1011	6004	4405	26542	208977	157531	335242	61506	3787
MEAN	17.0	14.8	431	32.6	214	142	885	6741	5251	10810	1984	126
MAX	37	34	4770	53	1460	486	3700	24200	18700	65600	23000	335
MIN	8.4	6.7	12	24	14	45	30	115	270	286	135	49
CFSM	.007	.006	.18	.01	.09	.06	.38	2.87	2.24	4.60	.85	.05
IN.	.01	.01	.21	.02	.10	.07	.42	3.31	2.50	5.31	.97	.06
AC-FT	1040	879	26500	2010	11910	8740	52650	414500	312500	665000	122000	7510
CAL YR 1980 TOTAL	143375.0			392		9830		2.5		CFSM .17	IN 2.27	AC-FT 284400
WTR YR 1981 TOTAL	819335.0			2245		65600		6.7		CFSM .96	IN 12.98	AC-FT 1625000

SALT RIVER BASIN

05507800 SALT RIVER NEAR CENTER, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	3.09	3.07	3.21	3.17	4.33	---	3.84	7.44	10.16	22.15	4.93
2	---	3.11	3.06	3.20	3.15	4.06	---	3.70	5.78	9.78	17.78	4.50
3	---	3.14	3.06	3.21	3.16	3.89	---	3.60	5.31	7.55	12.58	4.19
4	---	3.23	3.10	3.21	3.16	3.80	---	3.57	5.30	7.71	10.28	4.08
5	---	3.26	3.13	3.22	3.16	3.74	---	3.53	4.94	10.79	7.43	3.96
6	---	3.26	3.13	3.21	3.16	3.69	---	3.53	4.74	13.23	8.96	3.89
7	---	3.21	3.23	3.22	3.15	3.80	3.16	3.46	4.44	13.50	8.47	3.81
8	---	3.19	3.26	3.22	3.13	4.76	3.19	3.98	4.35	12.94	6.12	3.81
9	---	3.16	3.63	3.22	3.13	4.46	3.20	3.86	4.29	8.20	5.49	3.77
10	---	3.14	9.94	3.22	3.14	4.11	3.19	4.90	4.19	5.04	5.19	3.74
11	---	3.11	9.22	3.20	3.11	3.87	4.23	5.90	4.06	5.19	4.99	3.69
12	---	3.09	5.55	3.19	3.12	3.70	4.56	10.25	4.28	4.88	4.90	3.67
13	---	3.05	4.32	3.17	3.12	3.61	5.04	8.48	4.18	4.84	4.84	3.67
14	---	3.05	3.65	3.16	3.12	3.55	4.61	6.16	7.49	4.57	4.86	3.73
15	---	3.04	3.29	3.15	3.11	3.50	8.47	11.49	9.85	4.32	4.80	3.75
16	---	3.01	4.03	3.14	3.12	3.47	8.12	13.56	11.34	4.16	4.70	3.65
17	---	3.00	3.76	3.12	3.13	3.43	6.24	13.75	10.55	4.08	4.58	4.27
18	---	2.99	3.64	3.12	3.13	3.42	5.04	18.41	10.49	4.42	5.48	4.14
19	---	2.97	3.57	3.12	3.10	3.42	4.47	19.31	6.97	9.32	4.92	4.05
20	---	2.96	3.51	3.12	3.36	3.38	4.67	20.98	5.48	10.48	4.62	3.95
21	---	2.96	3.45	3.12	3.95	3.35	8.46	21.76	10.82	11.34	4.37	3.83
22	---	2.96	3.43	3.12	4.01	3.34	7.32	21.71	16.83	8.18	4.22	3.70
23	3.02	2.96	3.40	3.12	3.90	---	6.26	20.67	18.87	6.08	4.13	3.59
24	3.04	2.97	3.34	3.12	3.93	---	8.17	19.23	19.09	16.90	4.07	3.53
25	3.04	2.97	3.32	3.12	6.36	---	8.43	16.41	18.26	19.55	4.23	3.48
26	3.04	2.98	3.32	3.12	6.72	---	5.84	10.14	---	22.39	4.54	3.46
27	3.09	3.03	3.30	3.11	5.59	---	4.96	6.22	---	23.67	5.64	3.43
28	3.17	3.03	3.27	3.12	4.81	---	4.49	5.48	15.77	25.19	5.51	3.43
29	3.12	3.02	3.25	3.13	---	---	4.21	5.33	11.54	31.83	4.77	3.52
30	3.12	3.03	3.23	3.13	---	---	4.00	5.07	6.42	29.51	4.41	4.01
31	3.10	---	3.21	3.14	---	---	---	5.84	---	25.60	4.31	---

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO

LOCATION.--Lat 39°36'44", long 91°24'30", in NE¼NW¼ sec.36, T.56 N., R.5 W., Ralls County, Hydrologic Unit 07110007, on left bank 180 ft (55 m) upstream from upstream bridge on dual U.S. Highway 61, 2.0 mi (3.2 km) north of New London, 8.0 mi (12.9 km) upstream from Spencer Creek and at mile 35.5 (57.1 km).

DRAINAGE AREA.--2,480 mi² (6,420 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1922 to current year.

GAGE.--Water-stage recorder. Datum of gage is 477.03 ft (145.399 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 7, 1931, nonrecording gage at present site at datum 0.03 ft (0.009 m) higher. Apr. 7, 1931, to Jan. 17, 1935, nonrecording gage at site 180 ft (55 m) downstream at datum 0.04 ft (0.012 m) lower.

REMARKS.--Records good except those for periods of ice affect, which are fair. Several observations of water temperature and specific conductance made during the year. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--59 years, 1,656 ft³/s (46.90 m³/s), 9.07 in/yr (230 mm/yr), 1,200,000 acre-ft/yr (1.48 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 107,000 ft³/s (3,030 m³/s) Apr. 22, 1973, gage height, 31.8 ft (9.69 m), from floodmark; no flow Aug. 3-14, Aug. 21 to Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 14, 1858, reached a stage of 27.6 ft (8.41 m), present datum, based on comparison of June 1928 flood crest at stone marker 1.0 mi (1.6 km) downstream of gage.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 20,000 ft³/s (566 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 22	1500	23,800 674	20.10 6.126
June 25	0515	20,100 569	18.60 5.669
July 29	2015	*74,200 2101	*31.09 9.476

Minimum daily discharge, 9.5 ft³/s (.269 m³/s), Nov. 21-26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	20	12	46	42	455	51	201	1980	4120	31100	540
2	40	24	12	46	39	350	46	160	1200	4150	18700	505
3	37	28	12	44	38	277	49	135	814	2560	8500	352
4	35	32	12	42	37	252	56	118	700	8390	4440	271
5	32	36	15	44	37	244	49	103	682	6590	2150	231
6	28	40	19	44	37	220	46	92	507	8490	3230	205
7	27	39	61	44	37	224	46	82	402	9030	2790	197
8	24	32	98	53	32	572	46	128	331	7940	1310	187
9	23	28	711	44	35	534	46	205	326	3270	880	161
10	20	27	4480	42	34	393	49	886	281	1080	677	153
11	18	22	4090	42	20	285	331	1410	256	795	540	143
12	17	19	1500	40	19	224	705	4300	277	599	444	133
13	16	17	694	40	16	187	1460	3470	285	507	399	129
14	15	15	471	38	15	163	932	1640	1440	451	373	132
15	15	14	397	37	22	141	2790	5170	4260	336	421	142
16	14	13	272	33	56	131	2810	8840	5720	272	321	132
17	14	12	216	32	64	118	1480	9440	5180	240	288	187
18	14	11	176	32	46	112	802	20000	4990	507	627	272
19	12	11	141	32	35	98	610	18900	2210	4380	468	245
20	12	10	121	30	28	100	688	21000	967	4990	315	210
21	12	9.5	112	30	174	92	2470	22800	5700	6030	249	183
22	11	9.5	100	30	287	87	2280	23300	13700	3040	205	151
23	11	9.5	95	30	260	80	1430	21900	16900	3310	181	125
24	11	9.5	87	30	220	66	2490	18400	17600	13800	168	110
25	11	9.5	75	31	1040	66	3050	13200	17700	19900	246	105
26	13	9.5	72	32	1620	61	1310	5470	14300	27500	348	99
27	15	10	69	32	1010	58	705	1540	14000	29700	1130	95
28	22	11	61	31	654	56	486	915	12200	33000	900	81
29	23	12	58	32	---	66	355	783	6580	58500	685	56
30	24	12	53	33	---	72	260	665	1850	62100	476	92
31	22	---	51	35	---	61	---	915	---	43400	538	---
TOTAL	635	552.0	14343	1151	5954	5845	27928	206168	153338	368977	83099	5604
MEAN	20.5	18.4	463	37.1	213	189	931	6651	5111	11900	2681	187
MAX	47	40	4480	53	1620	572	3050	23300	17700	62100	31100	540
MIN	11	9.5	12	30	15	56	46	82	256	240	168	56
CFSM	.008	.007	.19	.02	.09	.08	.38	2.68	2.06	4.80	1.08	.08
IN.	.01	.01	.22	.02	.09	.09	.42	3.09	2.30	5.53	1.25	.08
AC-FT	1260	1090	28450	2280	11810	11590	55400	408900	304100	731900	164800	11120
CAL YR 1980 TOTAL	168926.0			462	9540	MIN 9.5	CFSM .19	IN 2.53	AC-FT	335100		
WTR YR 1981 TOTAL	873594.0			2393	62100	MIN 9.5	CFSM .97	IN 13.10	AC-FT	1733000		

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.25	2.12	2.03	2.24	2.17	3.52	2.35	2.92	6.09	8.30	23.20	3.70
2	2.22	---	2.03	2.24	2.14	3.23	2.34	2.78	4.96	8.31	19.31	3.81
3	2.18	---	2.03	2.24	2.16	3.04	2.32	2.69	4.23	6.83	12.95	3.40
4	2.16	---	2.03	2.17	2.15	2.46	2.28	2.61	3.82	11.06	9.71	3.25
5	2.13	---	2.05	2.21	2.15	2.95	2.24	2.58	3.98	9.78	7.23	3.14
6	2.11	---	2.11	2.22	2.15	2.88	2.23	2.51	3.58	11.59	8.25	3.08
7	2.09	2.28	2.30	2.15	2.15	2.81	2.23	2.48	3.34	12.09	8.12	3.04
8	2.07	2.24	2.52	2.26	2.13	3.75	2.23	2.49	3.14	11.85	5.98	3.04
9	2.06	2.21	2.47	2.22	2.15	3.68	2.23	2.42	3.17	7.99	5.16	2.94
10	2.03	2.18	8.49	2.21	2.13	3.36	2.23	3.03	3.03	4.71	4.73	2.94
11	2.02	2.15	8.80	2.21	2.03	3.09	3.69	4.96	2.97	4.52	4.41	2.90
12	2.02	2.12	5.54	2.18	2.04	2.92	4.20	8.47	2.99	3.81	4.17	2.88
13	2.00	2.10	4.12	2.19	2.01	2.79	5.75	8.00	3.06	3.52	4.05	2.84
14	2.00	2.09	3.62	2.19	1.99	2.69	4.31	5.74	2.95	3.48	4.02	2.85
15	2.00	2.07	3.32	2.17	1.99	2.63	6.74	8.37	8.04	3.28	4.33	2.84
16	2.00	2.05	3.12	2.13	2.19	2.57	7.30	11.96	9.62	3.11	3.90	2.87
17	2.00	2.03	2.96	2.14	2.26	2.53	5.53	12.28	8.86	3.01	3.80	2.84
18	2.00	2.01	2.81	2.13	2.21	2.51	4.27	19.90	9.35	3.29	4.79	3.26
19	1.99	1.99	2.71	2.13	2.14	2.47	3.70	17.93	6.61	11.10	4.27	3.19
20	1.97	1.98	2.55	2.11	2.09	2.47	3.88	18.71	4.52	8.35	3.72	3.10
21	1.79	1.97	2.56	2.11	2.47	2.44	6.49	19.56	7.73	10.24	3.52	3.02
22	1.97	1.97	2.51	2.11	3.01	2.42	6.60	19.82	14.83	7.69	3.36	2.93
23	1.97	1.97	2.48	2.11	3.01	2.38	5.21	19.47	16.73	5.79	3.27	2.85
24	1.97	1.97	2.45	2.11	2.95	2.34	6.10	18.19	17.57	14.52	3.20	2.79
25	1.97	1.97	2.38	2.11	3.94	2.31	7.67	15.64	18.43	17.86	3.59	2.77
26	2.00	1.97	2.37	2.12	5.72	2.30	5.27	10.28	15.53	21.53	3.36	2.74
27	2.04	1.97	2.34	2.13	4.66	2.28	4.13	5.47	15.39	22.53	4.92	2.73
28	2.10	2.01	2.32	2.11	3.98	2.28	3.65	4.40	14.68	22.88	4.37	2.71
29	2.13	2.03	2.31	2.12	---	2.31	3.34	4.13	11.20	27.52	4.19	2.68
30	2.14	2.03	2.29	2.13	---	2.32	3.11	3.90	5.80	29.87	3.55	2.60
31	2.13	---	2.27	2.13	---	2.31	---	3.75	---	26.43	3.74	---

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO.--continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1967 to July 1975, July 1977 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1979 to Sept. 1981. (Discontinued)
WATER TEMPERATURE: March 1979 to Sept. 1981. (Discontinued)
SUSPENDED-SEDIMENT: July 1980 to current year.

REMARKS.--Water temperature and specific conductance samples collected daily by observer. Number of missing days of temperature and sediment record exceed 20 percent of year. No temperature for period of year when maximum normally occurs.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: (March 1979 to Sept. 1981) Maximum daily, 733 micromhos Jan. 12, 1981; minimum daily, 86 micromhos Dec. 3, 1979.
WATER TEMPERATURE: (March 1979 to Sept. 1981) Maximum daily, 36.0°C July 18, 19, 21, Aug. 23, 24, 1980; minimum daily, 0.0°C March 1, 1980.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,650 mg/L May 18, 1981; minimum daily mean, 12 mg/L August 3, 1980 and September 26, 1981.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 143,000 tons (130,000 metric tons) May 18, 1981; minimum daily, 0.45 tons (0.41 metric tons) August 3, 1980.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Minimum 1.0°C Jan. 9, 10, 11, 12, 13, 14.
SPECIFIC CONDUCTANCE: Maximum 733 micromhos Jan. 12; minimum 113 micromhos July 25, 28.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	COLI- FORM, FECAL, 0.7 JM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
NOV 05...	32	490	7.5	11.0	1.5	10.6	95	24	40	160	17	49
JAN 07...	44	432	7.7	5	22	13.1	91	8	4	170	53	51
MAR 04...	250	296	7.7	6.5	140	9.6	78	76	160	120	50	34
MAY 06...	90	350	8.7	17.5	39	11.8	123	600	2100	150	40	45
JUL 08...	6740	137	7.8	27.0	320	6.6	82	1400	6200	59	10	18
SEP 05...	300	330	8.0	24.0	42	10.0	118	780	220	140	42	45

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
NOV 05...	8.4	26	5.3	156	0	34	40	.2	2.0	255	22.0	.00
JAN 07...	11	18	6.4	170	0	66	25	.2	9.8	267	31.7	2.4
MAR 04...	7.4	12	4.7	80	0	53	15	.1	7.2	174	117	2.6
MAY 06...	9.0	15	5.6	110	12	57	15	.3	7.8	261	63.4	.84
JUL 08...	3.4	3.1	4.9	60	0	3.2	5.0	.2	7.6	108	1970	.61
SEP 05...	7.6	11	5.3	120	0	35	12	.2	8.4	220	178	.46

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO.--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN, AM- MONIA + TOTAL (MG/L AS N) (00610)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)	SEDI- MENT, CHARGE, SUS- PENDED (MG/L (1/DAY) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L (1/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 05...	.030	1.10	2.0	.210	.060	--	6.0	1.9	45	3.9	13
JAN 07...	.190	1.70	1.2	.100	.040	--	16	.7	50	5.9	46
MAR 04...	.520	2.00	1.7	.270	.070	17	--	--	237	160	76
MAY 06...	.060	1.60	1.2	.190	.030	--	8.6	3.6	67	16	79
JUL 08...	.200	2.00	1.1	.340	.060	--	7.1	3.4	827	15100	65
SEP 03...	.090	1.60	.81	.130	.020	9.0	--	--	135	109	75

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CU) (01037)	COBALT, DIS- SOLVED (UG/L AS CU) (01035)
NOV 05...	1	1	200	100	2	2	0	20	1	<3
JAN 07...	1	0	100	100	0	1	10	0	1	<3
MAY 06...	1	1	100	100	1	<1	20	10	1	<3
JUL 08...	6	1	200	0	3	1	20	10	5	0

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
NOV 05...	7	6	1000	40	8	3	320	160	.3
JAN 07...	6	3	1200	60	4	1	320	300	.5
MAY 06...	8	4	1800	60	39	3	320	70	.4
JUL 08...	26	7	13000	230	44	2	330	20	.6

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 05...	.3	13	5	0	0	0	0	40	9
JAN 07...	.3	7	3	0	0	0	0	20	8
MAY 06...	.1	6	4	1	0	0	0	30	6
JUL 08...	.2	15	5	0	0	0	0	70	30

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO.--continued

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

ONCE-DAILY

DAY	UCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	229	430	---	517	500	298	433	372	333	136	---	324
2	230	431	382	449	446	297	440	365	251	189	---	303
3	234	435	405	---	514	383	415	365	247	140	---	504
4	233	433	346	---	426	379	459	413	242	136	---	423
5	248	419	403	525	545	381	467	408	246	139	---	337
6	250	395	393	681	550	384	470	405	301	139	---	373
7	292	391	---	660	556	386	472	383	305	178	---	375
8	300	425	359	679	551	380	475	---	306	182	---	387
9	298	433	189	687	558	417	351	221	---	309	---	389
10	269	439	167	708	373	419	---	370	344	326	---	424
11	309	421	173	690	363	417	---	225	344	224	---	337
12	305	470	185	733	350	476	---	172	133	268	---	431
13	307	560	224	705	348	484	---	168	119	276	---	439
14	319	410	227	637	345	490	---	167	121	271	---	465
15	350	431	221	646	347	445	345	167	122	313	---	468
16	330	433	206	647	346	484	344	167	138	321	---	433
17	308	403	219	607	349	446	344	135	196	197	---	433
18	308	405	238	602	355	453	304	132	200	184	---	427
19	380	447	225	532	355	456	301	133	188	180	---	427
20	389	---	301	514	354	454	301	120	199	180	---	419
21	337	407	266	541	350	451	307	128	207	193	---	423
22	320	427	264	540	350	458	297	128	187	194	---	429
23	325	425	340	532	350	453	285	268	140	196	---	431
24	335	447	311	535	351	469	292	269	137	196	---	442
25	377	430	309	540	300	487	292	271	121	113	424	445
26	---	---	384	529	301	477	344	127	255	121	422	466
27	379	---	404	543	302	473	345	334	238	115	282	467
28	395	---	395	515	295	463	316	355	208	113	284	482
29	399	---	371	496	---	467	346	356	143	117	356	484
30	409	---	397	508	---	470	343	357	197	174	361	494
31	390	---	362	500	---	450	---	356	---	179	325	---
MEAN	318	431	299	586	398	434	364	261	213	194	351	416
WTR YR 1981	MEAN	353	MAX	733	MIN	113						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

ONCE-DAILY

DAY	UCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.0	13.0	---	3.5	2.0	9.0	18.0	25.0	25.5	---	---	25.0
2	17.5	13.0	---	3.0	1.5	9.0	22.0	25.0	25.5	---	---	22.0
3	16.0	12.5	---	---	1.5	7.0	22.0	25.0	26.0	---	---	21.0
4	16.5	12.5	---	---	1.5	7.0	22.5	22.0	26.0	---	---	21.0
5	17.5	11.0	---	2.5	1.5	7.5	21.5	19.5	26.0	---	---	21.0
6	23.0	12.5	---	2.0	1.5	7.5	21.0	19.0	26.5	---	---	21.0
7	22.5	15.0	---	2.0	1.5	7.5	21.5	18.0	26.5	---	---	20.0
8	21.5	15.0	---	1.5	2.0	8.0	21.5	---	28.0	---	---	20.0
9	21.5	15.5	---	1.0	3.0	8.5	22.0	17.0	---	---	---	20.0
10	19.0	13.0	8.0	1.0	4.5	8.5	---	17.5	28.5	---	---	20.0
11	19.0	12.5	8.0	1.0	5.0	9.5	---	15.5	28.5	---	---	19.0
12	17.0	13.5	---	1.0	5.0	9.0	---	15.5	28.5	---	---	22.0
13	16.5	14.5	5.0	1.0	5.5	9.5	---	15.5	28.0	---	---	23.0
14	19.0	10.0	5.0	1.0	5.5	10.5	---	15.5	25.0	---	---	23.0
15	16.0	9.5	5.5	1.5	6.0	10.5	21.0	15.0	24.5	---	---	22.0
16	16.5	9.0	5.5	1.5	5.0	10.5	21.5	13.5	25.0	---	---	21.0
17	16.5	8.5	5.0	2.0	6.5	11.0	19.5	14.0	25.0	---	---	18.0
18	16.5	8.5	5.0	2.0	6.5	11.0	18.5	15.0	24.0	---	---	16.0
19	15.5	9.5	5.0	3.5	7.0	11.5	18.0	15.0	24.0	---	---	17.0
20	15.0	---	4.0	3.0	7.0	13.0	18.0	14.0	25.0	---	---	18.0
21	16.0	9.5	3.0	2.5	7.0	10.0	17.0	17.0	26.0	---	---	19.0
22	16.0	4.0	2.5	2.0	7.5	15.5	17.5	17.0	26.0	---	---	19.0
23	18.5	4.5	2.5	2.5	8.0	15.5	17.5	16.5	26.5	---	---	18.0
24	---	5.0	2.0	2.0	8.0	15.5	17.5	16.5	27.0	---	---	18.0
25	14.0	5.0	2.0	2.0	8.0	15.5	17.5	17.5	---	---	23.0	18.0
26	---	---	3.0	2.0	8.5	15.0	18.0	17.0	---	---	23.0	19.0
27	10.5	---	3.0	2.0	8.5	15.0	23.5	20.0	---	---	22.0	18.0
28	10.0	---	3.5	2.0	---	15.5	23.0	20.5	---	---	22.0	16.0
29	10.0	---	3.5	2.0	---	20.0	22.0	20.0	---	---	23.0	18.0
30	12.5	---	4.5	2.0	---	20.0	22.5	20.0	---	---	24.0	20.0
31	13.0	---	4.0	2.0	---	20.0	---	20.0	---	---	24.0	---
MEAN	17.0	10.5	4.5	2.0	5.0	11.5	20.0	18.0	26.0	---	23.0	20.0
WTR YR 1981	MEAN	13.5	MAX	28.5	MIN	1.0						

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO.--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 5,80 1440	MAR 4,81 1240	MAY 6,81 1430	JUL 8,81 1515	SEP 3,81 1330					
TOTAL CELLS/ML	12000	3000	86000	2200	50000					
DIVERSITY: DIVISION	1.1	1.2	1.5	0.6	1.7					
..CLASS	1.1	1.2	1.5	0.6	1.7					
...ORDER	1.1	2.0	1.9	1.4	2.0					
...FAMILY	1.4	2.8	2.3	1.5	2.4					
....GENUS	2.7	3.1	3.0	1.6	3.2					
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....MICRACTINIACEAE										
.....MICRACTINIUM	260	2	--	--	2700	3	--	--	--	--
....UCCYSTACEAE										
.....ANKISTRICESMUS	1200	11	56	2	2200	2	--	--	350	1
.....CLCSTERIOSIS	--	--	--	--	--	--	--	--	350	1
.....DICTYOSPHAERIUM	1300	11	200	7	3200	4	--	--	8000#	16
.....GLOECACIINIUM	--	--	--	--	19000#	22	--	--	--	--
.....KIRCHNERIELLA	--	--	28	1	540	1	--	--	--	--
.....GOCYSIIS	--	--	--	--	--	--	--	--	870	2
.....SELENASTRUM	200	2	--	--	--	--	--	--	--	--
....SCENECESMACEAE										
.....ACTINASTRUM	--	--	--	--	4300	5	--	--	2200	4
.....CHUCIGENIA	--	--	--	--	--	--	--	--	5500	11
....SCENECESMUS	--	--	--	--	--	--	--	--	2800	5
....TETRASTRUM	520	4	--	--	2200	2	--	--	--	--
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	--	84	3	3200	4	14	1	*	0
CHRYSTOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
....CCSCINODISCACEAE										
.....CYCLOCITELLA	1900#	16	1100#	36	33000#	38	14	1	9300#	19
.....MELOSIRA	3300#	29	84	3	4800	6	14	1	5200	10
.....STEPHANODISCUS	2500#	22	--	--	--	--	--	--	--	--
...PENNALES										
....ACHNANTHACEAE										
.....ACHNANTHES	--	--	56	2	--	--	--	--	--	--
....CUCULNEIS	--	--	--	--	--	--	14	1	--	--
....FRAGILARIACEAE										
.....SYNECKA	--	--	140	5	--	--	--	--	--	--
....GOMPHONEMACEAE										
.....GOMPHONEMA	--	--	56	2	--	--	14	1	--	--
....NAVICULACEAE										
.....NAVICULA	--	--	220	7	--	--	41	2	--	--
....NITZSCHACEAE										
.....NITZSCHIA	--	--	390	13	2700	3	110	5	--	--
....SURIPELLACEAE										
.....SURIPELLA	--	--	220	7	--	--	--	--	--	--
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
....CRYPTOMONADACEAE										
.....CRYPTOMONAS	65	1	--	--	3800	4	--	--	690	1
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCOCCALES										
....CHROOCOCCACEAE										
.....AGMENELLUM	--	--	--	--	--	--	--	--	690	1
.....ANACYSTIS	--	--	200	7	1100	1	1300#	61	8800#	18
...HORMOGONIALES										
....OSILLATRIACEAE										
.....OSILLATRIUM	--	--	--	--	--	--	610#	28	5000	10
EUGLENOPHYTA (EUGLENCIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
....EUGLENAACEAE										
.....EUGLENA	--	--	--	--	1100	1	--	--	--	--
....TRACHELUMONAS	200	2	170	6	2700	3	14	1	350	1
PYRROPHYTA (FIRE ALGAE)										
..PYRROPHYCEAE										
...PERIDINIALES										
....GLENODINIACEAE										
.....GLENODINIUM	65	1	--	--	--	--	--	--	--	--

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO--continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
MAY										
16...	8970	56	61	70	79	95	98	100	100	100
19...	18800	63	69	76	81	92	93	98	100	100
JUL										
28...	33000	56	63	68	78	92	94	98	100	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
OCT										
07...	0	0	50	11	18	23	29	43	66	88
NOV										
18...	0	0	6	14	20	25	34	51	80	93
JAN										
19...	0	0	4	10	16	20	26	37	61	91
MAR										
03...	0	1	5	33	53	59	62	67	89	100
APR										
06...	0	0	2	11	19	24	30	40	74	100

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
JULY			AUGUST			SEPTEMBER			
1	33	---	---	14	35	1.3	56	90	14
2	23	---	---	13	22	.77	66	102	18
3	30	---	---	14	12	.45	121	175	57
4	3870	---	---	12	23	.75	1270	338	1160
5	4180	---	---	14	18	.68	839	310	702
6	1240	---	---	22	20	1.2	507	272	372
7	594	---	---	26	32	2.2	545	300	441
8	355	174	167	23	37	2.3	626	443	749
9	228	163	100	18	45	2.2	735	243	482
10	183	133	66	16	61	2.6	379	272	278
11	153	110	45	17	123	5.6	228	245	151
12	125	100	34	17	110	5.0	163	225	99
13	100	106	29	15	113	4.6	136	209	77
14	85	67	15	20	100	5.4	102	165	45
15	66	60	11	118	178	57	83	160	36
16	53	33	4.7	183	261	129	100	160	43
17	42	38	4.3	85	260	60	310	163	136
18	35	27	2.6	49	225	30	223	139	84
19	28	23	1.7	37	220	22	324	105	92
20	24	13	.84	53	185	26	803	120	260
21	22	30	1.8	103	100	28	441	188	224
22	23	37	2.3	106	86	25	258	178	124
23	18	25	1.2	138	103	38	171	160	74
24	17	20	.92	135	95	35	138	155	58
25	15	17	.69	115	97	30	119	201	65
26	15	28	1.1	106	90	26	101	190	52
27	51	224	31	75	78	16	83	176	39
28	19	186	9.5	58	87	14	69	165	31
29	15	68	2.8	56	92	14	57	157	24
30	14	41	1.5	58	125	20	47	151	19
31	13	56	2.0	53	99	14	---	---	---
TOTAL	11669	---	535.95	1769	---	619.05	9100	---	6006
OCTOBER			NOVEMBER			DECEMBER			
1	47	143	18	20	48	2.6	12	80	2.6
2	40	144	16	24	60	3.9	12	74	2.4
3	37	149	15	28	65	4.9	12	74	2.4
4	35	129	12	32	67	5.8	12	80	2.6
5	32	115	9.9	36	55	5.3	15	72	2.9
6	28	103	7.8	40	60	6.5	19	84	4.3
7	27	100	7.3	39	84	8.8	61	118	19
8	24	67	4.3	32	73	6.3	98	140	37
9	23	72	4.5	28	70	5.3	711	487	935
10	20	75	4.1	27	83	6.1	4480	1660	20100
11	18	82	4.0	22	88	5.2	4090	750	8280
12	17	85	3.9	19	100	5.1	1500	400	1620
13	16	67	2.9	17	103	4.7	694	270	506
14	15	67	2.7	15	90	3.6	471	255	324
15	15	85	3.4	14	75	2.8	397	200	214
16	14	80	3.0	13	60	2.1	272	189	139
17	14	81	3.1	12	49	1.6	216	131	76
18	14	70	2.6	11	53	1.6	176	135	64
19	12	80	2.6	11	83	2.5	141	130	49
20	12	111	3.6	10	85	2.3	121	---	---
21	12	79	2.6	9.5	82	2.1	112	---	---
22	11	80	2.4	9.5	74	1.9	100	---	---
23	11	71	2.1	9.5	78	2.0	95	---	---
24	11	73	2.2	9.5	75	1.9	87	---	---
25	11	76	2.3	9.5	77	2.0	75	---	---
26	13	62	2.2	9.5	86	2.2	72	---	---
27	15	70	2.8	10	83	2.2	69	---	---
28	22	70	4.2	11	82	2.4	61	---	---
29	23	60	3.7	12	77	2.5	58	---	---
30	24	53	3.4	12	75	2.4	53	---	---
31	22	50	3.0	---	---	---	51	---	---
TOTAL	635	---	161.6	552.0	---	108.6	14343	---	32380.2

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY				FEBRUARY				MARCH	
1	46			42	---	---	455	416	511
2	46			39	---	---	350	257	243
3	44			38	---	---	277	212	159
4	42			37	---	---	252	175	119
5	44			37	---	---	244	119	78
6	44			37	---	---	220	83	49
7	44			37	---	---	224	78	47
8	53			32	---	---	572	59	91
9	44			35	---	---	534	71	102
10	42			34	---	---	393	56	59
11	42			20	---	---	285	44	34
12	40			19	---	---	224	42	25
13	40			16	---	---	187	70	35
14	38			15	---	---	163	67	29
15	37			22	---	---	141	75	29
16	33			56	---	---	131	65	23
17	32			64	---	---	118	51	16
18	32			46	---	---	112	57	17
19	32			35	---	---	98	66	17
20	30			28	18	1.4	100	46	12
21	30			174	15	7.0	92	49	12
22	30			287	23	18	87	45	11
23	30			260	18	13	80	77	17
24	30			220	19	11	66	155	28
25	31			1040	40	112	66	36	6.4
26	32			1620	120	525	61	33	5.4
27	32			1010	455	1240	58	36	5.6
28	31			654	284	501	56	22	3.3
29	32			---	---	---	66	39	6.9
30	33			---	---	---	72	34	6.6
31	35			---	---	---	61	41	6.8
TOTAL	1151			5954	---	2428.4	5845	---	1804.0
APRIL				MAY				JUNE	
1	51	41	5.6	201	110	60	1980	140	748
2	46	52	6.5	160	130	56	1200	260	842
3	49	53	7.0	135	150	55	814	270	593
4	56	59	8.9	118	150	48	700	380	718
5	49	37	4.9	103	130	36	682	270	497
6	46	27	3.7	92	110	27	507	270	370
7	46	28	3.5	82	150	33	402	190	206
8	46	45	5.6	128	230	79	331	170	152
9	46	40	5.0	205	90	50	326	160	141
10	49	65	8.6	886	150	359	281	140	106
11	331	184	164	1410	530	2020	256	140	97
12	705	123	234	4300	970	11300	277	150	112
13	1460	2210	8710	3470	660	6180	285	140	108
14	932	1250	3150	1640	290	1280	1440	2160	8400
15	2790	1280	9640	5170	610	8510	4260	2520	29000
16	2810	840	6370	8840	1450	34600	5720	1820	28100
17	1480	770	3080	9440	1000	25500	5180	2120	29700
18	802	610	1320	20000	2650	143000	4990	1090	14700
19	610	280	461	18900	1400	71400	2210	530	3160
20	688	350	650	21000	1040	59000	967	670	1750
21	2470	660	4400	22800	740	45600	5700	1550	23900
22	2280	590	3630	23300	540	34000	13700	1100	40700
23	1450	340	1310	21900	635	37500	16900	1060	48400
24	2490	360	2420	18400	300	14900	17600	1320	62700
25	3050	660	5440	13200	330	11800	17700	---	---
26	1310	570	2020	5470	220	3250	14300	---	---
27	705	380	723	1540	290	1210	14000	---	---
28	486	240	315	915	340	840	12200	---	---
29	355	190	182	783	210	444	6580	---	---
30	260	200	140	665	215	386	1850	---	---
31	---	---	---	915	160	395	---	---	---
TOTAL	27928	---	54418.0	206168	---	513918	153338	---	295200

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
JULY			AUGUST			SEPTEMBER			
1	4120		31100	---	---	540	90	131	
2	4150		18700	---	---	505	114	155	
3	2560		8500	---	---	332	82	74	
4	8390		4440	---	---	271	44	32	
5	6590		2150	---	---	231	70	44	
6	8490		3230	---	---	205	40	22	
7	9030		2790	---	---	197	42	22	
8	7940		1310	---	---	187	62	31	
9	3270		880	---	---	161	46	20	
10	1080		677	---	---	153	52	21	
11	795		540	---	---	143	68	26	
12	599		444	---	---	133	28	10	
13	507		399	---	---	129	24	8.4	
14	451		373	---	---	132	28	10	
15	336		421	---	---	142	26	10	
16	272		321	---	---	132	40	14	
17	240		288	---	---	187	25	13	
18	507		627	---	---	272	30	22	
19	4380		468	---	---	245	22	15	
20	4990		315	---	---	210	32	18	
21	6030		249	---	---	183	22	11	
22	3040		205	---	---	151	25	10	
23	3310		181	---	---	125	25	8.4	
24	13800		168	---	---	110	30	8.9	
25	19900		246	35	23	105	20	5.7	
26	27500		348	180	169	99	12	3.2	
27	29700		1130	545	1660	95	18	4.6	
28	33000		900	487	1180	81	28	6.1	
29	58500		685	108	200	56	20	3.0	
30	62100		476	68	87	92	20	5.0	
31	43400		538	110	160	---	---	---	
TOTAL	368977		83099	---	3479	5604	---	764.3	

SALT RIVER BASIN

05508805 SPENCER CREEK BELOW PLUM CREEK NEAR FRANKFORD, MO

LOCATION.--Lat 39°31'13", long 91°20'32", in NW¼NW¼NW¼ sec.27, T.55 N., R.4 W., Ralls County, Hydrologic Unit 07110007, on left bank 25 ft (7.62 m) downstream from bridge on U.S. Highway 61, 0.75 mi (1.21 km) downstream from Plum Creek, 2.5 mi (4.02 km) northwest of Frankford, and at mile 4.5 (7.24 km).

DRAINAGE AREA.--206 mi² (534 km²).

PERIOD OF RECORD.--March 24, 1930 to September 1936, October 1961 to current year, prior to 1978 fragmentary record.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 485.00 ft (147.828 m) National Geodetic Vertical Datum of 1929. March 24, 1930 to September 30, 1936 nonrecording gage at site 0.75 mi (1.21 km) upstream at datum 3.63 ft (1.106 m) higher. October 7, 1961 to July 15, 1974, fragmentary record, at present site and datum unknown, July 26, 1974 to April 15, 1975 from nonrecording gage present site and datum.

REMARKS.--Records fair, several observations of water temperature and specific conductance made during the year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,200 ft³/s (459 m³/s) July 28, 1981 at 0630, gage height, 16.86 ft (5.139 m) minimum daily discharge, 0.21 ft³/s (.006 m³/s) Oct. 11, 1980.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	3.0	.54	7.5	15	4.4	9.7	13	21	18	38	300	11	
2	3.5	.54	7.0	13	4.8	7.7	8.8	20	19	27	180	7.3	
3	2.7	.41	8.0	9.2	4.4	6.8	6.8	19	22	26	130	5.6	
4	2.0	.54	9.0	6.0	3.2	7.7	10	27	24	2030	100	4.4	
5	1.4	.78	11	3.5	2.5	17	11	25	26	722	80	3.5	
6	1.0	.65	12	3.2	2.7	31	9.9	23	27	233	60	3.8	
7	.78	1.3	102	3.0	3.0	19	9.1	18	28	118	50	4.8	
8	.41	1.4	134	2.8	3.2	15	6.9	18	24	78	40	3.2	
9	.24	2.2	96	2.7	2.5	13	7.5	25	22	50	35	2.8	
10	.30	3.0	56	2.6	3.2	12	6.7	1310	22	59	30	2.5	
11	.21	3.5	40	2.5	3.0	9.2	209	445	24	34	28	2.3	
12	.24	4.1	25	2.5	1.5	8.2	149	157	22	22	23	2.2	
13	.30	4.8	15	2.4	1.5	6.8	2060	99	20	19	21	2.1	
14	.54	5.6	10	2.4	3.5	6.4	599	236	20	18	22	2.0	
15	.65	5.0	8.0	2.3	6.8	5.6	179	205	89	23	67	11	
16	5.2	6.0	7.0	2.3	26	5.2	114	118	361	13	32	7.2	
17	126	6.0	6.2	2.2	111	5.6	92	186	112	15	26	5.0	
18	36	6.4	6.0	2.2	93	6.0	75	9190	45	62	15	4.0	
19	11	6.8	5.8	2.2	60	5.2	150	1670	29	649	14	3.5	
20	6.8	7.3	5.8	2.3	40	4.9	260	382	25	1350	13	3.0	
21	7.7	5.2	6.0	2.3	26	4.1	84	215	2780	404	9.2	2.7	
22	6.4	6.4	6.2	2.2	22	4.1	97	159	1700	70	6.8	2.5	
23	5.2	7.7	6.4	2.1	27	3.9	116	184	365	2020	7.7	2.3	
24	3.8	8.2	6.6	2.0	32	3.9	73	162	132	1530	6.0	2.1	
25	3.0	8.7	7.0	2.0	27	3.9	58	152	1740	1620	32	2.0	
26	2.2	9.2	7.2	2.0	20	3.8	47	100	223	4810	72	1.9	
27	2.5	10	8.0	2.0	15	3.7	33	70	112	10700	46	1.8	
28	1.7	11	7.0	2.1	12	3.6	26	50	72	15600	11	1.7	
29	1.0	9.0	8.0	2.2	---	6.2	23	35	46	10000	7.7	1.6	
30	1.4	8.0	9.0	2.5	---	28	22	25	50	2500	63	1.5	
31	2.0	---	11	2.7	---	19	---	20	---	600	20	---	
TOTAL	239.17	150.86	653.7	108.4	561.2	286.2	4555.7	15366	8199	55440	1547.4	111.3	
MEAN	7.72	5.03	21.1	3.50	20.0	9.23	152	496	273	1788	49.9	3.71	
MAX	126	11	134	15	111	31	2060	9190	2780	15600	300	11	
MIN	.21	.41	5.8	2.0	1.5	3.6	6.7	18	18	13	6.0	1.5	
CFSM	.04	.02	.10	.02	.10	.05	.74	2.41	1.33	8.68	.24	.02	
IN.	.04	.03	.12	.02	.10	.05	.82	2.77	1.48	10.01	.28	.02	
AC-FT	474	299	1300	215	1110	568	9040	30480	16260	110000	3070	221	
CAL YR 1980 TOTAL	15354.91	MEAN	42.0	MAX	1830	MIN	.21	CFSM	.20	IN	2.77	AC-FT	30460
WTR YR 1981 TOTAL	87218.93	MEAN	239	MAX	15600	MIN	.21	CFSM	1.16	IN	15.75	AC-FT	173000

SALT RIVER BASIN

05508805 SPENCER CREEK BELOW PLUM CREEK NEAR FRANKFORD, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.15	3.72	---	3.47	3.21	3.34	3.35	3.23	---	3.49	---	3.20
2	3.17	3.72	---	3.06	3.22	3.30	3.33	3.21	---	3.37	---	3.01
3	3.23	3.70	---	3.38	3.22	3.28	3.18	---	---	3.30	---	2.98
4	3.24	3.71	---	2.95	3.18	3.28	3.31	---	---	10.28	---	3.01
5	3.25	3.74	---	3.11	3.16	3.40	3.36	3.36	3.33	5.95	---	2.90
6	3.26	3.72	4.06	---	3.16	3.63	3.31	3.30	3.36	4.67	---	2.84
7	3.27	3.78	4.10	---	3.16	3.49	3.28	3.20	3.35	4.08	---	2.84
8	3.29	3.78	4.21	---	3.17	3.41	3.23	3.17	3.33	3.84	---	2.93
9	3.30	3.82	4.10	---	3.15	3.40	3.26	3.14	3.34	3.63	---	2.82
10	3.30	3.85	3.84	---	3.17	3.37	3.23	3.54	3.22	3.48	---	2.85
11	3.29	3.88	3.65	---	3.17	3.33	5.23	5.40	3.23	3.51	---	2.81
12	3.30	3.89	---	---	3.04	3.30	4.46	4.28	3.36	3.31	3.32	2.76
13	3.31	3.91	---	---	3.10	3.29	7.52	3.96	3.22	3.21	3.25	2.75
14	3.33	3.94	---	---	3.10	3.26	5.91	4.29	3.21	3.14	3.30	2.81
15	3.35	3.94	---	---	3.19	3.24	4.33	4.52	3.16	3.09	4.31	2.78
16	3.40	3.94	---	---	3.45	3.23	3.99	4.10	4.88	3.23	3.52	2.72
17	3.50	3.95	---	---	4.28	3.23	3.85	3.85	4.10	3.10	3.36	---
18	3.64	3.95	---	---	4.05	3.25	3.79	15.01	3.54	3.05	3.24	---
19	3.36	3.97	3.19	---	3.85	3.24	3.80	8.24	3.41	7.11	3.33	---
20	3.28	3.98	3.18	---	3.71	3.23	4.68	5.18	3.32	7.52	3.14	---
21	3.35	3.92	3.18	---	3.56	3.16	3.99	4.54	11.33	5.22	2.92	---
22	3.41	3.96	3.18	---	3.49	3.16	3.67	4.21	8.49	4.00	3.12	---
23	3.45	3.99	---	---	3.53	3.16	4.02	4.17	5.02	3.88	3.11	---
24	3.49	4.00	---	---	3.61	3.15	3.78	4.28	4.11	6.07	3.04	---
25	3.50	4.00	---	---	3.55	3.16	3.61	4.22	10.34	6.67	3.36	---
26	3.55	4.02	---	---	3.49	3.15	3.57	---	4.56	12.85	3.45	---
27	3.63	4.04	---	---	3.43	3.15	3.44	---	4.03	14.19	3.58	---
28	3.66	4.04	---	---	3.37	3.15	3.33	---	3.82	16.86	3.14	---
29	3.68	4.04	---	---	---	3.21	3.30	---	3.60	---	3.04	---
30	3.75	---	---	3.14	---	3.62	3.25	---	3.59	---	2.99	---
31	3.83	---	3.03	3.14	---	3.45	---	---	---	---	3.26	---

CUIVRE RIVER BASIN

05514500 CUIVRE RIVER NEAR TROY, MO

LOCATION.--Lat 39°00'59", long 90°59'00", in SE¼ sec.14, T.49 N., R.1 N., Lincoln County, Hydrologic Unit 07110008, on downstream side of right end of downstream bridge on dual U.S. Highway 61, 1.2 mi (1.9 km) downstream from confluence of North and West Forks Cuivre River and 2 mi (3.2 km) north of Troy:

DRAINAGE AREA.--903 mi² (2,339 km²).

PERIOD OF RECORD.--February 1922 to July 1972, May 1979 to current year.

REVISED RECORDS.--WSP 855: 1933(m), 1935(m), 1937(m). WSP 895: 1939. WSP 1005: 1942(m). WSP 1308: 1922-25(m).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 450.27 ft (137.242 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1930, nonrecording gage at site 3 mi (4.83 km) downstream at datum 4.31 ft (1.318 m) lower. Oct. 1, 1930 to July 1939, nonrecording gage at present site and datum.

REMARKS.--Records fair, except for periods of beaver activity and lost record, which are poor. Several observations of water temperature and specific conductance made during the year.

AVERAGE DISCHARGE.--51 years (water years 1922-71, 1980 to current year) 634 ft³/s (17.95 m³/s), 9.54 in/yr (242 mm/yr), 459,300 acre-ft/yr (566 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120,000 ft³/s (3.398 m³/s) Oct. 5, 1941, gage height 33.4 ft (10.180 m) from floodmarks; no flow at times in 1936, 1954, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1895 was 5 or 6 feet lower at Frenchmens Bluff, 3 mi (4.83 km) downstream, than the October 1941 flood which is the highest flood since 1888.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10,000 ft³/s (283 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
May 19	0445	19,600	555	25.03	7.629	July 20	1215	18,100	513	24.48	7.462
June 21	2345	18,000	510	24.44	7.449	July 24	0530	*29,500	835	*27.06	8.248
July 5	1045	10,100	286	19.91	6.069	July 28	0230	21,700	615	25.63	7.812

Minimum daily discharge, 1.0 ft³/s (.028 m³/s) Oct. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	3.4	28	8.9	7.4	38	51	40	157	208	524	257
2	2.5	2.7	25	5.2	4.0	32	38	34	152	268	405	270
3	2.2	2.5	24	5.2	3.2	26	33	30	134	554	340	156
4	1.7	2.0	23	4.5	2.9	31	30	28	145	1220	281	83
5	1.5	1.5	22	4.0	2.5	69	26	27	154	7830	241	61
6	1.1	2.0	21	4.1	2.5	121	23	25	177	1560	220	50
7	1.0	2.5	21	4.0	2.5	74	20	21	229	530	844	45
8	1.0	3.0	30	3.7	2.4	60	21	18	152	288	293	46
9	1.5	3.2	100	3.4	2.0	53	22	80	124	206	192	40
10	1.8	5.8	44	2.9	3.4	46	26	4350	108	188	165	37
11	2.0	10	35	2.9	2.9	40	27	4120	107	143	163	34
12	2.4	13	28	2.5	2.7	34	45	813	382	123	129	32
13	2.4	11	23	2.6	6.6	30	64	362	322	107	110	30
14	2.5	13	16	2.5	6.6	27	136	345	190	97	95	38
15	2.5	15	16	2.5	9.4	23	117	557	143	94	86	51
16	5.9	15	14	2.2	20	21	103	237	442	3830	84	34
17	11	14	12	2.0	252	19	83	166	430	621	78	27
18	68	21	11	2.2	178	18	68	10600	208	286	72	27
19	48	24	10	2.8	95	16	60	16600	195	3900	67	22
20	17	23	7.5	4.0	69	14	64	4800	6650	14600	58	18
21	4.2	22	6.6	5.2	65	13	100	1430	12200	2530	54	19
22	1.8	20	5.9	5.9	67	13	444	653	15600	813	52	20
23	1.5	21	5.9	4.9	68	13	3140	752	4460	10600	47	15
24	2.0	21	6.2	4.5	69	13	679	1030	1380	19600	45	15
25	1.3	21	4.5	6.6	71	12	277	656	789	10000	55	14
26	1.3	21	5.2	7.4	60	12	152	407	640	8980	175	12
27	3.7	20	5.4	7.9	51	11	99	360	362	13800	330	12
28	5.9	27	5.7	7.4	44	11	74	277	259	19700	400	12
29	5.2	32	6.4	7.9	---	22	60	222	205	10300	157	12
30	6.6	31	5.9	8.4	---	77	50	190	172	1580	89	11
31	4.9	---	8.2	8.4	---	66	---	168	---	745	77	---
TOTAL	218.9	423.6	578.4	146.6	1170.0	1055	6132	49398	46668	135361	5928	1500
MEAN	7.06	14.1	18.7	4.73	41.8	34.0	204	1593	1556	4366	191	50.0
MAX	68	32	100	8.9	252	121	3140	16600	15600	19700	844	270
MIN	1.0	1.5	4.5	2.0	2.0	11	20	18	107	94	45	11
CFSM	.008	.02	.02	.005	.05	.04	.23	1.76	1.72	4.84	.21	.06
IN.	.01	.02	.02	.01	.05	.04	.25	2.03	1.92	5.58	.24	.06
AC-FT	434	840	1150	291	2320	2090	12160	97980	92570	268500	11760	2980

CAL YR 1980 TOTAL 89728.4 MEAN 245 MAX 35000 MIN 1.0 CFSM .27 IN 3.70 AC-FT 178000
WTR YR 1981 TOTAL 248579.5 MEAN 661 MAX 19700 MIN 1.0 CFSM .75 IN 10.24 AC-FT 493100

MISSISSIPPI RIVER MAIN STEM

05587500 MISSISSIPPI RIVER AT ALTON, IL

LOCATION.--Lat 38°53'06", long 90°10'51", in NE¼ sec.14, T.5 N., R.10 W., Madison County, Hydrologic Unit 07110009, near right bank in downstream end of intermediate lock wall of lock and dam 26 at Alton, 300 ft (91 m) downstream from Missouri & Illinois Bridge & Belt Railroad bridge, 7.7 mi (12.4 km) upstream from Missouri River, and at mile 202.7 (326.1 km) upstream from Ohio River.

DRAINAGE AREA.--171,500 mi² (444,200 km²), approximately.

PERIOD OF RECORD.--Discharge: October 1927 to current year. Monthly discharge only for some periods, published in WSP 1308. Gage heights: At Grafton since 1879 and at Alton since January 1904 in reports of Mississippi River Commission, December 1890 to September 1893 and January 1917 to December 1939 in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Mar. 20, 1933, nonrecording gage at Grafton 15.3 mi (24.6 km) upstream, at datum 403.79 ft (123.075 m) higher. Mar. 20, 1933, to Jan. 4, 1937, and Nov. 11, 1937, to Jan. 31, 1938, nonrecording gage 300 ft (91 m) upstream at datum 395.48 ft (120.542 m) higher. Since July 11, 1940, auxiliary water-stage recorder 5.9 mi (9.5 km) downstream; previously various combinations of gages were used.

REMARKS.--Records good. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin. Floodwater from Missouri River overtops or breaches the levees at extreme high stages. Overflow from Missouri River occurred during various floods as shown in the following table:

Period	Runoff for period acre-ft	hm ³	Date	Maximum Discharge ft ³ /s	m ³ /s
May 21 to June 4, 1943	1,075,000	1,330	May 24, 1943	90,000	2,550
Apr. 29 to May 13, 1944	891,000	1,100	Apr. 30, 1944	90,000	2,550
June 29 to July 19, 1947	687,000	847	July 2, 1947	65,000	1,840
July 5-31, 1951	2,534,000	3,120	July 20, 1951	110,000	3,120
Apr. 3-7, 23-26, 1973	Unknown	--	Unknown	Unknown	--

AVERAGE DISCHARGE.--54 years, 98,965 ft³/s (2,800 m³/s), 71,700,000 acre-ft/yr (88.4 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 535,000 ft³/s (15,200 m³/s) Apr. 29, 1973, includes undetermined amount of overflow from Missouri River; maximum elevation, 432.15 ft (131.719 m) Apr. 28, 1973; minimum discharge, 7,960 ft³/s (225 m³/s) Nov. 7, 1948, result of temporary storage in pool of lock and dam 26; minimum elevation, 390.50 ft (119.024 m) Jan. 27, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1844 reached a stage of 432.10 ft (131.704 m), present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 311,000 ft³/s (8,810 m³/s) May 22 at 0800; maximum elevation, 420.43 ft. (128.147 m) July 30 at 1000; minimum daily discharge, 31,200 ft³/s (884 m³/s) Feb. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	139000	76700	42100	54800	48800	141000	49700	125000	126000	200000	243000	154000	
2	144000	78200	31700	55100	50800	131000	49300	126000	119000	224000	214000	142000	
3	141000	80400	40500	52700	37100	134000	49100	127000	110000	215000	178000	165000	
4	143000	80600	40900	56300	38600	135000	57400	131000	117000	178000	150000	172000	
5	143000	79600	44000	45300	37500	135000	65400	139000	112000	227000	145000	178000	
6	143000	78200	44800	40000	35100	127000	57400	135000	104000	256000	157000	179000	
7	126000	75500	42400	43300	36500	108000	71900	132000	102000	257000	164000	167000	
8	102000	75100	57000	37200	42700	99500	81600	132000	75900	267000	173000	151000	
9	83200	66700	103000	40500	45500	92300	93800	130000	74900	248000	173000	137000	
10	72100	58800	123000	41000	34800	83700	92700	135000	72300	209000	174000	135000	
11	71700	55000	115000	39300	32200	79800	102000	152000	83100	177000	158000	129000	
12	60200	55400	96800	42900	31200	74300	117000	157000	70700	164000	146000	124000	
13	62900	58800	79800	45500	31300	70600	135000	161000	98400	160000	137000	108000	
14	64100	57400	74200	41700	33000	68000	181000	159000	110000	146000	124000	104000	
15	62300	52900	70100	35300	37500	65600	201000	171000	140000	132000	143000	104000	
16	59700	56000	65700	35000	39100	66400	208000	205000	164000	144000	166000	96400	
17	67300	49100	61400	35000	41800	68200	217000	220000	168000	163000	159000	89300	
18	67600	49700	54500	35600	48900	68800	221000	230000	159000	147000	169000	71000	
19	63100	54000	54400	35100	55700	69700	214000	243000	155000	165000	161000	57600	
20	66300	46200	59000	40900	66000	68500	199000	262000	142000	243000	140000	48400	
21	67800	45800	50500	41100	90100	68100	167000	296000	152000	230000	122000	52100	
22	75000	38100	47100	40700	91900	66200	148000	304000	203000	178000	130000	54800	
23	79500	41300	42900	34900	92700	67900	150000	255000	191000	155000	118000	61700	
24	70900	49300	45400	37200	97300	61900	148000	199000	178000	212000	103000	56700	
25	72100	50500	48300	46800	131000	55600	153000	175000	176000	215000	94000	47600	
26	70600	49100	47200	43800	149000	51200	142000	151000	227000	193000	104000	54900	
27	74800	56600	50600	40500	160000	53300	133000	146000	260000	252000	108000	65000	
28	80500	49100	58400	41500	159000	55100	134000	148000	241000	272000	104000	88100	
29	76400	51700	60300	41900	---	60300	150000	144000	214000	271000	105000	91200	
30	71800	40700	59700	45000	---	58000	122000	131000	194000	270000	118000	88700	
31	75500	---	53400	48000	---	56000	---	126000	---	263000	134000	---	
TOTAL	2696400	1756500	1864100	1318900	1795100	2540000	3870300	5347000	4339300	6433000	4514000	3172500	
MEAN	86980	58550	60130	42550	64110	81940	129700	172500	144600	207500	145600	105800	
MAX	144000	80600	123000	56300	160000	141000	221000	304000	260000	272000	243000	179000	
MIN	59700	38100	31700	35000	31200	51200	49100	125000	70700	132000	94000	47600	
CFSM	.51	.34	.35	.25	.37	.48	.76	1.01	.84	1.21	.85	.62	
IN.	.58	.38	.40	.29	.39	.55	.84	1.16	.94	1.40	.98	.69	
AC-FT	5348000	3484000	3697000	2616000	3561000	5038000	7716000	10610000	8607000	12760000	8954000	6293000	
CAL YR 1980 TOTAL	33674000	MEAN	92010	MAX	223000	MIN	30600	CFSM	.54	IN	7.30	AC-FI	66790000
WTR YR 1981 TOTAL	39667100	MEAN	108700	MAX	304000	MIN	31200	CFSM	.63	IN	8.60	AC-FI	78680000

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 38°51'41", long 90°08'15", Madison County, Hydrologic Unit 07110009, 3.0 mi (4.8 km) downstream from gaging station, 4.7 mi (7.6 km) upstream from Missouri River and at mile 199.7 (321.3 km) upstream from Ohio River.

DRAINAGE AREA.--171,500 mi² (444,200 km²), approximately above gaging station.

PERIOD OF RECORD.--Water year 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to Sept. 1981. (Discontinued)

WATER TEMPERATURES: October 1974 to Sept. 1981. (Discontinued)

SUSPENDED-SEDIMENT: October 1980 to current year.

REMARKS.--Water temperature and specific conductance recorded by instrument at gaging station 05587500 Mississippi River at Alton, IL.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 704 micromhos Jan. 24, 1977; minimum, 286 micromhos July 5, 1978.

WATER TEMPERATURES: Maximum, 30.0°C July 4, 5, 1975, July 25-28, 31, 1976, July 9, 10, 11, 12, 13, 15, 16, 17, 1980, July 14, 15, 1981; minimum, 0.0°C on many days during winter periods.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2120 mg/L May 13, 1981; minimum daily mean, 7 mg/L March 17, 1981.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 1,120,000 tons (1,020,000 metric tons) July 7 and 8, 1981; minimum daily, 1290 tons (1170 metric tons) March 17, 1981.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 30.0°C July 14, 15. Minimum 0.5°C Jan. 10 thru 15, Feb. 2, 3, 6 thru 15.

SPECIFIC CONDUCTANCE: Maximum, 652 micromhos March 1; minimum, 298 micromhos July 28.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2120 mg/L May 13; minimum daily mean, 7 mg/L March 17.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 1,120,000 tons (1,020,000 metric tons) July 7 and 8; minimum daily, 1290 tons (1170 metric tons) March 17.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	DOXYGEN, DIS- SOLVED (MG/L) (00300)	DOXYGEN, DIS- SOLVED SATUR- ATION (00301)	COLI- FORM, FECAL, 0.7 JM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS./ 100 ML) (31673)	HARD- NESS (MG/L CaCO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS Ca) (00915)
JCI												
04...	94400	346	7.7	17.0	6.8	8.2	85	230	30	150	25	35
JUN												
06...	77700	431	8.1	10.0	2.5	9.2	81	150	--	200	35	49
DEC												
04...	43000	495	8.3	4.5	14	13.6	105	40	20	200	34	47
JAN												
06...	40000	565	8.7	1.0	14	15.8	111	20	40	250	54	59
FEB												
12...	31800	552	8.6	1.0	9.4	19.0	134	10	50	250	57	56
MAR												
05...	135000	447	7.8	4.0	100	11.4	87	60	490	180	54	44
APR												
09...	45800	380	8.5	14.0	35	7.0	67	8	9	170	32	35
MAY												
07...	134000	411	8.6	16.0	50	7.2	73	46	60	190	45	46
JUN												
05...	113000	520	8.1	25.0	48	6.0	72	210	50	210	71	51
JUL												
03...	250000	317	7.9	26.5	250	4.2	52	1100	1100	140	33	37
AUG												
06...	160000	436	8.0	26.5	67	5.2	64	1200	270	200	52	49
SEP												
04...	176000	434	8.1	25.0	64	8.4	101	920	200	190	42	46

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CU3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 JEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 09...	14	9.1	3.3	160	0	28	16	.1	8.2	252	64200	1.5
NOV 06...	20	14	3.0	196	0	34	22	.3	5.5	266	55800	1.5
DEC 04...	21	18	2.9	210	0	43	21	.3	2.6	287	33300	1.5
JAN 08...	26	17	2.6	200	20	58	26	.2	5.2	333	36000	2.9
FEB 12...	26	33	2.8	180	8	63	31	.3	3.1	349	30000	1.5
MAR 05...	18	16	4.4	160	0	40	27	.1	8.0	249	90800	3.7
APR 09...	19	15	3.4	160	4	47	8.1	.2	.4	228	59000	.72
MAY 07...	19	12	3.0	160	8	41	18	.2	1.2	248	89700	2.2
JUN 05...	21	12	2.9	170	0	50	21	.2	4.2	286	87300	5.9
JUL 09...	12	7.1	3.7	130	0	22	14	.3	7.4	215	145000	3.2
AUG 06...	18	12	3.5	180	0	37	21	.5	10	262	113000	2.7
SEP 04...	19	13	3.3	180	0	24	22	.2	6.2	265	126000	1.9

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDEED TOTAL (MG/L AS C) (00689)	SEDI- MENT, DIS- CHARGE, SUS- PENDEED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 09...	.030	1.30	1.3	.240	.120	15	--	--	106	27000	83
NOV 06...	.080	1.30	1.2	.340	.210	--	10	2.1	35	7340	51
DEC 04...	.040	1.50	1.3	.200	.120	11	--	--	26	3020	10
JAN 08...	.160	1.60	1.4	.180	.060	21	--	--	127	13700	68
FEB 12...	.140	2.60	1.1	.130	.040	--	12	.7	77	6610	57
MAR 05...	.530	2.40	2.3	.500	.170	20	--	--	244	88900	83
APR 09...	.180	2.00	1.1	.260	.080	14	--	--	204	52800	35
MAY 07...	.100	2.30	.99	.290	.080	--	17	3.4	438	158000	25
JUN 05...	.070	1.60	1.5	.230	.090	--	--	--	1310	400000	56
JUL 09...	.090	2.50	1.4	.480	.100	16	--	--	1050	709000	28
AUG 06...	.120	1.40	1.3	.370	.150	--	8.3	1.2	225	97200	75
SEP 04...	.090	3.00	1.1	.270	.120	11	--	--	180	85500	87

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
NOV 06...	2	1	100	60	2	<1	0	0	1	<3
FEB 12...	2	1	0	50	1	<1	0	0	3	<3
MAY 07...	1	1	100	70	2	<1	20	10	29	<3
AUG 06...	7	2	100	80	6	1	10	10	1	<3

DATE	CUPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	CUPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
NOV 06...	31	13	1100	20	21	3	120	4	.2
FEB 12...	6	7	350	30	6	2	70	20	2.5
MAY 07...	27	7	2900	20	16	0	210	.4	.5
AUG 06...	70	9	5500	20	19	0	230	4	.2

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 06...	.2	8	6	0	0	0	0	40	10
FEB 12...	2.4	6	0	1	0	0	0	20	20
MAY 07...	.1	26	1	0	1	0	0	50	9
AUG 06...	.2	9	2	1	1	0	0	50	9

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	498	469	469	535	582	652	486	604	527	453	372	477
2	535	464	455	569	596	634	482	602	532	474	406	482
3	544	467	491	546	600	617	454	595	517	496	452	479
4	492	450	463	561	602	592	446	569	514	517	476	508
5	---	443	462	549	541	615	504	594	517	446	499	525
6	---	444	460	545	528	599	490	620	505	373	507	521
7	---	424	457	501	531	607	476	622	506	362	468	506
8	---	437	441	528	532	595	479	599	507	366	427	510
9	---	451	472	509	539	586	498	572	520	372	413	516
10	---	499	500	502	543	597	490	543	527	358	401	511
11	---	483	520	486	535	599	508	473	509	350	392	512
12	---	477	525	493	549	594	551	459	486	378	401	514
13	---	487	529	484	580	597	592	460	488	417	419	529
14	---	516	524	484	600	610	617	494	468	458	442	534
15	---	530	515	494	604	584	572	499	444	496	460	548
16	---	518	538	527	604	579	474	472	499	514	484	574
17	---	517	537	568	608	576	475	479	456	510	461	524
18	---	528	531	585	630	574	479	495	391	471	458	533
19	---	515	561	605	631	579	503	439	435	500	461	515
20	---	496	566	623	607	573	524	442	425	501	444	504
21	---	489	550	634	580	549	532	458	421	432	438	503
22	---	482	557	648	568	565	501	477	426	420	439	492
23	---	472	548	630	581	595	463	508	426	409	452	487
24	458	474	542	616	600	571	508	508	458	399	455	473
25	479	508	556	616	601	554	508	521	461	395	458	472
26	505	495	541	620	611	552	519	538	422	435	459	475
27	492	480	514	612	597	527	519	558	411	364	474	477
28	475	503	525	585	635	505	534	548	411	298	482	503
29	513	470	528	560	---	466	560	535	425	307	507	508
30	487	472	552	573	---	468	583	538	439	307	505	518
31	477	---	525	581	---	473	---	538	---	332	494	---
MEAN	496	482	515	560	583	574	511	528	469	416	452	508

WTR YR 1981 MEAN 508 MAX 652 MIN 298
 TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	12.0	6.0	1.0	1.0	6.5	14.5	18.0	21.0	26.5	24.5	25.0
2	20.5	11.5	6.0	1.0	.5	6.0	15.0	18.0	22.0	26.5	24.5	24.5
3	20.0	11.5	5.5	1.0	.5	6.0	15.5	17.5	23.0	26.5	25.0	24.5
4	18.5	11.5	5.0	1.0	1.0	5.5	16.0	17.0	23.5	26.5	25.5	24.5
5	18.0	11.0	5.0	1.0	1.0	6.0	16.0	17.0	24.0	25.5	26.0	24.5
6	17.5	11.0	5.0	1.0	.5	5.0	16.0	16.5	24.5	25.0	26.5	24.5
7	17.5	11.0	5.0	1.0	.5	5.5	16.0	16.0	25.0	25.5	26.5	24.0
8	17.5	11.5	5.5	1.0	.5	5.5	16.0	16.5	25.5	26.0	26.5	23.5
9	17.5	11.5	6.0	1.0	.5	5.5	16.5	16.0	26.0	27.0	26.0	23.0
10	18.0	11.5	5.5	.5	.5	6.0	17.0	15.5	26.0	27.5	26.0	23.0
11	18.5	11.0	5.0	.5	.5	6.0	17.5	14.0	25.5	27.5	25.5	23.0
12	17.5	10.0	5.5	.5	.5	6.5	17.5	13.5	25.5	28.0	25.5	23.5
13	17.5	10.0	5.5	.5	.5	7.5	17.5	13.5	25.5	29.0	25.5	23.5
14	17.0	10.0	5.5	.5	.5	7.5	17.0	13.0	25.5	30.0	25.5	24.0
15	---	9.5	5.0	.5	.5	7.5	16.5	13.0	26.0	30.0	26.0	24.0
16	---	9.0	4.5	.5	1.5	7.5	16.0	14.0	25.5	29.5	26.0	23.5
17	---	8.5	4.0	.5	2.0	8.0	16.0	13.5	25.0	29.5	25.0	22.5
18	---	7.5	4.0	.5	1.5	8.0	16.5	13.5	25.0	29.5	24.5	21.5
19	---	7.0	3.5	1.0	1.5	8.0	16.0	16.0	25.0	29.0	24.0	21.0
20	---	7.0	3.0	1.0	2.5	8.0	16.0	16.5	25.0	28.0	24.0	21.0
21	---	7.0	1.5	1.0	3.5	8.0	15.5	17.0	24.5	27.0	24.0	21.5
22	---	7.0	1.0	1.0	3.5	8.0	15.5	18.0	24.5	27.5	24.0	21.0
23	---	7.0	1.0	1.0	4.5	8.0	15.5	19.0	25.5	26.5	24.0	20.5
24	---	7.0	1.0	1.0	5.0	8.0	15.0	16.5	25.5	26.0	24.5	19.5
25	16.0	6.5	.5	1.5	4.5	8.5	15.0	17.0	25.5	26.0	24.5	19.5
26	15.5	6.5	1.0	1.5	5.5	9.0	16.0	17.5	25.5	26.5	24.5	20.0
27	14.5	6.0	.5	2.0	6.0	10.0	16.5	18.0	25.5	25.5	24.5	20.0
28	13.5	5.5	1.0	2.0	6.5	11.0	17.5	19.5	25.5	25.0	24.5	20.0
29	13.0	5.5	.5	1.5	---	12.0	18.0	20.5	26.0	25.0	25.0	20.0
30	12.5	5.5	1.0	1.5	---	13.0	18.5	21.0	26.5	24.0	25.5	20.0
31	12.0	---	1.0	1.0	---	14.0	---	21.0	---	24.0	25.5	---
MEAN	17.0	9.0	3.5	1.0	2.0	8.0	16.5	16.5	25.0	27.0	25.0	22.5

WTR YR 1981 MEAN 14.5 MAX 30.0 MIN .5

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 6,80 1100	MAR 5,81 0930	MAY 7,81 1000	JUN 5,81 1000				
TOTAL CELLS/ML	33000	12000	41000	23000				
DIVERSITY: DIVISION	1.4	0.2	1.5	1.4				
..CLASS	1.4	0.2	1.5	1.4				
...ORDER	1.8	1.0	1.6	1.8				
...FAMILY	2.1	1.3	1.9	2.7				
....GENUS	2.5	1.7	2.3	3.0				
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCEALES								
...CHARACIACEAE								
....SCHROEDERIA	--	-	97	1	--	-	*	0
...COELASTRACEAE								
...HYDRODICTYACEAE								
....PEDIASTRUM	--	-	--	-	--	-	310	1
...MICRACINIACEAE								
....GLENKINIA	--	-	--	-	--	-	--	-
...MICRACINIUM	500	2	--	-	4300	10	2000	9
...OCCYSTACEAE								
....ANKISTRODES MUS	--	-	--	-	*	0	190	1
....DICTYOSPHAERIUM	280	1	--	-	--	-	760	3
....GLOBEACTINIUM	--	-	--	-	--	-	1300	5
....KIRCHNERIELLA	--	-	--	-	--	-	*	0
....OCCYSTIS	280	1	--	-	--	-	*	0
....SELENASTRUM	--	-	--	-	--	-	*	0
....TETRAEDRUM	--	-	--	-	--	-	*	0
...SCENEDESMACEAE								
....CRUCIGENIA	1100	3	--	-	--	-	--	-
...SCENEDESMUS	990	3	--	-	2000	5	610	3
....TETRASTRUM	--	-	--	-	450	1	610	3
..TETRASPORALES								
...PALMELLACEAE								
...SPHAEROCYSTIS	--	-	--	-	--	-	--	-
..VOLVOCACEAE								
...CHLAMYDOMONADACEAE								
...CHLAMYDOMONAS	*	0	190	2	--	-	230	1
CHRYSCOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...CCSCINODISCACEAE								
...COSCINODISCUS	--	-	97	1	--	-	--	-
...CYCLOCTELLA	1100	3	--	-	4000	10	1300	6
...MELCISIRA	17000#	51	680	6	1100	3	650	3
...STEPHANODISCUS	710	2	8200#	71	7600#	18	190	1
...PENNIALES								
...ACHNANTHACEAE								
...ACHNANTHES	--	-	--	-	--	-	--	-
...CCOCONEIS	--	-	--	-	--	-	*	0
...DIATOMACEAE								
...DIATOMA	--	-	--	-	680	2	*	0
...FRAGILARIACEAE								
...ASTERIONELLA	*	0	1100	9	--	-	--	-
...SYNEDRA	--	-	97	1	--	-	--	-
...GOMPHONEMACEAE								
...GOMPHONEMA	--	-	190	2	--	-	--	-
...NAVICELLACEAE								
...NAVICULA	*	0	97	1	--	-	*	0
...STAURONEIS	--	-	--	-	*	0	--	-
...NITZSCHIAEAE								
...NITZSCHIA	280	1	490	4	450	1	500	2
...SURIRELLACEAE								
...SURIRELLA	--	-	290	3	230	1	*	0
CRYPTICOPHYTA (CRYPTOMONADS)								
..CRYPTICOPHYCEAE								
...CRYPTOMONADACEAE								
...CHROCCONAS	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE								
...CRYPTOMONAS	--	-	--	-	--	-	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 6,80 1100		MAR 5,81 0930		MAY 7,81 1000		JUN 5,81 1000	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	--	-
....ANACYSTIS	1900	6	--	-	--	-	990	4
....GOMPHOSPHERIA	990	3	--	-	--	-	--	-
...MORMOGONALES								
...NCSTOCACEAE								
....ANABAENA	990	3	--	-	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-	570	2
...CSCILLATORIACEAE								
...CSCILLATORIA	6200#	19	--	-	20000#	49	11000#	48
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
....EUGLENA	430	1	97	1	--	-	*	0
....PHACUS	--	-	--	-	--	-	*	0
....TRACHELOMONAS	--	-	--	-	--	-	*	0

NOTE: * - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	JUL 9,81 1000	AUG 6,81 1000	SEP 4,81 1000
TOTAL CELLS/ML	730	24000	14000
DIVERSITY: DIVISION	0.6	1.1	1.6
..CLASS	0.6	1.1	1.6
..ORDER	0.9	1.6	2.3
...FAMILY	0.9	1.8	2.7
....GENUS	2.1	2.3	2.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCEAE						
...CHARACIACEAE						
....SCHROEDERIA	--	-	--	-	--	-
...COELASTRACEAE						
....COELASTRUM	--	-	--	-	880	6
...HYDRODICTYACEAE						
...PEDIASTRUM	--	-	510	2	--	-
...MICRACTINIACEAE						
....GULENKINTIA	--	-	*	0	--	-
....MICRACTINIUM	--	-	*	0	--	-
...DOCYSTACEAE						
....ANKISTRODESMUS	--	-	*	0	*	0
...DICTYLSPHAERIUM	28	4	*	0	--	-
...GLOEOACTINIUM	--	-	930	4	--	-
...KIRCHNERIELLA	--	-	--	-	--	-
...DOCYSTIS	--	-	--	-	330	2
...SELENASTRUM	--	-	--	-	--	-
...TETRAEDRON	--	-	--	-	--	-
...SCENEDESMACEAE						
....CRUCIGENTIA	--	-	--	-	--	-
...SCENEDESMUS	--	-	450	2	1900	13
...TETRASTRUM	--	-	*	0	220	2
..TETRASPORALES						
...PALMELLACEAE						
...SPHAEROCYSTIS	--	-	--	-	220	2
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	28	4	140	1	110	1
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....COSCINODISCUS	--	-	--	-	--	-
...CYCLOTELLA	250# 35		1300	5	2700# 19	
...MELCISIRA	280# 38		1000	4	710	5
...STEPHANODISCUS	84 12		--	-	*	0
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	*	0	--	-
...COCCONEIS	--	-	--	-	--	-
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
...FRAGILARIACEAE						
....ASTERIONELLA	--	-	--	-	--	-
...SYNEDRA	--	-	--	-	*	0
...GOMPHONEMACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
....NAVICULA	--	-	--	-	*	0
...STAUROGNEIS	--	-	--	-	--	-
...NITZSCHACEAE						
....NITZSCHIA	28	4	620	3	220	2
...SURIKELLACEAE						
....SURIKELLA	--	-	*	0	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOCHRYSIDACEAE						
...CHROMONAS	--	-	*	0	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	*	0	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	JUL 9,81 1000		AUG 6,81 1000		SEP 4,81 1000	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROCOCCALES						
...CHROCOCCACEAE						
....AGMENELLUM	--	-	2200	9	--	-
....ANACYSTIS	--	-	14000#	59	2400#	17
....GOMPHOSPHERIA	--	-	--	-	--	-
...HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	2000	8	4300#	30
EUGLENOPHYTA (EUGLENCIDS)						
..EUGLENCPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	28	4	*	0	--	-
....PHACUS	--	-	--	-	--	-
....TRACHELUMONAS	--	-	*	0	220	2

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SED. SUSP. FALL DIAM. % FINER THAN (70337)	SED. SUSP. FALL DIAM. % FINER THAN (70338)	SED. SUSP. FALL DIAM. % FINER THAN (70339)	SED. SUSP. FALL DIAM. % FINER THAN (70340)	SED. SUSP. FALL DIAM. % FINER THAN (70342)	SED. SUSP. FALL DIAM. % FINER THAN (70343)	SED. SUSP. FALL DIAM. % FINER THAN (70344)	SED. SUSP. FALL DIAM. % FINER THAN (70345)	SED. SUSP. FALL DIAM. % FINER THAN (70346)	SED. SUSP. FALL DIAM. % FINER THAN (70347)
NOV 21...	45200	--	--	--	--	62	68	88	100	100	100
APR 16...	207000	52	58	69	84	98	99	100	100	100	100
MAY 21...	293000	59	61	66	77	95	95	96	99	100	100
JUN 11...	73100	71	75	--	92	--	99	100	100	100	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	BED MAT. SIEVE DIAM. % FINER THAN (80164)	BED MAT. SIEVE DIAM. % FINER THAN (80165)	BED MAT. SIEVE DIAM. % FINER THAN (80166)	BED MAT. SIEVE DIAM. % FINER THAN (80167)	BED MAT. SIEVE DIAM. % FINER THAN (80168)	BED MAT. SIEVE DIAM. % FINER THAN (80169)	BED MAT. SIEVE DIAM. % FINER THAN (80170)	BED MAT. SIEVE DIAM. % FINER THAN (80171)	BED MAT. SIEVE DIAM. % FINER THAN (80172)	BED MAT. SIEVE DIAM. % FINER THAN (80173)
OCT 16...	0	0	1	38	63	76	80	83	84	88
NOV 21...	0	0	1	21	68	84	89	90	96	100
JAN 22...	0	0	2	24	72	84	91	93	100	100
MAR 10...	0	0	1	13	67	84	89	91	92	100
APR 16...	0	0	2	23	70	84	94	94	97	100
MAY 21...	0	0	2	25	72	89	96	98	100	100
JUL 10...	0	0	9	52	84	92	97	100	100	100
AUG 27...	0	0	2	28	76	94	98	100	100	100

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--continued
 SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
OCTOBER				NOVEMBER			DECEMBER		
1	139000	---	---	76700	56	11600	42100	28	3180
2	144000	---	---	76200	55	11600	31700	28	2400
3	141000	---	---	80400	52	11300	40500	28	3060
4	143000	---	---	80600	49	10700	40900	29	3200
5	143000	---	---	79600	45	9670	44000	33	3920
6	143000	---	---	78200	45	9500	44800	41	4960
7	126000	---	---	75500	38	7750	42400	50	5720
8	102000	---	---	75100	35	7100	57000	57	8770
9	83200	---	---	66700	34	6120	103000	72	20000
10	72100	---	---	58800	30	4760	123000	65	21600
11	71700	---	---	55000	30	4450	115000	263	81700
12	60200	---	---	55400	30	4490	96800	315	82300
13	62900	---	---	58800	29	4600	79800	293	63100
14	64100	---	---	57400	29	4490	74200	241	48300
15	62300	---	---	52900	31	4430	70100	187	35400
16	59700	---	---	56000	35	5290	65700	160	28400
17	67300	---	---	49100	39	5170	61400	141	23400
18	67600	---	---	47700	40	5370	54500	122	18000
19	63100	---	---	54000	39	5690	54400	103	15100
20	66300	45	8060	46200	38	4740	59000	90	14300
21	67800	40	7320	45800	33	4080	50500	71	9680
22	75000	25	5060	38100	31	3190	47100	59	7500
23	79500	30	6440	41300	30	3350	42900	56	6490
24	70900	48	9190	49300	30	3990	45400	52	6370
25	72100	39	7590	50500	29	3950	48300	50	6520
26	70600	30	5720	49100	28	3710	47200	50	6370
27	74800	35	7070	56600	28	4280	50600	50	6830
28	80500	50	10900	49100	25	3310	58400	48	7570
29	76400	50	10300	51700	26	3630	60300	51	8300
30	71800	46	8920	40700	27	2970	59700	132	21300
31	75500	55	11200	---	---	---	53400	160	23100
TOTAL	2696400	---	97770	1756500	---	175280	1864100	---	596840
JANUARY				FEBRUARY			MARCH		
1	54800	158	23400	48800	---	---	141000	73	27800
2	55100	142	21100	50800	---	---	131000	58	20500
3	52700	122	17400	37100	---	---	134000	55	19900
4	56300	104	15800	38600	---	---	135000	42	15300
5	45300	88	10800	37500	---	---	135000	32	11700
6	40000	69	7450	35100	---	---	127000	30	10300
7	43300	51	5960	36500	---	---	108000	28	8160
8	37200	38	3820	42700	---	---	99500	23	6180
9	40500	31	3390	45500	---	---	92300	20	4980
10	41000	30	3320	34800	---	---	85700	19	4290
11	39300	28	2970	32200	---	---	79800	18	3880
12	42900	27	3130	31200	---	---	74300	15	3010
13	45500	25	3070	31300	---	---	70600	11	2100
14	41700	24	2700	35000	---	---	68000	10	1840
15	35300	22	2100	37500	---	---	65600	9	1590
16	35000	21	1980	39100	---	---	66400	8	1430
17	35000	22	2080	41800	---	---	68200	7	1290
18	35600	22	2110	48900	46	6070	68800	10	1860
19	35100	22	2060	55700	50	7520	69700	11	2070
20	40900	23	2540	66000	51	9090	68500	13	2400
21	41100	25	2770	90100	60	14600	68100	12	2210
22	40700	25	2750	91900	70	17400	66200	12	2140
23	39900	26	2800	92700	85	21300	67900	11	2020
24	37200	28	2810	97300	239	62800	61900	11	1840
25	46800	29	3660	131000	641	227000	55600	12	1800
26	43800	28	3310	149000	614	247000	51200	12	1660
27	40500	27	2950	160000	392	169000	53300	18	2590
28	41500	---	---	159000	205	88000	55100	30	4460
29	41900	---	---	---	---	---	60300	42	6840
30	45000	---	---	---	---	---	58000	143	22400
31	48000	---	---	---	---	---	56000	250	37800
TOTAL	1316900	---	158250	1795100	---	869780	2540000	---	236340

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--continued

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
APRIL			MAY			JUNE			
1	49700	229	30700	125000	122	41200	126000	---	---
2	49300	174	23200	126000	83	28200	119000	---	---
3	49100	133	17600	127000	72	24700	110000	---	---
4	57400	149	23100	131000	76	26900	117000	---	---
5	65400	140	24700	139000	105	39400	112000	---	---
6	67400	115	20900	135000	210	76500	104000	---	---
7	71900	123	23900	132000	250	89100	102000	---	---
8	81600	135	29700	132000	270	96200	75900	---	---
9	93800	81	20500	130000	350	123000	74900	---	---
10	92700	73	18300	135000	500	182000	72300	40	7810
11	102000	103	28400	152000	1410	579000	83100	52	11700
12	117000	142	44900	157000	2020	856000	70700	95	18100
13	135000	219	79800	161000	2120	922000	98400	135	35900
14	181000	468	229000	159000	2070	889000	110000	175	52000
15	201000	726	394000	171000	1940	896000	140000	210	79400
16	208000	888	499000	203000	1720	952000	164000	250	111000
17	217000	945	554000	220000	1420	843000	168000	250	113000
18	221000	930	555000	230000	1140	708000	159000	250	107000
19	214000	856	500000	243000	910	597000	155000	260	109000
20	189000	818	417000	262000	800	566000	142000	260	99700
21	167000	778	351000	296000	740	591000	152000	270	111000
22	148000	730	292000	304000	660	542000	203000	280	153000
23	150000	662	268000	253000	590	406000	191000	280	144000
24	148000	590	236000	199000	530	285000	178000	300	144000
25	153000	478	197000	175000	460	217000	176000	310	147000
26	142000	376	144000	151000	390	159000	227000	300	184000
27	133000	290	104000	146000	---	---	260000	250	176000
28	134000	225	81400	148000	---	---	241000	290	189000
29	130000	190	66700	144000	---	---	214000	300	173000
30	122000	158	52000	131000	---	---	194000	320	168000
31	---	---	---	126000	---	---	---	---	---
TOTAL	3690300	---	5325800	5347000	---	10735200	4339300	---	2333610
JULY			AUGUST			SEPTEMBER			
1	200000	300	162000	243000	690	453000	154000	220	91500
2	224000	340	206000	214000	560	324000	142000	250	95900
3	215000	400	232000	178000	440	211000	165000	280	125000
4	178000	400	192000	150000	340	138000	172000	300	139000
5	227000	495	303000	145000	290	114000	178000	340	163000
6	256000	990	684000	157000	250	106000	179000	330	159000
7	257000	1610	1120000	164000	210	93000	167000	290	131000
8	247000	1550	1120000	173000	210	98100	151000	260	106000
9	248000	1010	676000	173000	200	93400	137000	250	92500
10	209000	640	361000	174000	200	94000	135000	210	76500
11	177000	460	220000	158000	170	72500	129000	200	69700
12	164000	300	133000	146000	160	63100	124000	150	50200
13	160000	250	108000	137000	140	51800	108000	110	32100
14	146000	200	78800	124000	140	46900	104000	75	21100
15	132000	175	62400	143000	160	61800	104000	75	21100
16	144000	190	73900	166000	170	76200	96400	80	20800
17	163000	170	74800	159000	170	73000	89300	50	12100
18	147000	150	59500	169000	190	86700	71000	30	5750
19	165000	155	69100	161000	190	82600	57600	22	3420
20	243000	210	138000	140000	190	71800	48400	22	2870
21	230000	360	224000	122000	180	59300	52100	22	3090
22	178000	750	360000	130000	150	52700	54800	60	8880
23	155000	980	410000	118000	125	39800	61700	51	8500
24	212000	780	446000	103000	75	20900	56700	26	3980
25	215000	540	313000	94000	60	15200	47600	21	2700
26	193000	630	328000	104000	60	16800	54900	29	4300
27	252000	870	592000	108000	60	17500	65000	46	8070
28	272000	1160	852000	104000	90	25300	88100	48	11400
29	271000	1240	907000	105000	125	35400	91200	44	10800
30	270000	1120	816000	118000	150	47800	88700	47	11300
31	263000	900	639000	134000	180	65100	---	---	---
TOTAL	6433000	---	11960500	4514000	---	2806700	3172500	---	1491560
YEAR	34667100		36787630						

MISSOURI RIVER BASIN BELOW SIOUX CITY, IOWA

TARKIO RIVER BASIN

06813000 TARKIO RIVER AT FAIRFAX, MO

LOCATION.--Lat 40°20'20", long 95°24'11", in SW¼SW¼ sec.22, T.64 N., R.40 W., Atchison County, Hydrologic Unit 1024005, in left bank on downstream side of bridge pier, 0.5 mi (0.8 km) west of Fairfax, and 2 mi (3.2 km) downstream from Cow Branch, and at mile 13.3 (21.4 km).

DRAINAGE AREA.--508 mi² (1,315 km²).

PERIOD OF RECORD.--March 1922 to current year.

REVISED RECORDS.--WSP 856: 1937.

GAGE.--Water-stage recorder. Datum of gage is 867.66 ft (264.463 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1931, nonrecording gage at site 50 ft (15 m) downstream at datum 2.0 ft (0.61 m) higher. Oct. 1, 1931, to Oct. 22, 1953, nonrecording gage at site 50 ft (15 m) downstream at same datum.

REMARKS.--Records fair except periods of ice effect which are poor. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--59 years, 193 ft³/s (5.466 m³/s), 5.16 in/yr (131 mm/yr), 139,800 acre-ft/yr (172 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,300 ft³/s (461.6 m³/s) June 20, 1942, from rating curve extended above 11,000 ft³/s (311.5 m³/s); maximum gage height, 24.43 ft (7.446 m) Mar. 3, 1979; no flow on several days in July and August 1934, Jan. 28 to Feb. 10, 1977, Feb. 6-12, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,800 ft³/s (221 m³/s) at 2230 Apr. 10, gage height, 19.20 ft (5.852 m), no other peak above base of 4,800 ft³/s (136 m³/s); minimum, 16 ft³/s (0.453 m³/s) July 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	39	33	35	20	44	24	42	30	66	100	61
2	26	38	41	35	20	42	21	42	28	34	570	73
3	25	36	34	35	20	38	20	41	191	24	378	70
4	26	35	41	30	20	39	20	43	83	23	164	67
5	26	34	44	30	20	67	27	44	48	21	417	56
6	27	34	39	30	20	71	24	42	35	19	151	70
7	27	34	62	30	20	55	20	38	31	19	119	497
8	26	34	145	30	20	46	19	39	133	18	100	263
9	26	33	96	30	20	43	19	43	36	61	93	106
10	24	34	62	25	20	42	726	40	29	135	87	75
11	22	33	51	25	20	39	1010	37	28	58	77	58
12	23	32	47	25	20	38	1280	37	27	33	73	52
13	25	36	46	22	20	37	436	46	27	25	72	47
14	25	44	40	20	30	35	634	70	26	23	76	42
15	26	40	40	20	146	34	135	56	187	207	67	40
16	40	37	39	20	261	33	94	48	210	330	61	39
17	48	36	40	20	331	32	80	46	67	59	55	39
18	42	37	40	20	261	30	71	43	43	238	53	39
19	33	39	37	20	148	27	73	149	33	946	52	39
20	30	36	39	20	106	26	76	91	30	958	51	36
21	27	33	40	20	93	27	70	68	27	174	49	33
22	26	36	40	20	82	37	76	58	33	98	46	31
23	27	36	40	20	67	37	73	55	37	872	50	30
24	37	33	40	20	56	32	73	51	26	232	108	31
25	41	36	40	20	53	30	57	48	21	112	108	236
26	36	40	40	20	49	29	53	43	19	298	187	76
27	40	39	40	20	50	28	48	40	26	265	229	46
28	63	35	40	20	47	27	46	37	24	269	414	39
29	63	35	35	20	---	30	44	37	19	171	185	37
30	47	33	35	20	---	31	43	34	40	137	132	35
31	41	---	35	20	---	26	---	32	---	119	112	---
TOTAL	1023	1077	1446	742	2044	1192	5496	1540	1594	6044	4442	2399
MEAN	33.0	35.9	46.6	23.9	73.0	38.5	200	51.3	53.1	195	143	80.0
MAX	63	44	145	35	331	87	1010	149	210	958	570	497
MIN	22	32	33	20	20	26	19	32	19	18	46	30
CFSM	.07	.07	.09	.05	.14	.08	.39	.10	.11	.38	.28	.16
IN	.07	.08	.11	.05	.15	.09	.44	.12	.12	.44	.33	.18
AL-FI	2030	2140	2870	1470	4050	2360	11900	3150	3160	11990	8610	4760
CAL YR 1960	101AL	53618	MEAN	146	MAX	2410	MIN	15	CFSM	.29	IN	3.93
WIR YR 1961	101AL	29591	MEAN	61.1	MAX	1610	MIN	18	CFSM	.16	IN	2.17
									AL-FI	106400	AL-FI	58640

MISSOURI RIVER MAIN STEM

06813500 MISSOURI RIVER AT RULO, NB

LOCATION.--Lat 40°03'14", long 95°25'12", in NW¼NW¼ sec.17, T.1 N., R.18 E., Richardson County, Hydrologic Unit 10240005, on downstream end of middle pier of bridge on U.S. Highway 159 at Rulo, 3.2 mi (5.1 km) upstream from Nemaha River, and at mile 498.0 (801.3 km).

DRAINAGE AREA.--414,900 mi² (1,074,600 km²), approximately. The 3,959 mi² (10,254 km²) in Great Divide basin are not included.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

PERIOD OF RECORD.--October 1949 to current year in reports of Geological Survey. Gage-height record collected at site 80 ft (24 m) upstream January 1886 to December 1899 published in reports of Missouri River Commission September 1929 to September 1950 in files of Kansas City office of Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 837.23 ft (255.188 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 13, 1950, nonrecording gage at site 80 ft (24 m) upstream at same datum.

REMARKS.--Records good. Flow regulated by upstream main-stem reservoirs. Several observations of water temperature were made during the year. National Weather Service gage height telemeter at station.

AVERAGE DISCHARGE.--32 years, 39,530 ft³/s (1,119 m³/s), 28,640,000 acre-ft/yr (35,300 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 358,000 ft³/s (10,100 m³/s) Apr. 22, 1952, gage height, 25.60 ft (7.803 m); minimum daily, 4,420 ft³/s (125 m³/s) Jan. 13, 1957; minimum gage height, 0.65 ft (0.198 m) Jan. 7, 1971, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1881 reached a stage of 22.9 ft (6.98 m) from floodmark, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 63,200 ft³/s (1,790 m³/s) Aug. 7, gage height, 14.43 ft (4.398 m); minimum daily, 13,500 ft³/s (382 m³/s) Feb. 6; minimum gage height, 3.10 ft (0.945 m) Feb. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	40500	39700	30500	22500	20000	23700	44700	38600	37000	41600	36000	39000		
2	40600	39400	28300	22700	18400	23300	44400	38600	37200	39400	38000	38800		
3	40700	40000	26100	26000	16800	22900	42100	38600	38000	40300	46200	38600		
4	40700	41000	23700	24500	16000	22500	41300	40400	38700	39400	41000	38000		
5	40700	41400	22600	22100	14500	22000	40900	47000	39300	40200	41600	38300		
6	40800	40900	22500	20500	13500	21800	39600	43000	37800	42000	48000	38400		
7	40300	40300	23400	19100	14800	21500	38800	40400	37200	40200	56100	39600		
8	40500	40900	23900	18400	16700	21300	38700	39000	37500	38000	51000	40100		
9	40600	40900	23100	20800	18300	21200	38100	37800	36800	37700	43200	38000		
10	40700	40700	22800	20200	19300	21000	37800	37800	36700	37900	40300	37900		
11	41200	40600	22600	19200	17800	21000	41100	37800	37700	36000	39700	37400		
12	40600	40600	22600	19900	14500	21200	40800	37700	36900	34800	38600	37500		
13	40200	41600	22500	19200	15200	21200	37900	38100	37400	34400	38400	37600		
14	39900	41500	22500	18700	15400	21200	39100	38500	37900	34300	38400	38000		
15	39600	42500	23300	19400	15400	21200	39000	38800	39800	35000	38300	38400		
16	40800	43500	23700	20000	19000	20200	37900	38200	44500	37000	38400	38700		
17	43700	44500	24100	19900	24200	19700	38000	36800	49500	35600	38600	38400		
18	45000	45500	24800	19100	25600	20900	37500	38200	45200	36100	38400	38000		
19	43600	44000	25000	18800	27700	21200	37300	40800	41100	37300	38000	38200		
20	41700	44000	24600	18700	29400	20900	37500	40200	38300	39500	37800	38500		
21	41400	44000	22500	19300	30200	22900	37600	39500	37700	37000	37600	38200		
22	41200	44000	19300	19600	30500	26600	37900	39500	38600	36700	37400	38500		
23	40500	44000	18100	19000	27100	29100	38600	38700	39200	37000	37200	38400		
24	41200	44500	18300	19100	25400	30600	38200	39800	38300	37000	38600	38500		
25	41500	44900	18900	19900	24700	34000	37600	39000	38100	36300	38400	41300		
26	41000	44200	19700	20700	24300	36000	38000	39200	37900	38300	40100	42500		
27	41000	41000	18900	22100	24000	37800	38400	38800	38100	40500	41800	40800		
28	41000	37200	17900	22300	23800	39200	38400	37900	37900	39400	40900	39500		
29	40800	35100	18700	22200	---	41000	38600	37200	38100	37300	40200	39100		
30	40200	32900	19700	22200	---	42600	38900	37000	39000	36900	39900	38900		
31	39700	---	21900	21700	---	44400	---	37100	---	36300	39500	---		
TOTAL	1271900	1245300	696500	637800	582500	814100	1174700	1210000	1167400	1169400	1257600	1163100		
MEAN	41030	41510	22470	20570	20800	26260	39160	39030	38910	37720	40570	38770		
MAX	45000	45500	30500	26000	30500	44400	44700	47000	49500	42000	56100	42500		
MIN	39600	32900	17900	18400	13500	19700	37300	36800	36700	34300	36000	37400		
CFSM	.10	.10	.05	.05	.05	.06	.09	.09	.09	.09	.10	.09		
IN.	.11	.11	.06	.06	.05	.07	.11	.11	.10	.10	.11	.10		
AC-FT	2523000	2470000	1382000	1265000	1155000	1615000	2330000	2400000	2316000	2320000	2494000	2307000		
CAL YR 1980	TOTAL	14146200	MEAN	38650	MAX	73600	MIN	17900	CFSM	.09	IN	1.27	AC-FT	28060000
WIR YR 1981	TOTAL	12390300	MEAN	33950	MAX	56100	MIN	13500	CFSM	.08	IN	1.11	AC-FT	24580000

LOCATION.--Lat 40°26'42", long 95°05'19", in SW¼NE¼ sec. 17, T.65 N., R.37 W., Nodaway County, Hydrologic Unit 10240010, near left bank on downstream end of bridge pier on U.S. Highway 136, 0.5 mi (0.8 km) upstream from Mill Creek, 0.5 mi (0.8 km) downstream from Norfolk and Western Railroad Co. bridge, and 1.5 mi (2.4 km) west of Burlington Junction.

PERIOD OF RECORD.--March 1922 to current year.

GAGE.--Water-stage recorder. Datum of gage is 895.17 ft (272.848 m) National Geodetic Vertical Datum of 1929. Prior to October 1, 1970 at datum 1.00 ft (0.305 m) higher. Prior to June 29, 1939, nonrecording gage. Prior to Oct. 26, 1928, at former bridge at same site and approximately same as previous datum; Oct. 26, 1928, to June 9, 1929, at site 0.5 mi (0.8 km) upstream set to read same as former gage at low water; June 10, 1929 to June 28, 1939, at present site and at previous datum.

AVERAGE DISCHARGE.--59 years, 535 ft³/s (15.15 m³/s), 5.86 in/yr (149 mm/yr), 388,000 acre-ft/yr (478 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,000 ft³/s (1,300 m³/s) Oct. 11, 1973, gage height, 19.85 ft (6.050 m); maximum gage height observed, 20.69 ft (6.306 m), present datum, Mar. 5, 1949, (ice jam); minimum discharge, 1.1 ft³/s (0.031 m³/s) Aug. 7, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,840 ft³/s (137 m³/s) July 19, gage height, 6.72 ft (2.048 m), no peak above base of 8,500 ft³/s (241 m³/s); minimum discharge, 48 ft³/s (1.42 m³/s) Oct. 15.

DAY	UCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	75	63	80	70	130	73	116	91	700	170	202
2	58	73	63	80	70	120	70	105	95	328	1260	157
3	58	71	68	80	70	115	65	97	242	250	3140	144
4	58	70	68	80	70	110	100	97	149	200	1490	150
5	58	67	70	80	70	200	200	97	130	190	714	150
6	58	65	70	80	70	142	159	97	120	180	491	150
7	56	63	100	80	70	120	110	97	110	169	376	927
8	54	63	500	80	70	101	87	97	99	160	310	755
9	54	63	300	80	70	101	80	97	91	200	260	400
10	52	63	200	80	70	95	194	97	93	300	228	268
11	52	63	150	70	66	91	996	97	99	150	180	202
12	50	63	130	70	65	85	1640	97	100	70	169	150
13	50	63	120	70	65	82	3670	97	90	70	160	120
14	50	63	110	70	65	80	1730	97	85	70	155	100
15	48	63	100	70	65	76	660	150	82	128	155	80
16	60	63	102	70	100	73	450	130	346	281	150	74
17	70	63	100	70	580	70	350	110	350	210	140	70
18	66	63	100	70	942	68	297	175	213	391	130	70
19	66	66	102	70	575	61	250	321	150	2740	120	70
20	66	63	100	70	400	60	220	239	102	1770	110	70
21	66	63	100	70	300	60	222	180	97	360	100	65
22	66	63	100	70	250	60	224	150	95	208	100	59
23	65	63	100	70	207	73	233	126	91	1750	100	56
24	65	63	102	70	180	80	245	525	89	473	150	56
25	65	63	100	70	154	80	250	414	82	160	250	260
26	65	63	90	70	142	70	170	250	82	364	335	110
27	77	63	90	70	128	65	147	175	78	520	239	80
28	99	63	90	70	140	60	140	149	73	554	144	73
29	90	63	90	70	---	70	135	126	73	357	530	65
30	81	63	90	70	---	73	130	110	75	270	414	56
31	77	---	90	70	---	73	---	100	---	197	297	---
TOTAL	1958	1936	3658	2270	5124	2744	13297	4815	3672	13770	12567	5189
MEAN	63.2	64.5	118	73.2	183	88.5	443	155	122	444	405	173
MAX	99	75	500	80	942	200	3670	525	350	2740	3140	927
MIN	48	63	63	70	65	60	65	97	73	70	100	56
CFSM	.05	.05	.10	.06	.15	.07	.36	.13	.10	.36	.33	.14
IN.	.06	.06	.11	.07	.15	.08	.40	.14	.11	.41	.38	.16
AC-FT	3680	3840	7260	4500	10160	5440	26370	9550	7280	27310	24930	10290
CAL YR 1980	TOTAL	124201	MEAN 339	MAX 5970	MIN 48	CFSM .27	IN 3.73	AC-FT	246400			
WIR YR 1981	TOTAL	71000	MEAN 195									

NODAWAY RIVER BASIN

06817800 NODAWAY RIVER NEAR OREGON, MO.

WATER-QUALITY RECORDS

LOCATION.--Lat 39°58'19", long 94°59'46", in SE¼ sec.36, T.60 N., R.37 W., Holt County, Hydrologic Unit 10240010, at bridge on U.S. Highway 59, 7 mi (11.3 km) east of Oregon.

PERIOD OF RECORD.--November 1968 to July 1975, July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	AGENCY CUL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 07...	1028	29001	68	506	7.8	15.0	8.2	81	16	120	220
NOV 04...	1028	29001	118	484	7.8	10.0	9.6	85	23	40	--
DEC 02...	1028	29001	81	470	7.7	.5	11.0	76	14	60	--
JAN 06...	1028	29001	90	508	7.8	.5	12.2	85	11	16	240
FEB 10...	1028	29001	45	687	7.4	.5	13.0	90	19	2	--
MAR 03...	1028	29001	123	443	8.1	4.0	11.4	87	<1	26	--
APR 06...	1028	29001	91	420	8.3	15.5	10.0	100	23	740	250
MAY 05...	1028	29001	86	402	8.2	15.5	7.2	72	25	1500	--
JUN 02...	1028	29001	108	370	8.7	25.5	9.4	115	50	4400	--
JUL 07...	1028	29001	184	349	8.3	26.0	5.6	68	38	230	180
AUG 03...	1028	29001	2670	260	7.5	26.5	1.6	20	30	27000	--
SEP 02...	1028	29001	190	326	7.9	20.0	9.8	107	32	2600	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACU3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCU3) (00440)	CAR- BONATE FET-FLD (MG/L AS C03) (00445)	ALKA- LINITY FIELD (MG/L AS CAC03) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS C02) (00405)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 07...	8	58	17	13	4.2	252	0	207	6.4	55	13
NOV 04...	--	--	--	--	--	208	0	171	5.3	--	--
DEC 02...	--	--	--	--	--	216	0	177	6.9	--	--
JAN 06...	34	68	18	15	3.4	256	0	210	6.5	39	16
FEB 10...	--	--	--	--	--	336	0	276	21	--	--
MAR 03...	--	--	--	--	--	200	0	164	2.5	--	--
APR 06...	120	72	16	16	4.0	148	0	121	1.2	40	16
MAY 05...	--	--	--	--	--	200	0	164	2.0	--	--
JUN 02...	--	--	--	--	--	172	8	154	.6	--	--
JUL 07...	40	53	11	12	6.0	168	0	138	1.3	24	12
AUG 03...	--	--	--	--	--	120	0	98	6.1	--	--
SEP 02...	--	--	--	--	--	160	0	131	3.2	--	--

NODAWAY RIVER BASIN

06817800 NODAWAY RIVER NEAR OREGON, MO--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	FLUORIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT 07...	.3	296	28	<.05	.020	.120	4	4	7	3
NOV 04...	--	--	20	<.05	.010	.160	--	--	--	--
DEC 02...	--	--	40	.62	.040	.160	--	--	--	--
JAN 06...	.1	308	31	1.5	.180	.120	3	<2	<5	<5
FEB 10...	--	--	74	1.3	.090	.160	--	--	--	--
MAR 03...	--	--	36	1.1	.030	.160	--	--	--	--
APR 06...	.5	296	118	<.05	<.010	.020	<2	<2	33	14
MAY 05...	--	--	81	<.05	<.010	.240	--	--	--	--
JUN 02...	--	--	464	.77	.110	.110	--	--	--	--
JUL 07...	.3	220	158	.92	.060	.020	2	2	6	7
AUG 03...	--	--	3100	.82	.330	2.78	--	--	--	--
SEP 02...	--	--	--	.50	.010	.090	--	--	--	--

[illegible]

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO

LOCATION.--Lat 39°45'12", long 94°51'28", in NW¼SW¼ sec.17, T.57 N., R.35 W., Buchanan County, Hydrologic Unit 10240011, on left bank at left abutment of St. Joseph & Grand Island Railroad bridge in St. Joseph. River mile, 448.2 (721.2 km).

DRAINAGE AREA.--420,300 mi² (1,089,000 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to current year. Gage-height records collected in vicinity 1873-99 are contained in reports of Missouri River Commission; since 1900 in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 788.19 ft (240.240 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 21, 1931, nonrecording gage and Oct. 21, 1931, to Dec. 31, 1933, water-stage recorder at same site at datum 5.50 ft (1.676 m) higher.

REMARKS.--Records good except during periods of no gage-height record, which are poor. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs.

AVERAGE DISCHARGE.--53 years, 36,720 ft³/s (1,040 m³/s), 28,650,000 acre-ft/yr (35,330 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 397,000 ft³/s (11,240 m³/s) Apr. 22, 23, 1952, gage height, 26.82 ft (8.175 m); minimum, 2,300 ft³/s (65.1 m³/s) Jan. 9, 1937; minimum gage height, 0.00 ft (0.000 m) Dec. 18, 19, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 29, 1881 reached a stage of 27.2 ft (8.29 m), present datum, discharge, about 370,000 ft³/s (10,500 m³/s), computed by Corps of Engineers.
Flood of June 1844 reached a stage of 24.5 ft (7.47 m) discharge, about 370,000 ft³/s (10,500 m³/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 73,400 ft³/s (2,079 m³/s) Aug. 8, gage height, 14.75 ft (4.496 m); minimum, 13,000 ft³/s (368 m³/s) Feb. 6, gage height, 3.59 ft (1.094 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41300	41700	36500	24000	23500	26400	45200	40000	38100	43300	42300	42800
2	41200	41400	34000	25000	20900	26100	45800	39500	38000	43300	43200	42000
3	41500	41800	31800	26000	17700	26300	44300	39400	39300	41800	55400	41900
4	41400	42600	28300	26500	17500	26600	42900	39900	39900	41400	57800	42300
5	41400	43300	26000	25000	15700	26700	42900	47700	40800	40600	55000	41400
6	41500	42800	25200	23800	13700	26400	42000	48400	39400	42600	60000	41600
7	41100	41800	26500	22100	13500	25800	40500	45000	38800	42400	66400	42800
8	40800	42000	32100	20200	17500	25400	41300	43000	38700	39800	67400	46600
9	40900	42400	27300	20500	18800	25000	41400	42000	38600	37800	54700	44400
10	41200	42000	25100	23400	19800	24700	41000	41000	38300	39600	50200	42600
11	41600	42000	24800	21900	21700	24500	46400	40500	39100	38700	47200	42000
12	41900	42200	24900	21000	16000	24600	47400	40200	38500	38000	44800	40800
13	41200	42700	25000	21900	13600	24400	45700	40700	38300	37500	42800	40800
14	41000	43900	25000	20500	14300	24000	46600	41400	39200	37000	42000	40200
15	41900	45100	25700	20800	15400	23700	44400	41500	43100	37000	41500	40100
16	41600	47000	26600	21600	16600	23200	41800	41200	44900	37000	41000	40800
17	44200	46900	27300	22200	24400	20700	40700	40200	48000	38000	40500	40200
18	45600	46600	27800	21800	31400	21300	40400	41100	48800	39500	41000	40100
19	45900	46500	28700	21100	34900	22600	39900	48800	43600	40500	40200	39800
20	44100	46100	28300	21000	37900	22500	39500	44500	40000	41000	40000	40300
21	43700	45800	27400	21100	36600	22700	39100	42300	38500	41000	40500	40400
22	44000	45300	24000	21900	38900	25700	39500	42300	38600	41300	40300	39800
23	43200	45500	19700	21700	35900	29600	40100	42700	39700	42300	39700	39800
24	43400	45900	20100	21100	31700	31600	40300	41800	38900	45300	40600	39900
25	43700	45700	19500	21700	29200	34500	39400	41600	38200	50000	41900	42200
26	43500	45300	19000	22900	28500	37400	39100	41200	38300	53000	43000	46600
27	43500	44600	20500	24200	28000	36200	39600	40200	38200	55000	46200	44000
28	43400	41600	19000	25500	27300	39000	39600	39700	38400	48500	45300	41400
29	43400	39200	18000	25100	---	40200	39900	38900	38400	45400	44400	41200
30	43000	38400	20000	24700	---	41800	39900	38000	39400	43900	43800	40900
31	42300	---	22000	24400	---	43700	---	37900	---	43300	44000	---
TOTAL	1318600	1308100	786300	705400	661100	875300	1256600	1292600	1200000	1305800	1443100	1249700
MEAN	42540	43600	25360	22750	23610	26240	41890	41700	40000	42120	46550	41660
MAX	45900	47000	36500	26500	38900	43700	47400	48800	48800	55000	67400	46600
MIN	40800	38400	18000	20200	13500	20700	39100	37900	38000	37000	39700	39800
CFSM	.10	.10	.06	.05	.06	.07	.10	.10	.10	.10	.11	.10
IN	.12	.12	.07	.06	.06	.08	.11	.11	.11	.12	.13	.11
AC-FT	2615000	2595000	1560000	1399000	1311000	1736000	2492000	2564000	2380000	2590000	2862000	2479000
CAL YR 1980	ICIAL	15307800	MEAN	41820	MAX	96500	MIN	18000	CFSM .10	IN 1.35	AC-FT	30360000
WTR YR 1981	ICIAL	13402600	MEAN	36720	MAX	67400	MIN	13500	CFSM .09	IN 1.19	AC-FT	26580000

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to Sept. 1981. (Discontinued)

WATER TEMPERATURES: October 1974 to Sept. 1981. (Discontinued)

REMARKS.--Water temperature and specific conductance samples collected daily by observer.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 940 micromhos Feb. 1, 1980; minimum daily, 322 micromhos Mar. 25, 1979.

WATER TEMPERATURES: Maximum daily, 30.5°C July 11, 1980; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 915 micromhos Dec. 26; minimum daily, 597 micromhos Aug. 9.

WATER TEMPERATURES: Maximum daily, 29.5°C July 16, 17, 18; minimum daily, 0.0°C Dec. 25, Feb. 4.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLCw, INSTAN- TANFOUS (CFS) (00061)	SPE- CIFIC LCN- DUCT- ANCE (UMFCS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	CLL- FCHM, FECAL, 0.7 KF AGAR (CCLS./ 100 ML) (31625)	STREP- TCCCCI FECAL, KF AGAR (CCLS./ 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT												
07...	41500	818	8.0	16.0	2.4	7.8	79	2200	70	240	74	58
NOV												
04...	42800	848	8.0	11.0	2.5	7.2	65	2800	2900	240	75	60
DEC												
02...	33700	806	8.3	3.5	29	9.2	69	3000	540	250	76	59
JAN												
06...	24700	725	7.9	.5	27	13.1	91	>3000	790	250	55	62
FEB												
09...	18000	904	8.2	1.0	15	12.2	86	430	560	260	71	65
MAR												
03...	26500	789	8.0	6.0	31	11.4	92	3000	430	230	51	61
APR												
06...	41500	778	8.2	13.0	80	10.0	94	1300	1400	240	84	61
MAY												
05...	47000	788	8.5	17.5	30	8.2	85	2300	160	250	91	62
JUN												
02...	39000	775	8.5	22.0	42	5.6	64	1000	660	270	120	68
JUL												
07...	42500	790	8.2	26.5	230	2.8	35	4400	7200	260	100	63
AUG												
04...	56000	650	7.9	24.5	320	2.6	31	37000	15000	200	61	50
SEP												
02...	40100	774	8.3	23.5	30	10.2	119	3600	400	230	74	56

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CL3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLOR- IDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUOR- IDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 07...	24	75	5.7	200	0	220	17	.2	8.2	--	57300	.17
NOV 04...	23	73	5.7	200	0	210	17	.5	9.9	525	60700	.19
DEC 02...	24	76	5.3	190	0	240	11	.5	11	520	47300	.39
JAN 06...	22	68	5.6	230	0	180	19	.4	18	477	31800	.74
FEB 09...	24	73	3.2	260	0	220	25	.5	12	575	27900	.50
MAR 03...	19	52	4.7	210	0	200	22	.3	12	494	35300	.82
APR 06...	22	68	5.5	190	0	220	15	.5	9.1	506	56700	.60
MAY 05...	24	77	6.2	170	12	240	17	.6	7.1	539	68400	.12
JUN 02...	24	74	5.7	180	4	230	16	.4	7.8	509	53600	.00
JUL 07...	24	69	6.1	190	0	200	43	.5	7.3	503	57700	.77
AUG 04...	18	57	6.3	170	0	170	21	.5	8.8	408	61700	.64
SEP 02...	23	77	6.3	190	0	230	18	.4	8.5	519	56200	.09

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 07...	.030	1.10	.46	.130	.050	9.7	--	--	397	44500	28
NOV 04...	.040	.85	1.5	.260	.140	--	14	1.2	567	65500	15
DEC 02...	.020	.96	.54	.190	.090	6.8	--	--	667	60700	11
JAN 06...	.190	.99	1.1	.190	.110	14	--	--	866	57800	14
FEB 09...	.220	1.10	.90	.190	.110	--	8.6	.2	217	10500	35
MAR 03...	.040	1.90	3.8	.250	.140	10	--	--	419	30000	27
APR 06...	.090	.85	.75	.260	.080	9.0	--	--	673	75400	34
MAY 05...	.070	1.60	.49	.170	.060	--	7.6	2.1	799	101000	11
JUN 02...	.300	.42	.22	.080	.060	11	--	--	1050	111000	50
JUL 07...	.130	1.80	1.1	.390	.030	15	--	--	859	98600	61
AUG 04...	.200	3.90	1.2	.920	.130	--	4.8	4.8	1950	295000	40
SEP 02...	.090	1.10	.38	.180	.060	6.3	--	--	605	65500	12

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
NOV 04...	4	2	100	90	1	4	0	0	4	<3
FEB 09...	3	2	100	80	1	<1	10	0	3	<3
MAY 05...	5	3	100	90	0	<1	20	0	3	<3
AUG 04...	13	4	300	110	2	<1	30	20	8	<3

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
NOV 04...	22	7	2800	40	13	0	190	360	.0
FEB 09...	13	5	1100	20	10	4	70	10	3.8
MAY 05...	14	28	4500	30	10	2	260	170	.5
AUG 04...	43	6	26000	40	32	0	1200	3	.4

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 04...	.4	10	5	1	1	0	0	40	340
FEB 09...	1.1	19	0	1	1	0	2	30	10
MAY 05...	.2	10	8	1	1	0	0	90	70
AUG 04...	.1	27	1	1	1	0	0	190	3

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	UCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	823	760	800	683	740	843	768	779	764	788	813	740
2	829	770	799	773	708	854	776	822	765	744	799	772
3	825	770	810	792	705	855	783	824	749	741	786	792
4	833	770	805	789	749	846	822	827	709	739	679	783
5	831	770	805	769	680	830	800	825	751	738	700	801
6	830	780	820	775	616	823	789	748	755	737	670	805
7	820	778	820	802	668	815	823	799	745	736	661	796
8	825	780	710	823	708	830	813	791	749	737	661	784
9	821	773	775	823	701	786	808	799	751	745	597	781
10	820	780	815	867	851	776	798	815	752	766	629	789
11	825	779	819	869	850	782	804	821	757	758	711	795
12	819	780	815	875	865	767	751	826	757	788	769	781
13	820	783	825	869	853	759	743	826	755	795	780	800
14	821	780	815	847	862	766	758	820	754	---	782	798
15	821	790	811	845	846	771	785	828	755	800	792	808
16	817	790	820	862	856	790	803	830	755	796	792	811
17	800	781	795	862	835	790	817	820	756	750	805	805
18	785	788	790	833	761	806	811	812	757	772	789	814
19	797	780	780	823	727	822	812	742	759	791	795	814
20	780	781	790	819	725	836	813	764	755	751	805	814
21	789	789	780	806	680	829	816	797	756	733	815	814
22	805	790	770	810	701	841	827	782	757	803	818	812
23	791	790	775	821	673	840	821	767	758	796	822	816
24	799	790	780	830	673	842	825	768	758	767	820	813
25	801	797	775	841	682	860	816	776	757	760	815	811
26	799	799	915	832	712	849	818	778	757	774	800	757
27	799	795	900	835	735	836	810	780	806	727	768	777
28	789	803	910	823	747	849	815	781	801	737	748	814
29	790	799	870	805	---	854	815	793	802	733	775	798
30	790	800	865	803	---	862	815	802	801	762	776	791
31	795	---	863	808	---	860	---	800	---	773	779	---
MEAN	809	784	814	820	747	822	802	798	760	761	760	796
WTR YR 1981	MEAN	790	MAX	915	MIN	597						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	UCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.5	8.0	5.0	3.5	1.0	7.5	13.5	17.5	21.5	26.0	24.0	24.5
2	18.0	8.5	3.5	3.5	.5	7.5	13.0	17.0	22.0	26.0	24.5	24.0
3	17.5	9.5	4.0	2.0	.5	7.0	14.0	17.5	22.5	25.5	25.0	23.0
4	17.0	10.0	3.5	1.5	.0	6.5	13.0	18.0	20.0	26.0	25.0	23.0
5	16.5	10.5	4.5	1.0	1.0	6.0	12.5	18.0	22.5	26.0	26.5	23.0
6	16.0	10.0	4.5	1.0	1.0	6.0	12.0	17.5	23.5	25.0	26.5	23.0
7	15.5	11.0	4.5	2.0	1.0	6.0	13.0	16.5	23.0	25.0	26.0	23.0
8	15.5	11.5	3.0	1.0	1.0	6.0	13.0	16.0	22.5	26.5	26.5	23.0
9	16.5	11.0	3.0	1.0	1.0	6.5	12.5	15.5	23.5	27.5	26.5	23.0
10	16.5	11.0	3.5	1.0	1.0	7.0	14.0	15.0	23.5	28.0	26.0	23.5
11	16.0	11.0	4.0	.5	1.0	8.0	15.0	15.5	23.5	28.0	26.0	23.5
12	16.0	11.0	3.5	.5	.5	8.0	15.0	15.0	24.0	28.5	25.5	23.5
13	15.5	11.0	4.0	1.0	1.0	8.5	15.0	16.0	23.5	28.5	25.0	23.5
14	15.5	9.5	3.5	1.0	1.0	8.5	14.0	15.0	23.5	---	25.5	23.5
15	15.0	7.5	3.0	1.0	2.0	9.0	14.0	15.0	23.0	28.5	26.0	23.0
16	15.0	7.5	3.0	.5	3.0	9.5	13.5	16.0	23.0	29.5	26.0	23.0
17	15.0	7.5	3.5	.5	4.0	10.0	14.5	15.0	23.5	29.5	26.0	20.0
18	14.5	7.0	3.5	1.0	6.0	8.0	15.0	15.0	23.5	29.5	25.0	19.5
19	13.5	7.0	2.5	1.5	6.5	9.0	14.0	14.0	23.5	28.5	25.0	19.0
20	13.0	6.5	2.0	1.5	6.5	9.0	14.5	16.5	23.5	28.0	25.0	19.5
21	13.0	6.0	1.0	2.0	6.0	8.0	14.0	15.5	23.0	28.5	24.0	19.5
22	12.5	6.0	1.0	2.0	5.5	8.0	14.0	16.5	23.5	28.5	24.5	19.5
23	12.5	6.0	1.0	3.0	5.0	8.0	14.0	17.5	24.0	27.5	24.0	20.0
24	12.0	6.0	.5	3.5	6.5	8.5	14.5	18.0	24.0	27.5	24.0	20.0
25	12.0	5.5	.0	4.5	8.0	8.5	15.0	19.0	24.5	26.5	24.0	20.0
26	11.0	5.5	.5	4.5	8.0	10.0	15.5	19.5	24.0	26.0	24.0	20.5
27	10.0	5.0	1.0	4.5	8.5	11.0	17.0	21.0	25.5	25.0	25.0	20.0
28	8.0	4.5	.5	4.5	8.5	12.0	17.5	21.0	25.5	24.5	24.5	19.5
29	8.5	4.5	1.0	6.5	---	12.5	17.0	20.5	25.0	24.0	24.5	20.0
30	8.0	5.0	.5	3.0	---	12.5	18.0	21.0	24.5	23.0	24.5	20.0
31	8.5	---	3.5	3.0	---	12.5	---	21.0	---	23.5	24.5	---
MEAN	14.0	8.0	2.5	2.0	3.5	8.5	14.5	17.0	23.5	27.0	25.0	21.5
WTR YR 1981	MEAN	14.0	MAX	29.5	MIN	.0						

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 4,80 1000	MAR 3,81 1000	MAY 5,81 0900	JUN 2,81 1400
TOTAL CELLS/ML	5600	8200	21000	45000
DIVERSITY: DIVISION	1.4	0.9	1.5	1.4
..CLASS	1.4	0.9	1.5	1.4
...ORDER	1.8	1.7	1.9	2.0
...FAMILY	2.1	2.6	2.4	3.2
....GENUS	3.1	3.4	3.1	3.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCEAE								
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	3300	7
...HYDROCHLORACEAE								
....PEDIASTRUM	--	-	--	-	--	-	2100	5
...MICRACETINACEAE								
....MICRACETINUM	34	1	510	6	--	-	1800	4
...OCCYSTACEAE								
....ANKISTRODESMUS	200	4	79	1	490	2	960	2
....DICTYOSPHAERIUM	--	-	79	1	1500	7	960	2
....GLOBACETINUM	--	-	--	-	--	-	550	1
....KIRCHNERIELLA	--	-	120	1	--	-	--	-
...OCCYSTIS	100	2	--	-	--	-	1500	3
...SELENASTRUM	34	1	--	-	--	-	280	1
...TETRAEDRON	--	-	--	-	*	0	*	0
...SCENECESMACEAE								
....ACTINASTRUM	--	-	--	-	2600	12	1700	4
...CRUCIGENIA	130	2	310	4	--	-	--	-
...SCENECESMUS	800	14	470	6	3000	15	9100#	20
...TETRASTRUM	--	-	--	-	650	3	1100	2
...TETRASPORALES								
...PALMELLACEAE								
...SPHAEROCYSTIS	--	-	--	-	--	-	1200	3
...VOLVOCACEAE								
...CHLAMYDOMONADACEAE								
...CHLAMYDOMONAS	100	2	200	2	110	1	280	1
...PHACOTACEAE								
...PHACOTUS	--	-	--	-	--	-	--	-
CHRYSCOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...CHAETOCERACEAE								
....CHAETOCEROS	--	-	160	2	--	-	--	-
...COSCINODISCEACEAE								
....CYCLOCYLLA	1600#	28	1600#	20	--	-	6700	15
....MELCISIRA	400	7	79	1	--	-	550	1
...STEPHANODISCUS	870#	16	200	2	1900	9	410	1
...PENNACEAE								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	*	0	--	-	--	-
...CYMBELLACEAE								
....AMPHICRA	--	-	*	0	--	-	--	-
....CYMBELLA	--	-	*	0	--	-	--	-
...DIATOMEACEAE								
....DIATOMA	--	-	*	0	--	-	--	-
...FRAGILARIACEAE								
....ASTERIONELLA	--	-	870	11	920	4	1200	3
...FRAGILARIA	--	-	2600#	31	4700#	23	550	1
...SYNECRA	--	-	79	1	--	-	280	1
...GOMPHOCNEMACEAE								
....GOMPHOCNEMA	--	-	*	0	--	-	--	-
...NAVICULACEAE								
....NAVICULA	130	2	160	2	*	0	550	1
...NITZSCHACEAE								
....NITZSCHIA	300	5	310	4	810	4	1800	4
...SURIRELLACEAE								
....SURIRELLA	--	-	120	1	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	79	1	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 4,80 1000		MAR 3,81 1000		MAY 5,81 0900		JUN 2,81 1400	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCCOCCEAE								
....AGMENELLUM	800	14	--	-	--	-	--	-
....ANACYSTIS	67	1	--	-	4000#	19	5200	12
...CHROOCCOCCEAE								
....CSCILLATORIACEAE								
....CSCILLATORIA	--	-	--	-	--	-	2800	6
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
....EUGLENA	--	-	*	0	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	JUL 7,81 1000	AUG 4,81 0750	SEP 2,81 0900
TOTAL CELLS/ML	5100	49000	63000
DIVERSITY: DIVISION	1.3	1.1	1.6
..CLASS	1.3	1.1	1.6
...ORDER	1.8	1.2	2.3
...FAMILY	2.0	1.5	2.9
....GENUS	2.3	1.5	3.3

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	--	-	--	-	2700	4
...HYDRODICTYACEAE						
....PEDIASTRUM	--	-	--	-	--	-
...MICRACTINIACEAE						
....MICRACTINIUM	*	0	--	-	1300	2
...OOCYSTACEAE						
....ANKISTRODESMUS	28	1	*	0	960	2
....DICTYOSPHAERIUM	55	1	2300	5	3900	6
....GLOEACTINIUM	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-
....OOCYSTIS	--	-	*	0	390	1
....SELENASTRUM	28	1	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	110	2	--	-	3300	5
....CRUCIGENIA	--	-	--	-	--	-
....SCENEDESMUS	500	10	570	1	7100	11
....TETRASTRUM	55	1	--	-	--	-
...TETRASPORALES						
...PALMELLACEAE						
....SPHAEROCYSTIS	--	-	--	-	--	-
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	83	2	--	-	390	1
...PHACCTACEAE						
....PHACOTUS	*	0	--	-	--	-
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...CHAETOCERACEAE						
....CHAETOCERUS	--	-	--	-	--	-
...COSCINODISCAEAE						
....CYCLOTELLA	330	6	2000	4	8700	14
....MELCISIRA	120	2	--	-	2500	4
....STEPHANODISCUS	*	0	--	-	*	0
...PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
...CYMBELLACEAE						
....AMPHOKA	--	-	--	-	--	-
....CYMBELLA	--	-	--	-	--	-
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
...FRAGILARIACEAE						
....ASTERIONELLA	--	-	--	-	--	-
....FRAGILARIA	--	-	5700	12	3500	6
....SYNEDRA	--	-	*	0	--	-
...GOMPHONEMACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
....NAVICULA	96	2	710	1	--	-
...NITZSCHACEAE						
....NITZSCHIA	290	6	2000	4	2700	4
...SURIRELLACEAE						
....SURIRELLA	41	1	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	JUL 7,81 1000		AUG 4,81 0750		SEP 2,81 0900	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROCOCCALES						
...CHROCOCCACEAE						
....AGMENELLUM	--	-	--	-	--	-
....ANACYSTIS	220	4	35000#	72	15000#	24
..HORMOGONALES						
...OSCILLATORIACEAE						
....OSCILLATORIA	3100#	61	--	-	9800#	16
EUGLENOPHYTA (EUGLENCIDS)						
.EUGLENCOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	*	0	*	0	--	-
....TRACHELUMONAS	*	0	--	-	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

PLATTE RIVER BASIN (IOWA-MISSOURI)

06819500 ONE HUNDRED AND TWO RIVER AT MARYVILLE, MO

LOCATION.--Lat 40°20'45", long 94°49'56", in SW¼SW¼ sec.15, T.64 N., R.35 W., Nodaway County, Hydrologic Unit 10240013, on right bank at intake for city waterworks, just upstream from City Waterworks dam, 150 ft (45.7 m) upstream from bridge on U.S. Highway 136, 0.3 mi (0.48 km) downstream from Thill Branch, 1 mi (1.6 km) east of Maryville and at mile 64.0 (103.0 km).

DRAINAGE AREA.--515 mi² (1,334 km²).

PERIOD OF RECORD.--October 1932 to current year. April to June 1934 monthly discharge only, published in WSP 1310. June 1934 to October 1971, published as "near Maryville".

GAGE.--Water-stage recorder. Datum of gage is 964.65 ft (294.025 m) National Geodetic Vertical Datum of 1929. Nonrecording gage prior to Sept. 15, 1958. Prior to June 20, 1934, at present site and datum. June 20, 1934, to Oct. 31, 1971, at site 3 mi (4.8 km) upstream at datum 5.68 ft (1.731 m) higher.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--49 years, 210 ft³/s (5.947 m³/s), 5.70 in/yr (145 mm/yr), 152,100 acre-ft/yr (188 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft³/s (793 m³/s) Oct. 12, 1973, gage height, 19.25 ft (5.867 m); no flow at times in several years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 16, 1926, reached a stage of 15 ft (4.6 m), present site, from floodmark; discharge, 14,500 ft³/s (411 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,180 ft³/s (61.7 m³/s) July 23, gage height, 8.13 ft (2.478 m), no peak above base of 7,500 ft³/s (212 m³/s); no flow Feb. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	1.9	6.6	5.1	19	4.1	17	15	5.4	15	67	331	60		
2	2.9	5.5	2.7	19	5.4	18	11	3.9	20	38	1180	58		
3	3.3	7.5	2.0	18	5.8	16	9.1	3.0	262	21	843	48		
4	2.6	10	3.6	17	4.8	25	10	3.4	54	19	304	46		
5	2.6	9.6	5.6	15	4.4	39	6.2	5.7	27	17	208	56		
6	2.7	11	6.5	12	4.4	64	4.9	7.5	19	12	156	58		
7	2.5	9.6	24	9.5	4.5	48	7.2	6.7	10	8.9	116	145		
8	2.4	7.0	196	8.8	4.7	34	6.9	5.2	7.7	5.1	86	365		
9	1.6	6.4	167	8.3	1.0	27	6.2	6.6	7.2	20	63	110		
10	2.0	5.3	67	5.4	.00	24	15	7.2	6.7	12	53	63		
11	1.8	2.7	38	5.0	.00	23	176	7.9	6.2	5.5	46	38		
12	2.1	1.7	31	4.2	.00	21	717	9.1	5.4	4.1	40	24		
13	1.4	2.3	23	4.5	.00	18	263	14	34	2.9	33	26		
14	.60	3.5	18	5.0	.50	14	400	35	14	2.3	36	23		
15	1.5	5.3	20	6.4	2.1	14	225	42	164	26	40	13		
16	3.0	7.0	20	4.3	21	13	112	28	245	55	36	4.9		
17	6.2	11	20	3.6	194	13	96	22	96	67	33	8.6		
18	10	11	19	3.6	270	12	87	60	46	147	30	8.3		
19	7.7	11	18	8.0	147	11	71	167	26	1080	24	8.2		
20	4.6	11	16	15	63	8.9	56	100	16	344	28	4.5		
21	2.9	8.2	13	16	46	9.4	46	58	14	103	23	4.5		
22	3.3	5.1	11	16	41	13	41	33	33	43	23	7.1		
23	2.7	6.6	10	14	34	17	44	23	22	1100	23	5.6		
24	6.2	5.2	8.5	15	31	18	42	222	14	423	41	3.9		
25	7.2	4.1	6.2	19	25	16	24	134	9.0	122	54	200		
26	9.8	3.7	5.0	17	18	19	18	58	8.6	333	313	50		
27	15	4.9	6.2	12	18	16	16	39	7.8	477	229	40		
28	19	5.4	8.8	11	20	12	14	30	5.4	640	129	30		
29	14	6.4	14	6.9	---	16	12	26	7.6	231	92	20		
30	9.6	5.0	16	11	---	18	7.1	23	12	147	70	15		
31	6.3	---	16	6.3	---	15	---	20	---	241	65	---		
TOTAL	159.40	199.6	821.4	335.8	969.70	629.3	2550.6	1225.6	1234.0	5913.8	4805	1631.6		
MEAN	5.14	6.65	26.5	10.8	34.6	20.3	85.2	39.5	41.2	191	155	54.4		
MAX	19	11	196	19	270	64	717	222	262	1180	1180	365		
MIN	.60	1.7	2.0	3.6	.00	8.9	4.9	3.0	5.4	2.3	23	3.6		
CFSM	.01	.01	.05	.02	.07	.04	.17	.08	.08	.37	.30	.11		
IN.	.01	.01	.06	.02	.07	.05	.16	.09	.09	.43	.35	.12		
AC-FT	316	396	1630	666	1920	1250	5070	2430	2450	11730	9530	3240		
CAL YR 1960	101AL	48269.70	MEAN	132	MAX	3860	MIN	.60	CFSM	.26	IN	3.49	AC-FT	95740
WIR YR 1981	101AL	20462.40	MEAN	56.1	MAX	1180	MIN	.00	CFSM	.11	IN	1.48	AC-FT	40630

PLATTE RIVER BASIN (IOWA-MISSOURI)

06820500 PLATTE RIVER NEAR AGENCY, MO

LOCATION.--Lat 39°41'19", long 94°42'10", in NE¼NW¼ sec. 10, T.56 N., R.34 W., Buchanan County, Hydrologic Unit 10240012, on left bank 10 ft (0.3 m) downstream from bridge of U.S. Highway 169, 1.5 mi (2.4 km) downstream from Third Fork, 3.5 mi (5.6 km) northeast of Agency, and at mile 66.8 (107.5 km).

DRAINAGE AREA.--1,760 mi² (4,560 km²), approximately.

PERIOD OF RECORD.--May 1924 to August 1930 (published as "at Agency"), May 1932 to current year.

GAGE.--Water-stage recorder. Datum of gage is 807.38 ft (246.089 m) National Geodetic Vertical Datum of 1929. May 22, 1924, to Aug. 9, 1930, nonrecording gage at site 4 mi (6.4 km) downstream at different datum. May 13, 1932, to Nov. 14, 1965, nonrecording gage at same site and datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--54 years (1924-29, 1932-81), 884 ft³/s (25.03 m³/s), 6.82 in/yr (173 mm/yr), 640,500 acre-ft/yr (790 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,000 ft³/s (1,500 m³/s) from loop rating, July 20, 1965, gage height, 35.05 ft (10.683 m); no flow at times in July and August 1934 and October 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,510 ft³/s (241 m³/s) at 1800 May 19, gage height, 19.85 ft (6.050 m), no other peak above base of 7,000 ft³/s (198 m³/s); minimum discharge, 11 ft³/s (0.31 m³/s) Oct. 14, gage height, 4.26 ft (1.298 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	80	30	130	60	115	70	66	192	303	1450	582
2	36	70	27	130	60	105	67	50	223	210	1790	386
3	30	60	20	120	54	88	58	48	782	197	3210	250
4	30	50	15	100	30	113	128	45	989	220	2110	195
5	25	43	30	90	25	180	113	62	3100	190	1130	173
6	25	40	100	81	25	224	88	88	1570	165	4000	161
7	23	40	297	80	25	191	83	85	412	203	1740	351
8	18	40	3210	80	25	179	71	81	152	211	737	660
9	16	40	1180	70	20	170	66	101	131	173	529	662
10	16	35	754	60	15	149	52	97	103	144	444	408
11	16	35	553	50	15	120	66	90	144	137	387	264
12	15	35	447	50	12	112	266	67	135	128	523	186
13	13	35	369	50	20	101	1060	57	119	123	436	141
14	11	35	320	50	50	89	2600	508	95	114	379	119
15	79	35	295	70	100	79	2820	305	572	107	213	128
16	123	35	271	90	207	78	887	147	2690	122	193	141
17	100	35	248	90	442	69	434	205	933	124	182	137
18	70	35	220	90	469	78	332	2310	555	243	172	135
19	50	35	200	90	715	78	339	8070	358	294	159	134
20	40	35	180	90	628	67	357	3120	271	2160	145	132
21	35	40	160	90	415	67	191	966	211	1060	131	128
22	30	45	150	90	327	67	191	722	185	480	117	126
23	60	50	140	90	278	67	186	1520	172	352	112	121
24	60	50	140	80	233	64	158	3940	172	2280	121	122
25	80	45	130	70	191	66	141	1830	162	2120	132	311
26	150	40	130	60	153	67	130	953	142	3500	163	370
27	300	35	130	60	137	72	115	661	132	5320	809	654
28	400	30	130	60	128	72	101	505	126	2770	698	365
29	200	30	130	60	---	93	88	390	142	1380	392	223
30	150	35	130	60	---	93	76	269	193	840	316	209
31	100	---	130	60	---	78	---	220	---	914	440	---
TOTAL	2341	1248	10266	2441	4859	3191	11334	27578	15163	26584	23360	7974
MEAN	75.5	41.6	331	78.7	174	103	378	890	505	858	754	266
MAX	400	80	3210	130	715	224	2820	8070	3100	5320	4000	662
MIN	11	30	15	50	12	64	52	45	95	107	112	119
CFSM	.04	.02	.19	.05	.10	.06	.22	.51	.29	.49	.43	.15
IN.	.05	.03	.22	.05	.10	.07	.24	.58	.32	.56	.49	.17
AC-FT	4640	2480	20360	4840	9640	6330	22480	54700	30080	52730	46330	15820
CAL YR 1980	TOTAL	179111	MEAN 489	MAX 10200	MIN 11	CFSM .28	IN 3.79	AC-FT 355300				
WTR YR 1981	TOTAL	136339	MEAN 374	MAX 8070	MIN 11	CFSM .21	IN 2.88	AC-FT 270400				

PLATTE RIVER BASIN (IOWA-MISSOURI)

06821150 LITTLE PLATTE RIVER AT SMITHVILLE, MO

LOCATION.--Lat 39°23'17", long 94°34'44", in N½SW¼ sec.23, T.53 N., R.33 W., Clay County, Hydrologic Unit 10240012, on left bank behind city equipment shelter on old bridge abutment, 500 ft (152 m) upstream from town bridge in Smithville, 1,500 ft (457 m) upstream from bridge on U.S. Highway 169, 0.5 mi (0.8 km) downstream from Wilkerson Creek, 2.4 mile (3.9 km) downstream from Smithville Lake and at mile 11.1 (17.8 km).

DRAINAGE AREA.--234 mi² (606 km²).

PERIOD OF RECORD.--June 1965 to current year. Occasional measurements 1942, 1943, 1946, 1962-65.

GAGE.--Water-stage recorder. Datum of gage is 778.18 ft (237.189 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Mar. 23, 1966, nonrecording gage at site 1,500 ft (457 m) downstream at same datum.

REMARKS.--Records fair except for periods of backwater which are poor. Construction of dam for Smithville Lake began in June 1974 and partial regulation began Aug. 6, 1977. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years, 154 ft³/s (4.361 m³/s), 8.94 in/yr (227 mm/yr), 111,600 acre-ft/yr (138 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 76,600 ft³/s (2,170 m³/s), slope-area measurement of peak flow, July 20, 1965, gage height, 44.8 ft (13.66 m) from floodmark; no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1947 reached a stage of 37.4 ft (11.40 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 29	2230	5,720 149	29.04 8.851
July 27	0700	*16,700 473	*34.87 10.628
July 31	1230	4,470 127	27.85 8.489

Minimum, 0.09 ft³/s (0.003 m³/s) Mar. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	11	7.0	5.4	54	39	10	5.0	9.7	196	144	185	1000		
2	11	7.0	4.8	53	55	10	5.1	12	677	202	216	982		
3	12	7.0	5.6	52	59	10	5.5	13	532	95	116	974		
4	12	7.0	5.4	52	15	1.2	10	20	575	343	89	966		
5	12	7.0	4.0	51	11	4.6	8.2	19	149	93	80	958		
6	12	6.8	26	50	8.5	4.3	7.6	18	96	154	127	859		
7	6.1	6.5	515	29	6.5	4.1	7.4	14	95	234	83	454		
8	5.5	6.8	572	29	7.0	4.8	7.2	11	47	233	64	423		
9	5.8	7.3	78	29	5.8	4.7	6.8	61	14	231	57	857		
10	6.0	7.3	67	29	8.5	5.2	7.2	24	14	231	497	1020		
11	6.3	7.3	62	28	9.6	5.1	67	13	16	229	945	1000		
12	6.3	7.3	58	28	9.6	4.2	15	12	15	228	942	985		
13	6.0	7.3	56	27	10	4.6	12	14	14	228	933	973		
14	6.0	7.3	56	26	10	4.8	11	431	14	125	953	957		
15	6.3	7.3	56	54	10	4.5	10	49	520	36	959	900		
16	6.3	7.3	55	86	10	4.2	10	103	150	35	955	658		
17	5.0	7.3	53	85	10	5.6	10	201	133	36	953	244		
18	4.8	7.0	51	85	11	6.7	10	866	125	38	951	178		
19	5.0	7.0	49	84	9.6	5.1	10	119	181	97	960	29		
20	5.6	7.0	48	83	6.5	4.6	9.2	30	119	101	967	22		
21	6.3	7.0	46	83	6.5	4.1	8.5	16	116	151	969	16		
22	6.3	6.8	45	83	7.0	4.8	7.9	118	156	203	970	16		
23	6.3	7.5	45	82	6.8	4.9	6.9	959	223	249	970	16		
24	7.0	7.3	45	59	5.5	4.7	5.4	167	225	233	968	16		
25	7.0	6.8	43	42	5.0	4.6	4.7	49	267	165	644	16		
26	7.0	6.5	41	40	4.8	4.6	4.6	267	222	109	232	16		
27	7.5	6.5	39	39	2.8	4.4	4.0	615	222	1810	827	16		
28	7.5	6.5	39	39	1.0	5.7	6.2	854	212	584	987	16		
29	7.3	6.3	36	38	---	17	6.5	840	1150	133	988	15		
30	7.0	6.0	36	38	---	7.8	6.9	826	1040	88	985	15		
31	7.0	---	37	38	---	5.5	---	809	---	1290	982	---		
TOTAL	227.0	209.0	1877.2	1475	548.6	146.50	295.6	1579.7	8123	14128	20554	14517		
MEAN	7.32	6.97	60.6	47.6	12.5	4.73	9.85	245	271	456	663	464		
MAX	12	7.5	572	86	59	17	67	959	1150	1810	988	1020		
MIN	4.8	6.0	5.4	26	1.0	1.0	5.0	9.7	14	35	57	15		
CFSM	.03	.03	.26	.20	.05	.02	.04	1.05	1.16	1.95	2.83	2.07		
IN	.04	.03	.30	.23	.06	.02	.05	1.20	1.29	2.25	3.27	2.31		
AL-FT	450	415	3720	2930	691	291	586	15030	16110	28020	40770	28790		
CAL YR 1960	TOTAL	20614.10	MEAN	56.5	MAX	742	MIN	1.0	CFSM	.24	IN	5.28	AL-FT	40890
WIR YR 1961	TOTAL	69460.60	MEAN	190	MAX	7610	MIN	.10	CFSM	.81	IN	11.05	AL-FT	137800

PLATTE RIVER BASIN (IOWA-MISSOURI)

06821190 PLATTE RIVER AT SHARPS STATION, MO

LOCATION.--Lat 39°24'03", long 94°43'36", in NW¼SE¼SW¼ sec.16, T.53 N., R.34 W., Platte County, Hydrologic Unit 10240012, on downstream side of center pier at Sharps bridge, 0.2 mi (0.3 km) upstream from Jowler Creek, 3.3 mi (5.3 km) downstream from Little Platte River, 3.6 mi (5.8 km) south of Camden Point, and at mile 25.1 (40.4 km).

DRAINAGE AREA.--2,380 mi² (6160 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 754.23 ft (229.889 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Water discharge records fair. Some regulation from Smithville Lake.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,600 ft³/s (527 m³/s) July 27, gage height, 32.05 ft (9.769 m); minimum discharge, 19 ft³/s (0.538 m³/s) Dec. 4, minimum gage height, 4.00 ft (1.129 m) Dec. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	52	147	46	174	96	156	111	122	1520	931	2410	1490		
2	44	122	43	167	84	136	83	106	1450	774	2170	1610		
3	40	107	32	165	98	118	73	92	2360	548	3190	1360		
4	36	88	23	157	74	122	119	83	2560	839	3590	1240		
5	34	88	43	131	32	148	142	124	2230	548	2200	1170		
6	32	77	62	107	30	212	134	116	3460	463	3500	1130		
7	29	66	908	110	30	263	129	96	1350	525	7780	1210		
8	28	66	3200	100	31	239	106	77	733	524	3850	1200		
9	25	66	4200	101	31	216	93	103	535	545	1060	1450		
10	24	59	1580	90	23	215	78	362	464	501	1010	1850		
11	23	52	674	84	22	167	172	225	443	471	1540	1550		
12	23	49	626	58	21	162	187	145	461	448	1480	1370		
13	21	50	498	67	15	142	1450	116	428	429	1400	1250		
14	22	53	435	57	20	128	3190	515	389	400	1380	1180		
15	23	52	401	62	39	117	2550	1100	1670	215	1380	1130		
16	80	49	387	152	91	106	981	672	6420	186	1330	1030		
17	143	47	362	170	172	97	559	463	4130	174	1300	436		
18	142	47	336	156	393	104	563	3280	2000	203	1270	360		
19	97	47	308	159	607	94	448	8100	1800	709	1250	203		
20	62	49	278	162	805	82	426	9720	993	1050	1250	152		
21	49	46	253	172	656	74	420	5270	687	2430	1220	144		
22	44	55	224	178	470	73	355	1390	543	1190	1200	134		
23	40	64	197	185	371	79	327	3330	510	723	1190	128		
24	82	73	184	193	310	82	299	6560	622	686	1180	119		
25	83	65	175	157	264	80	257	4730	691	4450	1120	197		
26	101	61	164	162	230	77	226	2440	634	6560	376	443		
27	163	52	155	157	203	77	215	1870	616	14100	904	481		
28	433	46	151	147	180	82	191	1930	613	16200	1680	658		
29	432	43	157	130	---	137	165	1770	720	4790	1610	406		
30	270	42	160	119	---	151	144	1660	4380	1840	1570	280		
31	187	---	171	96	---	134	---	1560	---	3160	1470	---		
TOTAL	2868	1928	16633	4125	5403	4090	14195	58297	45612	66612	57860	25381		
MEAN	92.5	64.3	537	133	193	132	473	1861	1520	2149	1866	846		
MAX	433	147	4200	193	805	263	3190	9720	6420	16200	7780	1850		
MIN	21	42	23	57	15	73	73	77	389	174	376	119		
CFSM	.04	.03	.23	.06	.08	.06	.20	.79	.64	.90	.78	.36		
IN.	.04	.03	.26	.06	.08	.06	.22	.91	.71	1.04	.90	.40		
AL-FT	5690	3820	32490	8180	10720	8110	28160	115600	90470	132100	114800	50340		
CAL YR 1980	TOTAL	258785	MEAN	707	MAX	10100	MIN	21	CFSM	.30	IN	4.04	AC-FI	513300
WIR YR 1981	TOTAL	303004	MEAN	830	MAX	16200	MIN	15	CFSM	.35	IN	4.74	AC-FI	601000

PLATTE RIVER BASIN

06821190 PLATTE RIVER AT SHARPS STATION, MO.--continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1979 Sept. 1981. (Discontinued)
WATER TEMPERATURE: April 1979 to Sept. 1981. (Discontinued)

REMARKS.--Water temperature and specific conductance samples collected daily by observer. Number of missing days of record exceed 20 percent of year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	COLI- FORM, FECAL, JM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS, NONCAR- BONATE (MG/L CAC03) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CAC03) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
NOV 03...	108	480	7.6	10.5	42	10.8	96	7600	780	200	17	59
JAN 05...	125	550	7.9	.5	7.0	13.4	93	180	20	230	70	69
MAR 02...	134	406	8.2	10.5	24	12.2	109	96	12	170	23	51
MAY 04...	82	456	8.1	20.0	40	6.6	72	180	3600	200	44	57
JUL 06...	500	388	8.2	28.0	170	4.0	51	2100	1500	170	22	52
SEP 01...	1500	258	7.8	24.0	78	6.8	80	940	3200	110	12	33

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
NOV 03...	12	17	7.7	204	0	37	20	.3	9.9	289	84.3	.75
JAN 05...	14	19	5.7	260	0	49	41	.3	11	318	107	1.7
MAR 02...	11	14	4.4	190	0	42	16	.2	8.0	240	86.8	1.2
MAY 04...	14	19	5.6	190	0	50	16	.4	4.7	283	62.7	.09
JUL 06...	10	11	5.5	180	0	44	10	.3	9.1	240	324	.93
SEP 01...	6.4	6.1	6.1	120	0	<5.0	8.0	.2	9.0	171	693	.30

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (1/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 03...	.240	1.70	1.6	.500	.200	--	14	1.4	156	45	57
JAN 05...	.330	1.40	--	.150	.050	18	18	.9	7	2.5	65
MAR 02...	.060	1.10	.97	.190	.080	11	--	--	89	32	73
MAY 04...	.080	1.30	.96	.290	.090	--	10	4.0	133	29	76
JUL 06...	.110	2.00	1.2	.340	.090	--	9.0	2.9	1500	2030	49
SEP 01...	.200	1.70	<.20	.430	.080	17	--	--	25	101	8

PLATTE RIVER BASIN

06821190 PLATTE RIVER AT SHARPS STATION, MO.--continued

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
NOV 03...	2	2	100	100	6	<1	0	0	3	<3
JAN 05...	1	1	100	200	1	2	10	0	1	<3
MAY 04...	3	2	100	200	7	<1	20	10	2	<3
JUL 06...	6	2	400	200	3	1	0	10	5	0

DATE	CUPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
NOV 03...	10	5	4000	30	9	2	470	310	.3
JAN 05...	6	3	760	30	2	3	340	320	.2
MAY 04...	10	4	3300	20	12	3	530	200	.6
JUL 06...	18	5	10000	100	18	2	630	100	.6

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL SOLVED (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 03...	.4	11	6	0	0	0	0	60	7
JAN 05...	.0	5	4	1	1	0	0	20	20
MAY 04...	.1	9	3	0	1	0	0	40	8
JUL 06...	.2	13	5	0	3	0	0	60	10

PLATTE RIVER BASIN

06821190 PLATTE RIVER AT SHARPS STATION, MO.--continued

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	493	530										
2	490	535										
3	489	---										
4	497	537										
5	490	533										
6	490	535										
7	501	540										
8	490	---										
9	487	---										
10	495	539										
11	489	539										
12	490	531										
13	489	---										
14	533	535										
15	---	---										
16	---	---										
17	---	---										
18	---	---										
19	---	---										
20	---	---										
21	---	---										
22	---	---										
23	---	540										
24	---	539										
25	---	533										
26	---	535										
27	---	539										
28	---	540										
29	---	540										
30	---	543										
31	---	---										
MEAN	495	537										
WIR YR 1981	MEAN	518		MAX	543		MIN	487				

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	5.0										
2	8.0	5.0										
3	8.0	---										
4	8.0	5.0										
5	7.0	5.0										
6	7.0	5.0										
7	7.0	4.0										
8	7.0	---										
9	7.0	---										
10	7.0	4.0										
11	7.0	4.0										
12	7.0	4.0										
13	7.0	---										
14	7.0	4.0										
15	---	---										
16	---	---										
17	---	---										
18	---	---										
19	---	---										
20	---	---										
21	---	---										
22	---	---										
23	---	3.0										
24	---	3.0										
25	---	3.0										
26	---	3.0										
27	---	3.0										
28	---	3.0										
29	---	3.0										
30	---	2.0										
31	---	---										
MEAN	7.5	4.0										
WIR YR 1981	MEAN	5.5		MAX	8.0		MIN	2.0				

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

06821190 PLATTE RIVER AT SHARPS STATION, MO.--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 3,80 1550	MAR 2,81 1515	MAY 4,81 1600	JUL 6,81 1715	SEP 1,81 1430
TOTAL CELLS/ML	24000	25000	130000	27000	8300
DIVERSITY: DIVISION	1.1	1.7	1.3	1.5	1.3
..CLASS	1.1	1.7	1.3	1.5	1.3
..ORDER	1.3	2.2	1.7	2.2	1.7
...FAMILY	1.4	2.5	2.1	2.8	2.3
....GENUS	2.2	2.8	2.9	3.1	2.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
...COELASTRACEAE										
...COELASTRUM	--	-	--	-	--	-	1100	4	--	-
...HYDRODICTYACEAE										
...PEDIASTRUM	--	-	--	-	--	-	1500	6	--	-
...MICRACTINIACEAE										
...GOLENKINIA	*	0	--	-	--	-	--	-	--	-
...MICRACTINIUM	--	-	--	-	--	-	*	0	--	-
...OCCYSTACEAE										
...ANKISTRUCESMUS	250	1	700	3	7900	6	230	1	--	-
...DICTYCSPHAERIUM	200	1	1100	4	23000#	18	4000	15	--	-
...KIRCHNERIELLA	--	-	--	-	1600	1	--	-	--	-
...OCCYSTIS	*	0	--	-	--	-	370	1	--	-
...SELENASTRUM	150	1	--	-	--	-	--	-	--	-
...TREUBARIA	--	-	--	-	790	1	--	-	--	-
...SCENEDESMAEAE										
...ACTINASTRUM	800	3	7300#	29	3200	2	370	1	--	-
...CRUCIGENIA	--	-	--	-	--	-	190	1	--	-
...SCENEDESMAEAE	300	1	840	3	13000	10	560	2	390	5
...TETRASTRUM	200	1	560	2	--	-	--	-	530	6
..TETRASPERALES										
...PALMELLACEAE										
...SPHAEROCCYSTIS	--	-	--	-	--	-	370	1	--	-
...VOLVOCALLES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	400	2	1100	4	3200	2	330	1	--	-
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...CCSCINODISCACEAE										
...CYCLICTELLA	2300	9	6600#	26	44000#	34	1600	6	660	8
...PELOSIRA	350	1	--	-	17000	13	*	0	950	11
...STEPHANODISCUS	350	1	--	-	--	-	--	-	--	-
..PENNIALES										
...FRAGILARIACEAE										
...SYNEDRA	--	-	--	-	5600	4	--	-	690	8
...NAVICULACEAE										
...NAVICULA	--	-	--	-	--	-	*	0	390	5
...NITZSCHIAEAE										
....NITZSCHIA	*	0	1700	7	3200	2	840	3	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
...CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	--	-	--	-	190	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCOCCALES										
...CHROOCOCCACEAE										
...ANACYSTIS	200	1	--	-	3200	2	4000	15	--	-
...HORMOGONIALES										
...NOSTOCACEAE										
...ANABAENA	--	-	--	-	--	-	370	1	2000#	24
...OSCILLATOCRIACEAE										
...LYNGBYA	4300#	18	--	-	--	-	--	-	--	-
...OSCILLATOCRIA	14000#	57	3500	14	--	-	10000#	38	2800#	33
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENAEAE										
...EUGLENA	--	-	140	1	2400	2	330	1	--	-
...PHACUS	--	-	--	-	--	-	*	0	--	-
...TRACHELOMONAS	300	1	1400	6	790	1	*	0	--	-
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
...GYMNODINIALES										
...GYMNODINIACEAE										
...GYMNOCINIUM	--	-	140	1	--	-	*	0	--	-
...PERIDINIALES										
...GLENODINIACEAE										
....GLENOCINIUM	*	0	--	-	--	-	--	-	--	-

LINE CREEK BASIN

06821280 LINE CREEK AT RIVERSIDE, MO

LOCATION.--Lat 39°10'32", long 94°36'46", in SW¼SW¼NE¼ sec.4, T.50 N., R.33 W., Platte County, Hydrologic Unit 10240011, on left bank downstream from bridge on old U.S. Highway 71 at Riverside, 100 ft (30.5 m) upstream from Jumping Branch, and 1 mile (1.6 km) upstream from mouth.

DRAINAGE AREA.--19.2 mi² (49.7 km²).

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 790 ft (241 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Several observations of water temperature were made.

AVERAGE DISCHARGE.--6 years, 14.9 ft³/s (0.422 m³/s), 9.97 in/yr (253 mm/yr), 10,800 acre-ft/yr (13.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,840 ft³/s (222 m³/s) June 4, 1979, gage height, 20.49 ft (6.245 m); no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 29.0 ft May 18, 1974 from high water mark by local residents.

EXTREMES FOR CURRENT PERIOD.--Peak discharges above base of 700 ft³/s (20 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
May 14	0500	1,560	44.2	12.21	3.722	June 25	0430	1,420	40.2	11.74	3.578
May 17	2200	*3,110	88.1	*15.23	4.642	July 4	0500	1,310	37.1	11.45	3.490
June 15	1000	2,270	64.3	13.59	4.142						

No flow several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.20	1.3	.55	1.2	.50	1.5	1.4	.24	5.2	22	19	3.7		
2	.20	.45	.55	1.1	.40	1.7	1.1	.24	21	14	33	3.3		
3	.20	.76	.53	1.1	.28	1.7	1.1	.32	6.9	11	10	2.4		
4	.10	1.7	.58	.89	.28	4.2	1.5	.91	19	154	6.0	2.2		
5	.10	2.2	.84	.90	.32	2.2	1.2	5.7	6.2	25	3.2	2.2		
6	.20	2.1	6.4	1.0	.60	1.8	1.0	1.4	4.6	13	2.0	2.5		
7	.30	2.3	117	1.1	.70	1.6	.91	.72	3.8	14	7.8	400		
8	.20	2.7	99	.98	.55	1.4	.75	.58	3.4	5.8	4.0	25		
9	.00	2.2	5.8	.85	.40	1.4	.70	57	2.6	4.6	3.0	13		
10	.04	2.5	3.3	.77	.40	1.5	.65	9.0	2.5	3.5	2.7	9.4		
11	.00	1.9	2.4	.88	.28	1.5	37	3.3	12	3.1	2.4	6.2		
12	1.2	.42	2.1	.81	.45	1.6	5.8	2.2	6.4	2.7	2.3	4.8		
13	1.3	.83	1.7	1.0	.65	1.6	2.5	5.1	3.4	2.4	2.2	4.0		
14	1.3	3.1	1.5	1.0	1.3	1.4	1.9	291	2.9	1.9	2.1	3.3		
15	2.7	1.0	1.5	.75	2.1	1.4	1.4	17	410	1.6	1.8	2.8		
16	16	.69	1.5	.00	2.4	1.2	1.3	6.7	32	1.5	1.6	2.6		
17	1.2	.62	1.5	.00	1.9	1.3	1.3	453	14	1.0	1.5	2.4		
18	.24	.50	1.5	.24	1.8	2.3	9.2	332	9.8	1.1	1.6	2.3		
19	.12	.46	1.4	1.1	1.5	1.7	7.5	68	22	2.1	2.1	2.2		
20	.28	.54	1.3	2.3	1.5	1.7	2.2	22	9.2	1.5	1.8	1.8		
21	.36	.62	1.2	.45	1.7	1.9	1.5	11	9.8	1.3	1.5	1.6		
22	.45	.40	1.3	.04	2.3	4.0	1.4	13	7.3	1.5	1.6	1.4		
23	3.3	2.0	1.2	.28	2.3	2.2	1.2	102	5.8	.55	1.5	1.2		
24	11	1.1	1.2	1.0	1.8	1.4	.85	15	5.0	.12	1.6	1.2		
25	.65	.65	.86	1.0	1.8	1.4	.70	94	247	3.5	2.1	1.0		
26	.32	.60	1.2	1.0	1.7	1.4	.55	35	16	8.0	9.7	.90		
27	34	.60	1.4	.91	1.9	1.4	.40	16	44	690	3.5	.80		
28	5.1	.60	1.3	.75	1.8	4.4	.28	11	15	80	2.9	.80		
29	2.2	.60	1.4	.52	---	17	.24	9.1	97	36	2.4	.80		
30	1.7	.60	1.3	.40	---	2.7	.24	6.8	76	23	2.2	.80		
31	1.7	---	1.3	.40	---	1.9	---	5.8	---	33	2.1	---		
TOTAL	86.66	36.04	264.61	24.72	33.61	74.4	87.77	1595.11	1119.8	1162.77	141.2	506.60		
MEAN	2.80	1.20	8.54	.80	1.20	2.40	2.93	51.5	37.3	37.5	4.55	16.9		
MAX	34	3.1	117	2.3	2.4	17	37	453	410	690	33	400		
MIN	.00	.40	.53	.00	.28	1.2	.24	.24	2.5	.12	1.5	.80		
CFSM	.15	.06	.45	.04	.06	.13	.15	2.68	1.94	1.95	.24	.88		
IN.	.17	.07	.51	.05	.07	.14	.17	3.09	2.17	2.25	.27	.98		
AC-FT	172	71	525	49	67	148	174	3160	2220	2310	280	1000		
CAL YR 1980	TOTAL	2173.17	MEAN	5.94	MAX	491	MIN	.00	CFSM	.31	IN	4.21	AC-FT	4310
WTR YR 1981	TOTAL	5133.29	MEAN	14.1	MAX	690	MIN	.00	CFSM	.73	IN	9.95	AC-FT	10180

KANSAS RIVER BASIN

06892350 KANSAS RIVER AT DESOTO, KS

LOCATION.--Lat 38°59'00", long 94°57'52", in SE¼NE¼NE¼ sec.27, T.12 S., R.22 E., Leavenworth County, Hydrologic Unit 10270104, on left bank at downstream side of bridge on county road, north edge of DeSoto, 0.4 mi (0.6 km) upstream from Kill Creek and at mile 31.0 (49.9 km).

DRAINAGE AREA.--59,756 mi² (154,768 km²), of which a large area is noncontributing.

PERIOD OF RECORD.--July 1917 to current year. Monthly discharge only for some periods published in WSP 1310. Prior to October 1973, published as "at Bonner Springs".

REVISED RECORDS.--WSP 806: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 758.87 ft (231.304 m) National Geodetic Vertical Datum of 1929. July 9, 1917, to Apr. 23, 1934, nonrecording gage; April 24, 1934, to Nov. 26, 1961, water-stage recorder at site 9.7 mi (15.6 km) downstream at datum 11.81 ft (3.600 m) lower; Nov. 26, 1961, to Sept. 30, 1971, water-stage recorder at site 10.2 mi (16.4 km) downstream at datum 17.81 ft (5.428 m) lower; and Oct. 1, 1971, to Sept. 30, 1973, at site 10.2 mi (16.4 km) downstream at datum 22.81 ft (6.592 m) lower.

REMARKS.--Records good except those for winter periods, which are poor. Natural flow of stream affected by lakes and reservoirs in Colorado, Nebraska, and Kansas, and by numerous diversions for irrigation above station.

AVERAGE DISCHARGE.--64 years, 6,877 ft³/s (194.8 m³/s), 4,982,000 acre-ft/yr (6.14 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 510,000 ft³/s (14,400 m³/s) July 13, 1951, gage height, 37.3 ft (11.37 m), from floodmarks, present site and datum, from rating curve extended above 128,000 ft³/s (3,620 m³/s) on basis of slope-area measurement of peak flow at mile 19.52 (31.41 km) and at mile 18.60 (29.93 km); minimum observed, 160 ft³/s (4.53 m³/s) Oct. 11, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1844, that of July 13, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 70,400 ft³/s (1,990 m³/s) July 27, gage height, 19.26 ft (5.87 m); minimum, 664 ft³/s (18.8 m³/s) Dec. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1310	1500	965	1270	960	1160	1270	1100	3650	16800	22300	5920
2	1350	1380	808	1290	940	1180	1340	1100	4280	11800	22400	6550
3	1260	1360	1050	1370	1000	1200	1070	1090	8820	9590	34000	5400
4	1500	1390	946	1280	1100	1180	1220	1080	9230	9740	24600	5700
5	1250	1350	869	1100	1150	1190	1250	1110	6540	11300	21900	4970
6	1290	1320	1070	1020	1200	1200	1110	1100	4420	9780	23900	4900
7	1490	1320	1570	984	1200	1210	1100	1090	3880	10900	22800	4300
8	1470	1150	9120	1140	1160	1170	1120	1090	3510	8230	17500	4500
9	1280	1270	11500	1230	1140	1160	1070	1170	3260	6550	15800	5050
10	1500	1200	6610	1170	1100	1200	1060	1580	3070	4850	15000	3710
11	1410	1340	4040	1050	1250	1170	1210	1570	3390	4770	15300	3110
12	1280	1100	3370	968	1500	1090	1390	1480	7270	4350	14600	2880
13	1260	1240	2890	1010	1500	1150	1320	1540	7080	4060	14700	2750
14	1180	1220	2140	865	1800	1080	1170	1870	5220	3940	14900	2680
15	1400	1180	2610	963	2010	1090	1260	2410	7630	3710	13000	2570
16	2990	1160	2520	1120	2700	1080	1240	1930	18200	3610	11500	2490
17	3760	1150	2480	1050	1950	1090	1140	2050	13300	3660	9130	2700
18	2340	1180	2340	979	1960	1120	1100	4010	8640	4720	8510	3270
19	1720	1170	2370	926	2050	1120	1290	13400	6760	5280	7550	3530
20	1490	1170	1640	1070	1700	1140	1370	15700	9660	4920	6800	3540
21	1330	1240	900	1190	1510	1090	1210	9290	11800	4840	5440	3130
22	1130	1060	850	1260	1490	1090	1280	4910	13300	4780	4840	3020
23	1340	1250	931	1180	1430	1130	1320	11400	10400	4140	4510	3010
24	1300	1130	917	1120	1410	1130	1270	7230	8640	4720	3680	3000
25	1300	1120	910	1080	1170	1150	1200	5390	6440	7270	3240	3160
26	1380	1120	950	1040	1190	1220	1170	4560	6730	6850	3620	3860
27	1440	1190	1000	1040	1230	1210	1150	6490	6240	43500	3190	3440
28	2260	1090	1050	1280	1290	1130	1130	6690	12700	53900	2920	2820
29	2380	918	1090	913	---	1280	1130	5160	15900	30800	2800	2750
30	1920	991	1220	992	---	1330	1110	4670	22400	20500	2690	2560
31	1580	---	1270	988	---	1290	---	3970	---	21600	2570	---
TOTAL	49490	36259	72796	33938	40090	36030	36070	125230	252360	345460	375290	111270
MEAN	1596	1209	2348	1095	1432	1162	1202	4040	8412	11140	12110	3709
MAX	3760	1500	11500	1370	2700	1330	1390	13700	22400	53900	34000	6550
MIN	1130	918	808	865	940	1080	1060	1080	3070	3610	2370	2490
CFSM	.03	.02	.04	.02	.02	.02	.02	.07	.14	.19	.20	.06
IN.	.03	.02	.05	.02	.02	.02	.02	.08	.16	.22	.23	.07
AC-FT	98160	71920	144400	67320	79520	71470	71340	248400	500600	685200	744400	220700
CAL YR 1980	10141	2006045	MEAN	5481	MAX	68000	MIN	808	CFSM	.09	IN	1.25
WIR YR 1981	10141	1514283	MEAN	4149	MAX	53900	MIN	808	CFSM	.07	IN	.94
									AC-FT	3979000		
									AC-FT	3004000		

MISSOURI RIVER MAIN STEM

06893000 MISSOURI RIVER AT KANSAS CITY, MO

LOCATION.--Lat 39°06'43", long 94°35'16", in sec.32, T.50 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on downstream side of right pier of Chicago, Burlington, & Quincy Railroad bridge at Kansas City, 1.4 mi (2.3 km) downstream from Kansas River. River mile, 366.1 (589.1 km).

DRAINAGE AREA.--485,200 mi² (1,257,000 km²), approximately.

PERIOD OF RECORD.--October 1897 to current year. Prior to August 1928 monthly discharge only, published in WSP 1310. Gage-height records collected at same site 1873-99 are contained in reports of Missouri River Commission; those since 1900 are contained in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 716.40 ft (218.359 m) National Geodetic Vertical Datum of 1929. Prior to May 4, 1931, nonrecording gage, and May 4, 1931, to Aug. 23, 1934, water-stage recorder, at present site and datum. Aug. 24, 1934, to May 15, 1947, water-stage recorder at site 200 ft (61.0 m) upstream at same datum. May 16, 1947, to Feb. 28, 1948, nonrecording gage at present site and datum.

REMARKS.--Records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--84 years (1898-1981), 54,620 ft³/s (1,547 m³/s), 39,570,000 acre-ft/yr (48,790 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 573,000 ft³/s (16,230 m³/s) July 14, 1951; maximum gage height, 36.2 ft (11.03 m) July 14, 1951; minimum discharge, about 1,500 ft³/s (42.5 m³/s) Jan. 9, 10, 1937; minimum gage height, -2.91 ft (-0.887 m) Jan. 29, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 16, 1844 reached a stage of 38.0 ft (11.58 m), discharge, about 625,000 ft³/s (17,000 m³/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 131,000 ft³/s (3,710 m³/s) July 28, gage height, 14.82 ft (4.517 m); minimum, 15,500 ft³/s (439 m³/s) Feb. 14, 15, gage height, -1.58 ft (-0.482 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	40900	42500	36200	23000	26600	27200	44900	40500	42900	52100	70700	46300		
2	41200	41900	35100	24000	25200	27100	46400	40400	44800	55200	66900	48100		
3	41000	41500	32800	25000	23200	27000	45800	39700	50000	51200	79700	45400		
4	41300	41900	31400	26000	21100	27400	44000	39900	54100	49800	87600	46000		
5	41100	42700	29100	29000	19400	27600	42600	41300	53600	50700	75300	45400		
6	41100	42800	27700	27300	18800	27600	42200	48500	49900	48300	75300	45400		
7	41400	42200	30400	25200	17200	27400	41700	47300	46500	51100	89800	48700		
8	40900	41600	40500	24000	16800	26900	41300	43900	42600	50100	87300	48500		
9	40700	41400	45600	22900	17500	26200	42000	44100	42300	46000	74300	49700		
10	40700	41900	38600	23100	19600	25600	41600	43300	41400	43600	64100	46800		
11	41200	41800	31900	24700	20800	25100	42000	42700	41400	44500	60000	44400		
12	41800	42200	30000	23400	20300	24700	47700	42200	43400	42900	58300	42900		
13	41800	42600	29000	23000	18000	24600	47500	42300	44500	41600	56200	41700		
14	41900	43900	28400	23600	15800	24500	46800	45900	43000	40800	55800	41400		
15	42400	45100	28000	22600	16000	24000	48800	45900	48700	40800	54900	40900		
16	43500	45600	28200	22500	17700	23500	47500	45200	60800	40700	53300	41100		
17	44200	46200	28500	23000	20100	23400	43600	46000	61000	43000	51400	41600		
18	46400	46100	28800	23300	25600	22300	42200	54200	57400	43000	50400	41500		
19	46800	45600	29300	23000	32700	21800	42800	64100	54500	45000	49800	41900		
20	46100	44600	29500	22700	35000	23300	41700	63300	52400	46000	47900	42000		
21	44000	43200	28500	22500	36200	23800	40700	57500	50500	51500	46300	42300		
22	43500	43800	26600	22700	35700	24100	40100	51600	52100	49500	45300	42000		
23	43500	44100	23400	23500	36600	26100	40600	56600	48200	46100	44700	41300		
24	43200	44400	22500	23400	33100	31100	41400	59700	46000	47200	43800	41100		
25	42900	44900	20000	22800	30000	34300	41100	53700	49500	57600	43900	42100		
26	42900	44300	19500	23300	28600	37200	40100	52700	43400	64200	45000	45500		
27	45000	43800	20000	24400	28200	39700	39900	47000	42800	105000	45600	48900		
28	45800	42000	21000	25900	27800	40400	40500	48200	44600	125000	48200	44900		
29	45000	38800	20000	27400	---	41500	40400	46700	51100	100000	47100	42100		
30	44400	37000	19000	26900	---	42600	40400	45400	69700	79400	45300	40800		
31	43300	---	21000	26800	---	43800	---	43700	---	69900	44400	---		
TOTAL	1329900	1290400	880500	750900	683600	891800	1288300	1483500	1473100	1727800	1808600	1320700		
MEAN	42900	43010	28400	24220	24410	28770	42940	47850	49100	55740	58340	44020		
MAX	46800	46200	45600	29000	36600	43800	48800	64100	69700	125000	89800	49700		
MIN	40700	37000	19000	22500	15800	21800	39900	39700	41400	40700	43800	40800		
CFSM	.09	.09	.06	.05	.05	.06	.09	.10	.10	.12	.12	.09		
IN	.10	.10	.07	.06	.05	.07	.10	.11	.11	.13	.14	.10		
AC-FT	2638000	2560000	1746000	1489000	1356000	1769000	2555000	2943000	2922000	3427000	3587000	2620000		
CAL YR 1980	ICIAL	17367400	MEAN	47450	MAX	159000	MIN	19000	CFSM	.10	IN	1.33	AC-FT	34450000
WTR YR 1981	ICIAL	14929100	MEAN	40900	MAX	125000	MIN	15800	CFSM	.08	IN	1.14	AC-FT	29610000

SHOAL CREEK BASIN

06893670 SHOAL CREEK AT CLAYCOMO, MO

LOCATION.--Lat 39°12'27", long 94°28'45", in NE¼NW¼NE¼ Sec.27, T.51 N, R.32 W., Clay County, Hydrologic Unit 10300101, on right bank 100 ft (30.5 m) downstream from bridge on U.S. Highway 69, 2.5 mi (4.0 km) upstream from Little Shoal Creek and 1 mile (1.6 km) northeast of Claycomo.

DRAINAGE AREA.--29.8 mi² (77.2 km²).

PERIOD OF RECORD.--September 1975 to current year.

GAGE.--Water-stage recorder. Datum of gage is 732.58 ft (223.290 m) National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Department).

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--6 years, 13.2 ft³/s (0.374 m³/s), 6.02 in/yr (153 mm/yr), 9,560 acre-ft/yr (11.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,800 ft³/s (278 m³/s) Sept. 11, 1975, gage height, 21.22 ft (6.468 m³/s); no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 33.18 ft (10.113 m) May 18, 1974, from highwater mark by local residents.

EXTREMES FOR CURRENT PERIOD.--Peak discharges above base of 1,000 ft³/s (28 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
June 15	1100	1,930	54.7	15.05	4.587	July 27	0700	*9,270	263	*20.83	6.349
July 4	0600	1,950	55.2	15.02	4.578	Sept. 7	1100	2,260	64.0	15.65	4.770

No flow several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.00	1.6	.60	.46	.55	3.5	2.8	6.3	40	20	85
2	.16	.00	2.1	.53	.48	.89	3.2	2.2	17	28	39	4.0
3	.16	.16	2.0	.40	.65	1.2	4.6	4.1	8.7	22	18	1.9
4	.00	.35	1.8	.26	.55	2.1	4.5	6.8	21	328	8.4	1.4
5	.00	.40	1.6	.08	.50	2.2	4.6	12	7.0	57	6.1	1.2
6	.16	.55	5.2	.08	.40	1.6	5.3	10	4.9	33	25	1.4
7	.25	.70	137	.06	.35	1.2	6.2	10	3.7	22	12	399
8	.30	.55	193	.08	.35	1.1	9.3	12	5.7	16	5.1	41
9	.35	.60	12	.08	.30	1.3	7.2	40	5.5	12	3.8	17
10	.25	.84	3.8	.17	.20	1.7	6.7	23	6.3	8.4	3.3	9.5
11	.12	.98	2.4	.12	.10	1.7	32	14	21	6.0	3.1	6.5
12	.16	.98	1.7	.20	.10	1.7	5.4	12	14	4.5	2.8	4.9
13	.30	1.2	1.3	.33	.20	1.6	1.9	22	6.5	3.4	2.5	4.2
14	.45	.91	1.1	.28	.40	1.1	1.2	290	5.3	2.7	2.4	3.5
15	.55	.55	1.1	.26	.70	1.2	.66	12	423	2.1	2.3	2.9
16	1.8	.55	1.1	.30	3.8	1.9	.48	4.8	64	1.9	1.9	2.7
17	1.1	.59	1.1	.30	3.6	2.4	.21	440	29	2.1	1.8	2.5
18	.50	.81	1.1	.40	3.6	2.8	.88	190	20	2.9	1.8	2.4
19	.35	.65	.81	.40	2.8	2.6	2.8	43	86	7.9	1.6	2.2
20	.55	.67	.49	.51	2.0	2.3	1.9	18	29	5.4	1.5	2.0
21	.65	.61	.45	.53	1.4	2.0	1.1	10	26	2.7	1.3	1.8
22	.65	.32	.65	.55	1.6	3.0	.89	12	22	2.3	1.3	1.6
23	3.1	.91	.71	.42	1.8	3.7	.74	93	15	2.0	1.1	1.4
24	14	.74	.55	.42	1.6	3.8	.48	14	11	1.6	1.1	1.3
25	1.4	.09	1.0	.76	1.2	3.9	.30	88	121	57	1.3	1.2
26	.55	.39	1.3	.77	1.0	4.2	.29	57	30	11	4.1	1.1
27	44	.74	1.1	.77	.86	4.4	.90	32	53	659	2.9	1.0
28	8.0	.77	.84	.77	.62	6.1	1.3	21	29	99	1.7	1.0
29	.55	.81	.58	.65	---	16	1.6	17	97	42	1.3	.80
30	.35	1.2	.60	.50	---	3.4	2.4	11	129	25	1.1	.80
31	.16	---	.63	.22	---	3.3	---	8.0	---	39	1.0	---
TOTAL	81.04	18.62	380.71	11.80	31.62	86.94	112.53	1531.7	1316.9	1545.9	180.6	607.20
MEAN	2.61	.62	12.3	.38	1.13	2.80	3.75	49.4	43.9	49.9	5.83	20.2
MAX	44	1.2	193	.77	3.8	16	32	440	423	659	39	399
MIN	.00	.00	.45	.06	.10	.55	.21	2.2	3.7	1.6	1.0	.80
CFSM	.09	.02	.41	.01	.04	.09	.13	1.66	1.47	1.67	.20	.68
IN.	.10	.02	.48	.01	.04	.11	.14	1.91	1.64	1.93	.23	.76
AC-FT	161	37	755	23	63	172	223	3040	2610	3070	358	1200
CAL YR 1980 TOTAL	1852.43			MEAN 5.06	MAX 193	MIN .00	CFSM .17	IN 2.31	AC-FT 3670			
WTR YR 1981 TOTAL	5905.56			MEAN 16.2	MAX 659	MIN .00	CFSM .54	IN 7.37	AC-FT 11710			

LITTLE BLUE RIVER BASIN

06893793 LITTLE BLUE RIVER BELOW LONGVIEW DAMSITE IN KANSAS CITY, MO

LOCATION.--Lat 38°55'52", long 94°28'12", in NW¼SE¼SE¼ sec.32, T.48 N., R.32 W., Jackson County, Hydrologic Unit 10300101, on left bank 700 ft (213 m) downstream from Longview damsite in Kansas City, 1 mile (1.6 km) downstream from Longview Road and 2.0 miles (3.2 km) upstream from Cedar Creek.

DRAINAGE AREA.--50.7 mi² (131.3 km²).

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

REVISED RECORDS.--WDR MO-77-1: 1975-76.

GAGE.--Water-stage recorder. Datum of gage is 798.60 ft (243.413 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 25, 1974 at site 1.0 mile (1.6 km) upstream and at datum 24.90 ft (7.590 m) higher.

REMARKS.--Records fair except periods of no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years, 36.8 ft³/s (1.042 m³/s) 9.86 in/yr (250 mm/yr), 26,660 acre-ft/yr (32.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,100 ft³/s (513 m³/s) Sept. 13, 1977, gage height, 21.07 ft (6.422 m) highwater mark; minimum, 0.5 ft³/s (0.014 m³/s) Oct. 3, 1966, at site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft³/s (62 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 18	--	4,290 121	13.00 3.962	June 29	1800	*5,070 144	*14.4 4.389
June 25	0530	4,400 125	13.20 4.023	July 16	0200	4,900 139	14.1 4.298

Minimum discharge, 0.22 ft³/s (0.006 m³/s) Dec. 19, minimum gage height, 0.54 ft (0.165 m) Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	5.6	5.8	4.2	3.1	3.7	8.3	2.5	20	57	60	50
2	1.6	5.4	5.8	4.3	4.0	3.5	7.7	1.3	100	40	40	20
3	1.6	5.2	5.5	3.9	4.0	3.3	7.0	2.4	50	30	30	15
4	1.7	4.4	5.5	4.0	3.6	7.6	5.1	36	23	25	25	10
5	1.9	4.4	5.8	3.4	3.7	5.5	5.4	21	18	20	20	5.4
6	2.0	4.4	6.0	3.6	3.7	4.3	5.2	5.8	14	17	30	4.8
7	2.5	4.2	30	3.6	3.7	3.7	4.4	4.2	12	15	25	24
8	1.9	5.1	100	3.5	5.4	3.5	4.2	4.4	11	13	20	15
9	1.9	5.5	50	3.2	3.6	3.6	4.2	40	11	12	15	7.0
10	1.8	5.5	20	3.8	4.0	3.7	4.5	38	9.6	11	20	4.0
11	1.7	5.3	9.6	3.1	6.7	3.8	22	12	31	10	15	3.1
12	1.9	4.8	8.9	3.6	8.8	4.0	13	4.4	24	9.0	10	2.9
13	2.6	4.8	7.6	3.3	10	3.5	10	12	13	8.0	8.8	2.6
14	2.8	9.6	7.3	3.6	13	3.9	37	89	10	7.8	8.6	2.5
15	13	6.8	7.4	3.3	19	3.5	14	36	282	32	7.6	2.3
16	29	5.5	6.7	4.7	15	4.7	9.9	21	61	703	6.7	2.0
17	9.1	5.1	6.2	4.1	10	4.1	9.6	18	31	42	5.8	1.9
18	5.5	5.1	6.1	4.1	8.3	15	40	1000	21	43	6.0	1.9
19	3.3	5.3	5.1	3.5	6.2	7.0	67	300	23	49	4.8	1.9
20	3.3	5.1	5.6	3.8	5.1	5.4	41	100	40	35	4.3	1.8
21	3.4	5.1	5.2	6.4	5.0	3.7	15	50	132	30	3.2	1.6
22	3.4	5.1	4.9	4.1	5.5	20	15	30	57	30	4.2	1.7
23	7.1	13	5.0	3.4	5.3	9.9	9.9	80	34	30	3.6	1.8
24	27	9.4	5.1	3.5	4.3	7.4	5.8	200	24	35	3.5	2.7
25	6.8	7.0	5.9	3.4	4.0	24	4.2	100	936	83	3.7	6.9
26	4.7	6.3	6.5	3.3	3.1	18	4.4	60	59	40	12	7.2
27	35	6.3	6.6	3.1	3.9	11	3.5	40	59	150	7.7	3.0
28	16	6.3	5.8	3.0	3.9	9.4	3.3	30	70	50	5.3	2.4
29	8.7	6.0	5.2	2.7	---	24	2.9	60	1140	27	4.4	2.0
30	7.7	6.0	4.7	2.9	---	13	2.9	50	105	21	4.0	2.0
31	6.2	---	4.8	3.2	---	10	---	30	---	103	3.9	---
TOTAL	217.0	177.6	364.6	113.6	175.9	247.7	386.4	2478.0	3420.6	1777.8	418.1	209.4
MEAN	7.00	5.92	11.8	3.66	6.28	7.99	12.9	79.9	114	57.3	13.5	6.98
MAX	35	13	100	6.4	19	24	67	1000	1140	703	60	50
MIN	1.6	4.2	4.7	2.7	3.1	3.3	2.9	1.3	9.6	7.8	3.2	1.6
CFSM	.14	.12	.23	.07	.12	.16	.25	1.58	2.25	1.13	.27	.14
IN.	.16	.13	.27	.08	.13	.18	.28	1.82	2.51	1.30	.31	.15
AC-FT	430	352	723	225	349	491	766	4920	6780	3530	829	415

CAL YR 1980	TOTAL	6146.47	MEAN 16.8	MAX 1340	MIN .81	CFSM .33	IN 4.51	AC-FT 12190
WTR YR 1981	TOTAL	9986.70	MEAN 27.4	MAX 1140	MIN 1.3	CFSM .54	IN 7.33	AC-FT 19810

LITTLE BLUE RIVER BASIN

06893890 EAST FORK LITTLE BLUE RIVER NEAR BLUE SPRINGS, MO

LOCATION.--Lat 39°01'32", long 94°20'37" in NE¼NE¼NW¼ sec.33, T.49 N., R.31 W., Jackson County, Hydrologic Unit 10300101, on left downstream side of bridge on east bound lane of U.S. Highway 40, 2.6 miles (4.2 km) west of Blue Springs, and 1.5 miles (2.4 km) upstream from mouth.

DRAINAGE AREA.--34.4 mi² (89.1 km²).

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 753.09 ft (229.542 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records fair except periods of ice effect and no gage-height record which are poor. Several observations of water temperature were made during the year. Flow impounded or detained in Jackson County Lake at times.

AVERAGE DISCHARGE.--7 years, 18.8 ft³/s (0.532 m³/s), 7.42 in/yr (188 mm/yr), 13,620 acre-ft/yr (16.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,100 ft³/s (173 m³/s) Sept. 13, 1977, gage height, 21.13 ft (6.440 m); no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,570 ft³/s (44.47 m³/s) at 1615 June 25, no other peak above base of 1000 ft³/s (28.3 m³/s); no flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	.50	.35	.80	.78	1.2	4.5	2.6	36	161	105	100		
2	.00	.35	.50	.60	.49	1.3	3.1	1.8	47	87	77	103		
3	.00	.30	.60	.50	.29	1.1	3.7	2.0	40	63	55	90		
4	.00	.20	.50	.40	.17	2.2	5.4	2.7	35	54	47	80		
5	.00	.20	.40	.40	.16	2.3	1.8	3.4	33	47	43	60		
6	.00	.25	.60	.40	.28	1.8	.50	2.2	31	44	41	50		
7	.36	.30	.80	.40	.41	1.3	1.8	1.2	29	42	39	40		
8	.02	.35	7.0	.40	.32	1.3	2.6	.83	30	40	36	30		
9	.00	.45	4.0	.40	.24	1.3	.72	3.2	27	36	33	25		
10	.11	.40	3.0	.60	.38	1.7	.15	6.4	25	34	42	20		
11	.00	.35	2.5	.80	.34	.94	4.1	3.7	30	32	36	10		
12	.00	.25	2.3	.60	.25	.72	4.3	2.8	28	28	33	5.0		
13	.00	.25	2.2	.40	.46	1.1	3.3	2.8	24	24	43	4.0		
14	.00	.35	2.1	.40	.63	.45	4.9	27	23	22	132	3.5		
15	.90	.94	2.0	.40	.98	.40	2.7	19	93	21	27	3.2		
16	6.4	.50	1.8	1.0	1.7	.30	2.6	21	96	30	24	2.6		
17	1.2	.35	1.6	.80	1.8	.35	3.1	110	73	37	38	1.7		
18	.20	.30	1.4	.60	1.7	1.1	3.2	449	55	46	144	1.3		
19	.10	.25	1.2	.40	1.4	1.2	14	262	60	41	143	.50		
20	.01	.25	1.0	.60	1.4	.40	9.1	107	263	40	127	.72		
21	.00	.27	1.0	1.0	2.0	.15	7.5	76	207	37	120	.45		
22	.00	.37	1.1	.80	1.7	2.4	7.4	64	222	36	115	.25		
23	.01	.69	1.3	.60	1.7	2.6	6.9	104	90	35	113	.00		
24	4.6	1.6	.61	.40	1.7	2.1	6.0	104	60	32	113	.00		
25	1.4	.67	1.0	.40	1.7	2.0	5.5	64	639	38	109	.05		
26	.38	.39	1.6	.40	1.7	2.3	6.3	54	418	33	110	.40		
27	7.5	.35	1.8	.40	1.8	2.6	5.1	48	134	62	114	1.3		
28	8.4	.35	1.6	.43	2.3	2.7	4.9	43	87	49	108	1.7		
29	2.3	.35	1.4	.37	---	6.0	3.8	43	45	46	104	1.7		
30	.94	.41	1.2	.35	---	4.1	3.3	43	412	43	101	1.6		
31	.72	---	1.0	.40	---	4.0	---	39	---	58	99	---		
TOTAL	35.55	12.54	49.46	16.45	28.78	53.41	132.27	1712.63	3392	1398	2471	637.97		
MEAN	1.15	.42	1.60	.53	1.03	1.72	4.41	55.2	113	45.1	79.7	21.3		
MAX	8.4	1.6	7.0	1.0	2.3	6.0	14	449	639	161	144	103		
MIN	.00	.20	.35	.35	.16	.15	.15	.83	23	21	24	.00		
CFSM	.03	.01	.05	.02	.03	.05	.13	1.61	3.29	1.31	2.32	.62		
IN.	.04	.01	.05	.02	.03	.06	.14	1.85	3.67	1.51	2.67	.69		
AC-FT	71	25	98	33	57	106	262	3400	6730	2770	4900	1270		
CAL YR 1980	TOTAL	2669.43	MEAN	7.29	MAX	265	MIN	.00	CFSM	.21	IN	2.89	AC-FT	5290
WTR YR 1981	TOTAL	9940.06	MEAN	27.2	MAX	639	MIN	.00	CFSM	.79	IN	10.75	AC-FT	19720

LITTLE BLUE RIVER BASIN

06894000 LITTLE BLUE RIVER NEAR LAKE CITY, MO

LOCATION.--Lat 39°06'02", long 94°18'01", in SW¼SE¼ sec.35, T.50 N., R.31 W., Jackson County, Hydrologic Unit 10300101, at downstream side of right pier of upstream bridge on dual State Highway 78, 3 mi (4.8 km) southwest of Lake City, and 10.5 mi (16.9 km) upstream from mouth.

DRAINAGE AREA.--184 mi² (477 km²).

PERIOD OF RECORD.--March 1948 to current year.

GAGE.--Water-stage recorder. Datum of gage is 719.15 ft (219.197 m) National Geodetic Vertical Datum of 1929. Prior to July 24, 1957, nonrecording gage at site 50 ft (15 m) downstream at same datum. Water-stage recorder July 24, 1957 to Apr. 28, 1977. Nonrecording gage Apr. 29, 1977 to May 10, 1979.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--33 years, 136 ft³/s (3.852 m³/s), 10.04 in/yr (255 mm/yr), 98,530 acre-ft/yr (121 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,000 ft³/s (481 m³/s) Sept. 13, 1977; maximum gage height, 27.94 ft (8.516 m) Sept. 14, 1961; no flow at times during 1953-54, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (57 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
May 17	2330	6,980	198	15.73	4.795
May 18	0030	6,890	195	15.64	4.767
June 25	0930	*7,320	207	*15.96	4.865

Minimum, 18 ft³/s (0.59 m³/s) Oct. 12, gage height, 3.05 ft (0.930 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	38	28	33	29	36	50	39	90	604	776	207
2	21	35	28	32	30	35	47	38	348	326	281	117
3	21	37	25	32	27	35	47	36	313	217	214	59
4	21	34	27	29	28	41	48	36	126	211	155	51
5	21	30	27	31	27	47	46	60	98	188	126	45
6	23	30	25	29	29	42	45	54	85	131	142	41
7	22	29	59	31	31	38	42	40	73	114	173	189
8	19	27	1270	30	31	37	42	37	67	125	116	117
9	19	26	197	29	31	36	41	90	63	126	96	60
10	21	27	96	27	30	36	40	141	58	126	173	49
11	19	29	62	28	26	34	102	70	108	128	155	47
12	18	29	58	28	29	35	83	52	139	129	105	43
13	21	27	49	29	29	35	63	50	80	129	86	39
14	20	40	46	29	33	35	107	650	61	130	83	38
15	48	35	45	29	38	35	72	277	742	130	84	34
16	288	33	44	30	49	34	55	96	1490	131	71	34
17	84	33	40	27	41	35	50	1290	287	133	65	31
18	40	28	38	24	46	39	52	5390	161	133	58	30
19	29	28	38	30	48	47	352	1580	188	134	62	29
20	32	27	35	30	43	40	176	450	1470	136	60	27
21	27	26	34	31	40	38	95	262	1690	136	56	29
22	25	27	30	30	42	64	76	182	968	137	51	27
23	26	38	34	31	43	71	69	411	352	137	49	27
24	172	45	31	29	42	52	59	1010	198	139	52	27
25	68	36	35	30	37	46	54	248	4390	140	53	45
26	37	32	30	32	39	67	51	162	1890	121	72	45
27	262	29	33	29	35	55	51	125	485	985	78	34
28	237	28	33	29	35	47	46	104	352	365	57	31
29	73	26	36	28	---	67	45	179	454	167	50	27
30	49	28	34	27	---	72	41	162	3710	127	46	27
31	43	---	33	29	---	53	---	107	---	1320	47	---
TOTAL	1827	937	2600	912	988	1384	2147	13428	20536	7255	3692	1606
MEAN	58.9	31.2	83.9	29.4	35.3	44.6	71.6	433	685	234	119	53.5
MAX	288	45	1270	33	49	72	352	5390	4390	1320	776	207
MIN	18	26	25	24	26	34	40	36	58	114	46	27
CFSM	.32	.17	.46	.16	.19	.24	.39	2.35	3.72	1.27	.65	.29
IN.	.37	.19	.53	.18	.20	.28	.43	2.71	4.15	1.47	.75	.32
AC-FT	3620	1860	5160	1810	1960	2750	4260	26630	40730	14390	7320	3190
CAL YR 1980	TOTAL	41556	MEAN 114	MAX 3250	MIN 18	CFSM .62	IN 8.40	AC-FT 82430				
WTR YR 1981	TOTAL	57312	MEAN 157	MAX 5390	MIN 18	CFSM .85	IN 11.59	AC-FT 113700				

MISSOURI RIVER MAIN STEM

06895500 MISSOURI RIVER AT WAVERLY, MO

LOCATION.--Lat 39°12'50", long 93°30'50", sec.14, T.51 N., R.24 W., Lafayette County, Hydrologic Unit 10300101, on right bank 450 ft (137 m) downstream from bridge on U.S. Highway 65 at Waverly. River mile, 293.4 (472.1 km).

DRAINAGE AREA.--487,200 mi² (1,262,000 km²), approximately.

PERIOD OF RECORD.--October 1928 to current year. Gage-height records collected at same site 1878-79, 1883-99 are contained in reports of Missouri River Commission; since 1915 in reports of National Weather Service. Daily discharge not collected Apr. 1, 1977 to Mar. 31, 1978.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 646.00 ft (196.901 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1934, at datum 5.00 ft (1.524 m) lower; Mar. 30, 1929, to Apr. 4, 1934, nonrecording gage, Apr. 5, 1934, to June 13, 1943, water-stage recorder, June 14, 1943, to Sept. 15, 1944, nonrecording gage, and Sept. 16, 1944, to May 28, 1969, water-stage recorder at present datum; all at site 450 ft (137 m) upstream.

REMARKS.--Records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--51 years (1929-76, 79-81), 48,830 ft³/s (1,383 m³/s), 35,380,000 acre-ft/yr (43,620 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 549,000 ft³/s (15,550 m³/s) July 16, 1951; maximum gage height, 28.85 ft (8.793 m) Oct. 13, 1973; minimum discharge, about 1,700 ft³/s (48.1 m³/s) Jan. 9, 1940; minimum gage height, 0.4 ft (0.122 m) Jan. 12, 1930, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 139,000 ft³/s (3,936 m³/s) July 28, gage height, 21.54 ft (6.565 m); minimum, 15,700 ft³/s (445 m³/s) Feb. 16, gage height, 4.88 ft (1.487 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	UCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	39800	42800	37900	22200	26000	24800	41200	37000	42200	76600	65100	44100		
2	39400	42000	37300	24200	25900	24600	42500	36900	41500	58700	61900	46600		
3	41500	41200	35000	25900	24700	24300	43300	36800	44400	55400	61400	46100		
4	41600	41000	33300	26800	22500	24400	42000	36200	50200	54900	76700	43700		
5	41600	42000	31500	28500	20300	25200	40500	37100	50900	57400	77000	44400		
6	41400	42700	29100	29500	18800	24900	39800	39900	48800	52200	68500	43300		
7	41600	42900	29100	27000	18100	24900	39200	45900	45500	50300	85500	45800		
8	41800	42300	33400	24400	16800	24800	38400	43000	42000	53100	91200	51900		
9	41200	42000	52000	22900	16000	24300	38200	39500	39900	48800	80600	48000		
10	40900	42100	46200	21800	17000	23600	38800	41100	39200	45000	66600	47500		
11	40600	42200	36400	22200	18600	23000	38400	39700	39400	42700	62000	44100		
12	41000	42200	31000	23700	19700	22600	40400	38200	39600	42700	58800	42500		
13	42000	42200	30000	22800	19600	22100	45400	37800	41800	39900	56400	41400		
14	41700	42700	29600	22300	18000	21800	44800	41300	41200	38700	54500	40500		
15	42000	43900	29500	22700	16100	21800	43800	50100	41900	38400	54100	40400		
16	43300	44500	29000	22000	15900	21300	46000	45000	62200	39600	52200	39800		
17	44900	45300	29700	21600	17200	20900	44000	41800	65100	39800	50300	39500		
18	45600	45400	30400	22300	19000	20700	40300	64900	59100	40400	48600	39500		
19	47200	44700	30800	22400	23500	19800	40700	84800	58300	42100	48200	39300		
20	47100	44800	30300	22500	31300	19000	42100	77500	56800	45100	46800	39400		
21	45100	44100	30800	22100	35900	19900	40100	64800	56500	44500	45000	39400		
22	43400	43900	29900	22000	37600	20700	38400	56200	58100	47400	43600	39400		
23	43100	43800	27300	22300	37200	21000	37600	51800	53200	43300	42700	38800		
24	44100	44100	24000	23000	36300	23100	38000	68800	48500	39800	41900	38700		
25	43300	44600	21700	23000	31100	26300	38700	60900	52600	42100	41100	39200		
26	42300	44300	20600	22400	27400	32700	35900	56900	57900	55200	42000	41000		
27	43300	43500	20700	22500	25700	36400	34600	51700	46300	81000	43300	45200		
28	46600	43400	21700	23500	25300	38600	34400	47300	44700	135000	44100	46600		
29	45400	41400	22400	24500	---	39100	35900	48000	47300	116000	46000	42800		
30	44700	38500	21800	26100	---	39600	36800	47800	71600	84900	44600	40500		
31	44400	---	21100	26000	---	40400	---	45700	---	65400	43100	---		
TOTAL	1332400	1290500	933500	735100	661500	798600	1200200	1514400	1486700	1716400	1743800	1279400		
MEAN	42980	43020	30110	23710	23630	25760	40010	48850	49560	55370	56250	42650		
MAX	47200	45400	52000	29500	37600	40400	46000	84800	71600	135000	91200	51900		
MIN	39800	38500	20600	21600	15900	19000	34400	36200	39200	38400	41100	38700		
CFSM	.09	.09	.06	.05	.05	.05	.08	.10	.10	.11	.12	.09		
IN.	.10	.10	.07	.06	.05	.06	.09	.12	.11	.13	.13	.10		
AC-FT	2643000	2560000	1852000	1458000	1312000	1584000	2381000	3004000	2949000	3404000	3459000	2538000		
CAL YR 1980	ICIAL	17638500	MEAN	48190	MAX	163000	MIN	20600	CFSM	.10	IN	1.35	AC-FT	34990000
WTR YR 1981	ICIAL	14692500	MEAN	40250	MAX	135000	MIN	15900	CFSM	.08	IN	1.12	AC-FT	29140000

GRAND RIVER BASIN

06897500 GRAND RIVER NEAR GALLATIN, MO

LOCATION.--Lat 39°55'37", long 93°56'33", in SW¼NW¼ sec.16, T.59 N., R.27 W., Daviess County, Hydrologic Unit 10280101, on left bank 100 ft (30 m) upstream from bridge on State Highway 6, 50 ft (15 m) downstream from Chicago, Rock Island and Pacific Railroad Co. bridge, 1 mi (1.6 km) northeast of Gallatin, and 6 mi (9.7 km) upstream from Honey Creek, and at mile 90 (144.8 km).

DRAINAGE AREA.--2,250 mi² (5,830 km²), approximately.

PERIOD OF RECORD.--June 1921 to current year.

REVISED RECORDS.--WSP 786: 1933-34. WSP 1280: 1922.

GAGE.--Water-stage recorder. Datum of gage is 712.56 ft (217.188 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 31, 1922, nonrecording gage at site 100 ft (30 m) upstream at same datum. Jan. 31, 1922, to Nov. 15, 1936 nonrecording gage, at site about 1,100 ft (335 m) upstream at datum 0.17 ft (0.052 m) higher. Nov. 16, 1936, to Nov. 14, 1937, nonrecording gage, and Nov. 15, 1937, to Sept. 21, 1961, water-stage recorder on center pier of highway bridge at present datum. Sept. 22-27, 1961, nonrecording gage at railroad bridge, 100 ft (30 m) upstream at same datum, Sept. 28, 1961, to Mar. 4, 1964, water-stage recorder on downstream side of left bank pier of highway bridge and wire-weight gage for stages below 7.2 ft (2.2 m) at present datum.

REMARKS.--Records good except periods of ice effect and no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--60 years, 1,142 ft³/s (32.34 m³/s), 6.89 in/yr (175 mm/yr), 827,400 acre-ft/yr (1,020 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,100 ft³/s (1,960 m³/s) June 24, 1947, gage height, 34.55 ft (10.531 m); maximum gage height, 37.02 ft (11.284 m) June 2, 1929, (present site and datum); no flow Oct. 3-13, 1980; minimum gage height observed, -0.48 ft (-0.146 m) Oct. 11, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 40 ft (12.2 m) July 8, 1909, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,800 ft³/s (504 m³/s) July 27, gage height, 18.26 ft (5.566 m) from highwater mark, no peak above base of 18,000 ft³/s (510 m³/s); no flow several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	1.4	156	36	108	48	165	99	155	220	815	1860	238		
2	.44	125	50	114	48	154	88	148	193	483	2390	428		
3	.00	100	20	114	54	138	86	142	180	298	6350	342		
4	.00	77	56	98	44	156	98	149	234	195	2190	223		
5	.00	66	48	104	28	266	147	168	525	604	1110	180		
6	.00	55	54	98	22	480	176	188	983	520	750	157		
7	.00	46	368	85	18	438	178	188	364	254	800	178		
8	.00	42	9660	77	12	326	174	184	234	158	608	275		
9	.00	39	4000	79	14	266	128	195	173	117	458	755		
10	.00	35	2000	66	8.0	228	96	204	139	84	363	415		
11	.00	30	1000	68	34	189	81	236	117	60	306	263		
12	.00	27	700	54	40	174	121	263	102	64	264	206		
13	.00	24	500	54	28	145	344	241	97	44	238	175		
14	.65	24	350	56	34	134	1410	1140	91	24	222	151		
15	6.4	25	300	54	36	119	4320	1960	120	11	206	135		
16	23	30	220	52	54	102	2090	1080	1480	1.2	201	126		
17	35	32	187	51	77	96	912	716	1250	52	180	102		
18	57	32	178	50	205	81	608	3360	719	167	162	94		
19	66	34	119	48	1000	72	502	9860	398	333	139	87		
20	54	34	96	52	775	62	460	6680	293	7800	127	83		
21	42	32	108	64	539	52	468	1560	283	5890	114	73		
22	34	34	89	68	441	55	462	843	222	1450	104	73		
23	34	42	79	75	360	57	444	724	162	4130	95	66		
24	85	42	98	79	309	54	376	2560	137	13500	104	66		
25	81	42	68	94	272	61	329	2470	115	3890	108	104		
26	87	36	66	94	242	85	297	1440	89	4620	334	237		
27	167	42	64	89	209	85	249	797	90	15100	2870	288		
28	903	36	64	79	182	79	216	541	89	9490	954	223		
29	527	32	64	68	---	96	180	415	70	3720	470	152		
30	268	38	77	62	---	111	161	323	95	1770	349	112		
31	163	---	91	58	---	101	---	265	---	1260	293	---		
TOTAL	2654.89	1409	20810	2312	5133.0	4627	15300	39195	9264	76904.2	24719	6007		
MEAN	85.6	47.0	671	74.6	183	149	510	1264	309	2481	797	200		
MAX	903	156	9660	114	1000	480	4320	9860	1480	15100	6350	755		
MIN	.00	24	20	48	8.0	52	81	142	70	1.2	95	66		
CFSM	.04	.02	.30	.03	.08	.07	.23	.56	.14	1.10	.35	.09		
IN.	.04	.02	.34	.04	.08	.08	.25	.65	.15	1.27	.41	.10		
AC-FT	5270	2790	41280	4590	10180	9180	30350	77740	18380	152500	49030	11910		
CAL YR 1980	TOTAL	190539.09	MEAN	521	MAX	11100	MIN	.00	CFSM	.23	IN	3.15	AC-FT	377900
WTR YR 1981	TOTAL	208335.09	MEAN	571	MAX	15100	MIN	.00	CFSM	.25	IN	3.44	AC-FT	413200

GRAND RIVER BASIN

06899500 THOMPSON RIVER AT TRENTON, MO

LOCATION.--Lat 40°04'46", long 93°38'39", in NE¼SW¼ sec.18, T.61 N., R.24 W., Grundy County, Hydrologic Unit 10280102, at downstream side of center pier of bridge in Trenton, 1.8 mi (2.9 km) downstream from Weldon River, and at mile 26.0 (41.8 km).

DRAINAGE AREA.--1,670 mi² (4,330 km²), approximately.

PERIOD OF RECORD.--June 1921 to September 1923 (published as "near Hickory"), August 1928 to current year. Monthly discharge only for some periods, published in WSP 1310. Gage-height records collected in vicinity 1910-14 and since 1925 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1116: 1945(M).

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 721.87 ft (220.026 m) National Geodetic Vertical Datum of 1929. June 25, 1921, to Aug. 26, 1923, nonrecording gage at two sites 12 mi (19.3 km) downstream (by old channel route) at different datums. Aug. 1, 1928, to Sept. 15, 1930, nonrecording gage at present site and datum. Sept. 16, 1930, to May 31, 1945, nonrecording gage at site 1.5 mi (2.4 km) downstream at datum 3.46 ft (1.055 m) lower. June 1, 1945, to Dec. 7, 1959, nonrecording gage at same site and datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--55 years (1921-23, 1928-81), 921 ft³/s (26.08 m³/s), 7.49 in/yr (190 mm/yr), 667,300 acre-ft/yr (823 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,000 ft³/s (2,690 m³/s) June 6, 1947, gage height, 25.7 ft (7.833 m) from floodmark; minimum daily, 1 ft³/s (0.028 m³/s) June 17, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 30.7 ft (9.357 m) July 6, 1909, present site and datum, from information by local residents, discharge, 50,000 ft³/s (1,420 m³/s), determination by Corps of Engineers occurred before new channel was dredged.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,000 ft³/s (736 m³/s) July 19, gage height, 15.43 ft (4.703 m), no other peak above base of 15,000 ft³/s (425 m³/s); minimum, 18 ft³/s (0.51 m³/s), minimum gage height, 1.66 ft (0.506 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	239	66	150	60	255	164	188	190	1320	730	347
2	53	196	58	150	60	221	146	156	158	543	697	231
3	51	149	50	140	60	186	124	136	144	271	720	184
4	51	122	50	140	50	215	158	136	112	10600	519	169
5	51	109	63	130	50	537	361	141	112	12100	472	152
6	50	101	94	120	50	696	401	122	113	6560	704	140
7	48	97	1950	110	50	537	285	105	89	2210	471	130
8	47	93	12200	100	50	381	203	103	81	1280	362	148
9	46	87	4620	100	45	289	153	122	749	904	296	139
10	44	80	2080	100	45	246	143	166	937	737	282	138
11	42	76	1150	100	45	209	166	148	469	652	243	157
12	40	74	830	90	44	224	2480	107	308	559	214	155
13	40	74	635	90	45	209	3850	120	196	432	197	158
14	41	75	498	90	45	174	10100	1500	158	336	204	134
15	45	74	410	85	50	161	6010	1390	219	328	372	106
16	61	77	370	90	122	161	2480	630	2510	1770	273	94
17	58	81	326	90	296	158	1600	389	1070	823	179	87
18	55	82	293	90	990	141	1160	5280	646	604	150	77
19	52	79	250	90	882	136	924	7550	485	14300	136	72
20	59	78	220	90	655	132	792	1920	272	6220	137	73
21	55	82	200	90	559	134	727	882	193	2570	137	73
22	53	81	190	90	459	134	701	578	171	1290	136	73
23	49	90	180	90	787	169	675	468	175	10700	133	71
24	79	83	170	90	947	174	555	1920	193	4040	124	73
25	139	80	170	90	559	172	480	2570	625	2330	127	107
26	173	68	160	90	397	161	389	1060	392	7990	154	191
27	245	72	160	90	331	146	324	567	342	10100	179	135
28	736	73	160	90	289	143	265	393	324	6070	177	76
29	528	71	150	80	---	146	224	309	273	2850	174	69
30	349	69	150	70	---	164	209	235	3040	1500	190	72
31	258	---	150	70	---	164	---	206	---	976	238	---
TOTAL	3656	2812	28053	3085	8022	6975	36249	29597	14746	112965	9127	3831
MEAN	118	93.7	905	99.5	287	225	1208	955	492	3644	294	128
MAX	736	239	12200	150	990	696	10100	7550	3040	14300	730	347
MIN	40	68	50	70	44	132	124	103	81	271	124	69
CFSM	.07	.06	.54	.06	.17	.14	.72	.57	.30	2.18	.18	.08
IN.	.08	.06	.62	.07	.18	.16	.81	.66	.33	2.52	.20	.09
AC-FT	7250	5580	55640	6120	15910	13830	71900	58710	29250	224100	18100	7600
CAL YR 1980	TOTAL	207839	MEAN 568	MAX 13300	MIN 40	CFSM .34	IN 4.63	AC-FT 412200				
WTR YR 1981	TOTAL	259118	MEAN 710	MAX 14300	MIN 40	CFSM .43	IN 5.77	AC-FT 514000				

06900000 Medicine Creek near Galt, Mo.

LOCATION.--Lat 40°17'45", long 93°21'45", in SW¼NW¼ sec.34, T.62 N., R.22 W., Sullivan County, Hydrologic Unit 10280103, on left bank 15 ft (4.6 m) upstream from bridge on State Highway 6, 1.2 mi (1.9 km) east of Galt, 2 mi (3.2 km) upstream from West Medicine Creek, and at mile 32.0 (51.5 km).

DRAINAGE AREA.--225 mi² (583 km²).

PERIOD OF RECORD.--July 1921 to September 1975, October 1977 to current year. Monthly discharge only for some periods, published in WSP 1310.

REVISED RECORDS.--WSP 1340: 1926. WSP 1730: 1948(M).

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 767.48 ft (233.928 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 3, 1934, nonrecording gage at site 150 ft (46 m) downstream at following datums: prior to Oct. 1, 1924, at datum 6.97 ft (2.124 m) higher; Oct. 1, 1924 to Sept. 30, 1926, at datum 4.97 ft (1.515 m) higher; Oct. 1, 1926, to Dec. 2, 1934, at datum 1.97 ft (0.600 m) higher; Dec. 3, 1934, to Apr. 25, 1956, nonrecording gage, and Apr. 26 to Sept. 30, 1956; water-stage recorder at site 30 ft (9 m) downstream at datum 2.00 ft (0.610 m) higher; Oct. 1, 1956, to Apr. 5, 1969, water-stage recorder at site 30 ft (9 m) downstream at present datum; Apr. 6, 1969 to July 24, 1975, water-stage recorder; July 25, 1975 to Aug. 21, 1978, nonrecording gage at same site and datum.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--58 years (water years 1922-75, 78-81), 140 ft³/s (3.965 m³/s), 8.45 in/yr (215 mm/yr), 101,400 acre-ft (125 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,200 ft³/s (685 m³/s) June 6, 1947, gage height, 20.9 ft (6.37 m), present datum, from floodmark; no flow at times in 1934, 1936-37, 1940, 1954, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Discharge of 8,000 ft³/s (227 m³/s) was determined for flood of July 1909 by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage Height (ft)	Gage Height (m)
Dec. 8	1115	5,200	147	10.09	3.075
July 19	0800	4,060	115	8.00	2.438
July 23	1400	*11,700	331	*16.50	5.029
July 27	2400	5,810	165	10.00	3.048

Minimum discharge, 2.2 ft³/s (0.06 m³/s) June 6, 7, gage height, 0.88 ft (0.268 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	49	15	38	14	68	27	24	9.1	309	196	29
2	7.7	48	8.5	38	12	57	19	21	7.7	199	174	26
3	9.1	27	7.4	30	10	44	14	19	6.4	166	157	24
4	9.1	19	15	24	9.0	71	27	29	5.8	1670	144	21
5	7.7	12	16	26	8.0	138	128	33	5.2	1000	117	24
6	7.7	9.9	15	24	7.0	157	73	18	4.0	683	95	24
7	7.7	9.1	40.3	17	7.0	101	44	12	3.4	469	90	61
8	6.4	8.0	4720	19	6.0	71	35	9.5	3.4	354	68	45
9	6.4	6.9	1680	18	6.0	57	30	37	345	303	60	23
10	5.8	7.7	286	16	5.0	52	25	43	71	269	60	18
11	5.8	8.6	182	16	5.0	46	44	22	21	289	44	18
12	5.8	7.7	136	15	4.8	44	112	14	12	298	41	17
13	5.8	7.7	112	15	5.0	38	512	64	6.4	252	41	14
14	5.2	9.4	90	14	5.0	33	610	320	6.4	224	44	14
15	6.4	8.8	76	15	5.0	33	415	219	46	241	393	13
16	12	11	68	12	10	27	209	97	519	303	84	10
17	14	16	63	12	60	25	129	68	141	272	52	10
18	14	16	54	12	128	23	104	389	49	654	27	11
19	14	12	46	14	98	21	83	386	23	2860	19	12
20	14	11	35	18	65	19	75	237	11	865	16	13
21	12	10	35	18	60	19	75	131	6.4	667	14	12
22	12	9.9	27	14	68	30	117	90	5.2	415	12	14
23	12	15	25	18	166	44	129	90	4.0	5820	11	14
24	9.1	14	23	21	193	38	109	71	33	1610	21	16
25	10	11	23	30	120	35	67	49	618	594	16	41
26	9.8	15	27	33	87	35	50	38	190	1940	19	68
27	24	23	27	27	76	33	40	27	149	2770	32	27
28	48	15	27	30	73	27	32	19	133	2060	36	14
29	46	14	30	25	---	30	29	18	213	512	36	12
30	57	11	33	19	---	35	26	12	381	382	43	12
31	42	---	38	16	---	35	---	11	---	255	35	---
TOTAL	454.2	442.7	8542.9	644	1314.8	1486	3389	2617.5	3028.4	28705	2197	657
MEAN	14.7	14.8	276	20.8	47.0	47.9	113	84.4	101	926	70.9	21.9
MAX	57	49	4720	38	193	157	610	389	618	5820	393	68
MIN	5.2	6.9	7.4	12	4.8	19	14	9.5	3.4	166	11	10
CFSM	.07	.07	1.23	.09	.21	.21	.50	.38	.45	4.12	.32	.10
IN	.08	.07	1.41	.11	.22	.25	.56	.43	.50	4.75	.36	.11
AC-FT	401	878	16940	1280	2610	2950	6720	5190	6010	56940	4360	1300

CAL YR 1980 TOTAL 35797.5 MEAN 97.8 MAX 4720 MIN 1.0 CFSM .44 IN 5.92 AC-FT 71000
WTR YR 1981 TOTAL 53478.5 MEAN 147 MAX 5820 MIN 3.4 CFSM .65 IN 8.84 AC-FT 106100

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO

LOCATION.--Lat 39°38'21", long 93°16'22", in NE¼ sec.29, T.56 N., R.21 W., Livingston County, Hydrologic Unit 10280103, near right bank on downstream side of pier of bridge on State Highway 139, 240 ft (73 m) downstream from Chicago, Burlington & Quincy Railroad bridge, 2 mi (3.2 km) southwest of Sumner, 2.5 mi (4.0 km) downstream from Locust Creek, and at mile 41.0 (66.0 km).

DRAINAGE AREA.--6,880 mi² (17,800 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to current year. Prior to April 1924 monthly discharge only, published in WSP 1310.

GAGE.--Water-stage recorder. Datum of gage is 631.18 ft (192.384 m) National Geodetic Vertical Datum of 1929. Prior to July 11, 1926, nonrecording gage at site 200 ft (61 m) upstream at same datum. July 11, 1926, to July 9, 1939, nonrecording gage at same site and datum. July 10, 1939, to Aug. 8, 1952, water-stage recorder at site 200 ft (61 m) upstream at same datum. Aug. 9, 1952, to Nov. 12, 1953, nonrecording gage at site 120 ft (37 m) upstream and at same datum. Nov. 13, 1953, to July 6, 1964, water-stage recorder and nonrecording gage for stages below 8.3 ft (2.53 m) at site 120 ft (37 m) upstream and at same datum. July 7, 1964, to May 26, 1965, nonrecording gage at present site and datum. Auxiliary water-stage recorder at site 3.2 mi (5.1 km) downstream from base gage at datum 631.30 ft (192.420 m) above mean sea level. Mar. 15, 1939, to Aug. 4, 1942, auxiliary nonrecording gage at various sites. Aug. 5, 1942, to Dec. 14, 1956, auxiliary nonrecording gage at present site.

REMARKS.--Water-discharge records fair except periods of no gage-height record and ice effect which are poor.

AVERAGE DISCHARGE.--58 years, 3,777 ft³/s (107.0 m³/s), 7.46 in/yr (189 mm/yr), 2,736,000 acre-ft/yr (3,373 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft³/s (5,100 m³/s) June 7, 8, 1947, gage height, 39.5 ft (12.04 m) from floodmark; minimum observed, 10 ft³/s (0.28 m³/s) Aug. 12, 1934; minimum gage height, 2.19 ft (0.668 m) Aug. 22, 23, 31, Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 9, 1909, reached a stage of 36.7 ft (11.19 m) from floodmark.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 65,000 ft³/s (1,840 m³/s) at 0730 July 29, gage height, 37.09 ft (11.305 m) no other peak above base of 38,000 ft³/s (1,080 m³/s); minimum, 148 ft³/s (4.19 m³/s) Oct. 11, 12, gage height, 6.26 ft (1.908 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	240	779	177	666	300	870	475	763	1160	10500	12000	812
2	230	617	173	640	280	784	469	714	996	5520	8910	757
3	216	555	160	700	270	698	422	683	901	3450	12600	739
4	204	451	152	850	260	669	379	621	840	9540	12100	795
5	195	332	175	800	250	933	393	665	988	29100	5920	584
6	198	278	194	750	240	2010	652	694	1270	26400	4010	471
7	192	250	422	700	230	2040	758	641	1630	14800	5110	448
8	177	228	20800	650	230	1640	707	589	1040	6410	4370	832
9	172	287	31000	600	220	1240	626	595	766	4420	2590	1030
10	164	213	24200	550	220	1000	550	2000	1510	3320	2000	1120
11	154	175	14800	530	220	856	507	2310	1500	2240	1750	854
12	148	172	6660	500	240	769	492	1400	1080	2060	1450	596
13	151	162	3630	490	270	694	2090	977	669	1710	1220	498
14	154	164	2900	460	311	630	11200	4020	755	1370	1080	425
15	159	160	2400	440	326	573	17200	15400	697	1100	1080	366
16	164	160	2000	420	349	533	10100	9410	835	999	2300	322
17	166	157	1700	390	386	496	3430	3760	9000	1890	1520	268
18	195	157	1500	399	673	468	3090	14200	6500	2120	976	267
19	204	157	1300	379	1500	529	2390	31600	4500	8810	788	257
20	201	159	1200	356	2260	567	2380	33200	2800	25200	690	248
21	198	158	1100	352	1910	445	2180	18400	2000	20400	621	236
22	207	150	1000	310	1550	427	1990	6950	1200	9910	550	228
23	198	160	1100	304	1460	417	3410	4600	700	12800	496	223
24	204	167	1290	321	2390	436	2840	5560	500	31300	496	208
25	228	190	1300	359	2370	471	1980	7480	400	31700	504	231
26	281	183	1190	394	1740	448	1530	6330	11400	30100	533	276
27	347	177	1050	414	1180	427	1260	4180	9490	36300	1200	472
28	689	182	946	400	992	440	1090	2850	5200	55000	3340	532
29	2230	181	819	360	---	427	957	2060	3070	59500	1820	478
30	1530	180	721	330	---	427	838	1640	8720	37800	1060	374
31	1080	---	689	310	---	466	---	1360	---	26800	853	---
TOTAL	10896	7341	126748	15124	22627	22850	76887	185652	62317	514569	93937	14967
MEAN	351	245	4089	488	808	736	2563	5969	2744	16600	3030	499
MAX	2230	779	31000	850	2390	2040	17200	33200	11400	59500	12600	1120
MIN	148	150	152	304	220	417	379	569	400	999	496	206
CFSM	.05	.04	.59	.07	.12	.11	.37	.87	.40	2.41	.44	.07
IN	.06	.04	.69	.08	.12	.12	.42	1.00	.45	2.78	.51	.08
AC-FT	21610	14560	251400	30000	44880	45280	152500	368200	163300	1021000	186300	29690
CAL YR 1980 TOTAL	703908			MEAN 1923	MAX 31000	MIN 95	CFSM .28	IN 3.81	AC-FT 1346000			
WTR YR 1981 TOTAL	1173895			MEAN 3216	MAX 59500	MIN 148	CFSM .47	IN 6.35	AC-FT 2328000			

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1962 to June 1963 and August 1967 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1974 to Sept. 1981. (Discontinued)

WATER TEMPERATURES: January 1974 to Sept. 1981. (Discontinued)

REMARKS.--Water temperatures and specific conductance samples collected daily by observer. Number of missing days of record exceeded 20 percent of year. Only 19 samples were collected during year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHDS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	COLI- FORM, FECAL, 0.7 JM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, (COLS. PER 100 ML) (31673)	HARD- NESS NONCAR- BONATE AS CAC03 (00900)	HARD- NESS, NONCAR- BONATE (MG/L CAC03) (00902)	CALCIUM DIS- SOLVED AS CA (MG/L AS CA) (00915)
JCI												
07...	180	472	8.0	20.5	2.4	11.0	122	65	40	210	11	63
VJV												
04...	450	414	7.7	12.0	35	9.6	89	430	380	180	28	53
DEC												
02...	200	484	8.1	2.0	5.6	12.2	88	130	84	210	7	60
JAN												
06...	570	520	7.6	.5	10	12.8	89	220	16	230	44	69
FEB												
10...	300	525	8.1	.5	18	12.8	89	82	100	190	0	49
MAR												
03...	690	431	8.0	7.0	40	10.4	86	110	52	190	47	55
APR												
07...	750	515	8.3	13.0	34	9.8	92	250	130	230	33	67
MAY												
05...	620	464	8.3	18.5	50	7.2	76	1300	2600	230	41	67
JUN												
03...	950	448	8.3	22.5	32	7.0	80	220	180	220	40	69
JUL												
07...	14000	164	7.5	25.0	550	4.0	48	3000	8000	66	4	20
AUG												
04...	9000	230	7.6	25.0	550	2.4	29	4000	24000	100	10	31
SEP												
02...	750	395	8.2	21.0	21	12.0	133	520	320	180	32	54

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HC03) (00440)	CAR- BONATE FET-FLD (MG/L AS CU3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLOR- IDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUOR- IDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L AS (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 07...	13	14	5.2	244	0	34	10	.1	11	--	439	.00
NOV 04...	11	13	7.0	168	0	45	15	.2	10	253	307	1.4
DEC 02...	14	19	4.2	240	0	34	12	.2	8.3	287	155	.04
JAN 06...	15	15	5.4	250	0	62	15	.2	12	--	482	1.0
FEB 10...	17	18	4.2	270	0	55	10	.2	7.5	326	264	.23
MAR 03...	12	16	4.4	180	0	60	11	.1	8.5	256	477	1.3
APR 07...	16	20	4.3	240	0	74	20	.3	4.6	322	652	.16
MAY 05...	14	14	5.5	230	0	53	9.4	.3	8.6	298	499	.00
JUN 03...	12	12	5.1	220	0	50	8.7	.2	9.7	283	726	.42
JUL 07...	4.0	4.5	5.2	76	0	3.7	5.0	.2	7.2	118	4460	1.9
AUG 04...	5.8	5.9	5.6	110	0	10	11	.5	12	168	4080	.36
SEP 02...	11	11	5.3	180	0	27	10	.2	10	244	494	.05

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, DIS- SUS- PENDE (MG/L (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 07...	.200	1.10	1.0	.180	.030	9.8	--	--	149	72	27
NOV 04...	.100	1.20	1.2	.400	.200	--	7.3	.9	424	515	16
DEC 02...	.020	1.10	.42	.160	.050	16	--	--	184	99	0
JAN 06...	.410	1.00	.66	.120	.050	20	--	--	36	55	42
FEB 10...	.230	1.40	.94	.100	.040	--	11	.2	36	29	42
MAR 03...	.110	1.20	.79	.180	.080	13	--	--	375	699	24
APR 07...	.060	1.00	1.0	.210	.080	15	--	--	364	737	31
MAY 05...	.070	1.70	.72	.240	.070	--	9.9	1.6	428	716	24
JUN 03...	.030	1.30	.97	.250	.090	8.9	--	--	1500	3850	46
JUL 07...	.280	2.90	2.1	.570	.080	21	--	--	1140	43100	41
AUG 04...	.170	6.10	1.4	1.00	.150	--	16	--	13300	323000	17
SEP 02...	.070	<.20	<.20	.210	.050	25	--	--	115	233	73

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CU) (01027)	CADMIUM DIS- SOLVED (UG/L AS CU) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CU) (01037)	COBALT, DIS- SOLVED (UG/L AS CU) (01035)
NOV 04...	2	1	100	100	2	2	0	0	2	<3
FEB 10...	0	1	100	100	1	<1	10	0	4	<3
MAY 05...	4	2	200	100	0	<1	30	10	1	<3
AUG 04...	19	2	200	90	3	2	10	0	7	<3

DATE	CUPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	CUPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
NOV 04...	32	13	3000	130	9	3	190	60	.2
FEB 10...	8	3	1600	30	24	2	1200	780	.9
MAY 05...	8	3	3400	30	3	2	290	60	.9
AUG 04...	70	10	13000	590	28	0	980	76	.7

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL SOLVED (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 04...	.2	13	6	0	0	0	0	30	20
FEB 10...	1.6	7	0	0	0	0	0	20	10
MAY 05...	.1	11	3	0	1	0	0	90	20
AUG 04...	.2	18	4	0	0	0	0	110	18

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 4,80 1345	MAR 3,81 1240	MAY 5,81 1230
TOTAL CELLS/ML	4900	5100	79000
DIVERSITY: DIVISION	1.0	1.3	1.2
..CLASS	1.0	1.3	1.3
..ORDER	1.7	2.1	1.7
...FAMILY	2.2	2.3	2.4
....GENUS	2.7	2.7	3.1

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...CHARACIACEAE						
...SCHROEDERIA	--	-	--	-	--	-
...MICRACIINIACEAE						
...GLENKINIA	--	-	--	-	--	-
...MICRACIINIUM	130	3	--	-	1600	2
...OCCYSTIACEAE						
...ANKISTHODESMUS	170	3	330	6	5800	7
...CHOCATELLA	--	-	--	-	--	-
...DICTYOSPHAERIUM	170	3	560	11	14000#	17
...GLOBEACTINIUM	--	-	--	-	--	-
...KIRCHNERIELLA	--	-	--	-	2100	3
...OCCYSTIS	--	-	--	-	--	-
...SELENASTRUM	33	1	--	-	--	-
...TREUBARIA	--	-	--	-	--	-
...SCENEDESMACEAE						
...ACTINASTRUM	--	-	--	-	24000#	31
...CRUCIGENIA	--	-	--	-	--	-
...SCENEDESMUS	1000#	21	--	-	4100	5
...TETRASTRUM	130	3	--	-	--	-
..TETRASPORALES						
...PALMELLACEAE						
...GLOBECCYSTIS	--	-	--	-	--	-
...VOLVOCCALES						
...CHLAMYDOMONADACEAE						
...CHLAMYDOMONAS	270	5	840#	16	2500	3
...PHACCTACEAE						
...PTEROMONAS	--	-	--	-	--	-
CHRYSCOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...CCSCINODISCACEAE						
...CYCLOCUTELLA	2000#	40	2200#	42	13000#	17
...MELCSIRA	270	5	190	4	1600	2
...FENNALES						
...ACHNANTHACEAE						
...ACHNANTHES	--	-	94	2	--	-
...CYMBELLACEAE						
...CYMBELLA	--	-	--	-	--	-
...FRAGILARIACEAE						
...SYNECRA	33	1	--	-	--	-
...GOMPHONEMACEAE						
...GOMPHONEMA	33	1	--	-	--	-
...NAVICELLACEAE						
...NAVICULA	67	1	94	2	--	-
...NITZSCHACEAE						
...NITZSCHIA	540	11	420	8	3300	4
...SURIPELLACEAE						
...SURIPELLA	--	-	94	2	410	1
..CHRYSCOPHYCEAE						
...CHRYSMONADALES						
...MALLONMADACEAE						
...MALLCOMONAS	--	-	--	-	--	-
...OCHROMONADACEAE						
...KEPHYRIOPSIS	--	-	--	-	2500	3
..XANTHOPHYCEAE						
...PETERCOCCOLES						
...CENTRITRACTACEAE						
...CENTRITRACTUS	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	--	-	410	1

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 4,80 1345		MAR 3,81 1240		MAY 5,81 1230	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)						
.CYANOPHYCEAE						
..CHROCOCCALES						
...CHROCOCCACEAE						
....ANACYSTIS	--	-	140	3	1200	2
..FORMICENALES						
...NCSTCCACEAE						
....ANABAENA	--	-	--	-	--	-
...CSCILLATORIACEAE						
....CSCILLATORIA	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	33	1	--	-	--	-
....PHACUS	--	-	--	-	410	1
....TRACHELOMONAS	--	-	230	5	2100	3

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	JUN 3,81 0900	JUL 7,81 1330	AUG 4,81 1200	SEP 2,81 1300
TOTAL CELLS/ML	47000	4100	3200	130000
DIVERSITY: DIVISION	1.4	0.7	1.1	1.5
..CLASS	1.5	0.7	1.1	1.5
..ORDER	2.0	0.7	2.0	1.7
...FAMILY	3.0	0.8	2.6	2.3
....GENUS	4.0	0.8	2.9	2.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCEAE								
....CHARACIACEAE								
....SCHROEDERIA	*	0	--	-	--	-	--	-
...MICRACINIACEAE								
....GLENKINIA	--	-	--	-	--	-	*	0
...MICRACINIUM	3400	7	--	-	--	-	4700	3
...OCCYSTACEAE								
....ANKISTRODESMUS	1300	3	--	-	--	-	3900	3
....CHOCATELLA	--	-	--	-	--	-	*	0
....DICTYOSPHAERIUM	5200	11	--	-	560#	17	16000	12
....GLOBEACTINIUM	860	2	--	-	--	-	2000	1
....KIRCHNERIELLA	2400	5	--	-	--	-	--	-
...OCCYSTIS	--	-	--	-	--	-	2200	2
....SELENASTRUM	*	0	--	-	--	-	980	1
....TREUBARIA	--	-	--	-	--	-	*	0
...SCENEDESMACEAE								
....ACTINASTRUM	4100	9	--	-	--	-	5900	4
....CRUCIGENIA	1700	4	--	-	--	-	3000	2
....SCENEDESMUS	3900	8	--	-	280	9	2000	1
....TETRASTRUM	1700	4	--	-	--	-	980	1
..TETRASPORALES								
...PALMELLACEAE								
....GLOBECCYSTIS	--	-	--	-	--	-	*	0
..VOLVACEAE								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	2400	5	--	-	140	4	*	0
...PHACCTACEAE								
....PTEROMONAS	*	0	--	-	--	-	--	-
CHRYSCOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...CCSCINODISCACEAE								
....CYCLOCTELLA	8800#	19	--	-	840#	26	13000	10
....MELCSIRA	1700	4	--	-	280	9	*	0
...FENNALES								
....ACHNANTHACEAE								
....ACHNANTHES	--	-	--	-	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	2600	5	--	-	--	-	--	-
...FRAGILARIACEAE								
....SYNECRA	*	0	--	-	140	4	--	-
...GOMPHONEMACEAE								
....GOMPHONEMA	--	-	--	-	--	-	--	-
...NAVICULACEAE								
....NAVICULA	*	0	140	3	420	13	--	-
...NITZSCHACEAE								
....NITZSCHIA	1700	4	140	3	420	13	2000	1
...SURIPELLACEAE								
....SURIPELLA	--	-	--	-	--	-	--	-
..CHRYSCOPHYCEAE								
...CHRYSONOMADACEAE								
....MALLONOMADACEAE								
....MALLONOMAS	430	1	--	-	--	-	--	-
...OCHROMONADACEAE								
....KEPHYRIOPSIS	--	-	--	-	--	-	--	-
..XANTHOPHYCEAE								
...PETERSCOCCEAE								
...CENTRITRACTACEAE								
....CENTRITRACTUS	--	-	--	-	--	-	*	0
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADACEAE								
....CRYPTOMONAS	860	2	--	-	140	4	*	0

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	JUN 3,81 0900		JUL 7,81 1330		AUG 4,81 1200		SEP 2,81 1300	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
..CHROCOCCALES								
...CHROCOCCACEAE								
....ANACYSTIS	2600	5	--	-	--	-	3200	2
...FORMICINAE								
...NGSTICACEAE								
....ANABAENA	--	-	--	-	--	-	5400	4
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	3500#	86	--	-	65000#	49
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	*	0	--	-	--	-	*	0
....PHACUS	--	-	--	-	--	-	--	-
....TRACHELOMONAS	640	1	280	7	--	-	980	1

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

CHARITON RIVER BASIN

06904050 CHARITON RIVER AT LIVONIA, MO

LOCATION.--Lat 40°29'00", long 92°41'10", in NW¼SE¼NW¼ sec.34, T.66 N., R.16 W., Schuyler County, Hydrologic Unit 10280201, on left bank 10 ft (3.0 m) downstream from bridge on U.S. Highway 136, 1 mi (1.6 km) upstream from Shoal Creek, and 0.5 mi (0.8 km) east of Livonia.

DRAINAGE AREA.--864 mi² (2,240 km²).

PERIOD OF RECORD.--May 1974 to current year. Occasional discharge measurements since October 1962.

GAGE.--Water-stage recorder. Datum of gage is 770.00 ft (234.696 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Several observations of water temperature were made during the year. Flow mostly regulated by Rathbun Lake.

AVERAGE DISCHARGE.--7 years, 575 ft³/s (16.28 m³/s), 416,600 acre-ft/yr (514 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,350 ft³/s (123 m³/s) Sept. 18, 1978; maximum gage height, 24.26 ft (7.394 m) July 4, 1974; minimum, 13 ft³/s (0.368 m³/s) Jan. 11 to Feb. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,000 ft³/s (113 m³/s) June 27; minimum, 23 ft³/s (0.65 m³/s) June 8; minimum gage height, 4.47 ft (1.362 m) May 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	130	119	118	66	816	76	833	50	1420	1470	1290
2	73	132	295	110	66	778	67	821	44	981	1420	1300
3	73	114	966	100	66	745	61	815	41	1010	1520	1290
4	68	104	990	100	66	770	67	665	38	3000	1200	1270
5	62	94	1010	90	66	910	81	187	36	3500	1400	1260
6	60	86	1040	88	66	866	98	84	33	3000	1350	1250
7	60	79	1760	84	66	800	94	65	28	2000	1220	1250
8	57	78	2010	82	67	748	80	57	665	1000	1360	1160
9	54	72	2010	78	64	720	73	63	2700	1200	1540	1070
10	83	67	2020	67	60	533	70	80	852	1400	1330	1240
11	94	64	1980	64	58	206	117	79	428	1300	1190	1250
12	53	62	2230	67	58	140	788	65	948	1200	1360	1240
13	51	61	2130	67	65	136	1410	59	950	1200	1350	1230
14	52	63	2140	78	86	119	2510	927	550	1200	1580	1230
15	64	64	1980	71	95	107	2230	932	900	1800	1870	1120
16	73	66	1830	70	119	100	1350	369	1100	2000	1520	317
17	67	59	1770	74	170	92	812	198	900	1600	1350	88
18	65	58	1730	76	183	84	823	2200	500	2200	1250	105
19	68	56	1690	79	175	76	924	2060	600	3800	1240	1070
20	55	53	1210	82	141	77	915	740	800	2000	1230	1070
21	54	84	312	87	110	82	902	335	950	1800	1220	1070
22	53	115	250	88	204	93	1220	216	1100	1900	1180	1070
23	54	124	200	83	642	91	1430	171	1300	1600	1110	1070
24	71	139	150	81	1250	87	1030	566	2000	1400	1110	1070
25	120	146	140	78	1180	86	925	286	3700	1500	1130	1220
26	79	128	130	77	620	84	892	161	3080	2200	1130	350
27	64	125	128	75	531	87	876	125	2540	4000	1250	500
28	150	131	118	72	842	87	857	99	877	3200	1250	700
29	224	130	122	68	---	89	853	87	393	2500	1280	800
30	177	132	122	68	---	83	838	80	1570	2000	1290	900
31	138	---	115	66	---	82	---	61	---	1510	1300	---
TOTAL	2500	2816	52697	2488	7182	9774	22469	13486	29873	60421	41000	29850
MEAN	80.6	93.9	1055	80.3	257	315	749	435	996	1949	1323	995
MAX	224	146	2230	118	1250	910	2510	2200	3700	4000	1870	1300
MIN	51	53	115	64	58	76	61	57	28	981	1110	88
CFSM	.09	.11	1.22	.09	.30	.37	.87	.50	1.15	2.26	1.53	1.15
IN.	.11	.12	1.41	.11	.31	.42	.97	.58	1.29	2.60	1.77	1.29
AC-FT	4960	5590	64850	4930	14250	19390	44570	26750	59250	119600	81320	59210
CAL YR 1980	TOTAL	227907	MEAN 623	MAX 5170	MIN 28	CFSM .72	IN 9.81	AC-FI	452100			
WIR YR 1981	TOTAL	254556	MEAN 697	MAX 4000	MIN 28	CFSM .81	IN 10.96	AC-FI	504900			

CHARITON RIVER BASIN

06904500 CHARITON RIVER AT NOVINGER, MO

LOCATION.--Lat 40°14'05", long 92°41'14", on south line of SE¼NE¼ sec.28, T.63 N., R.16 W., Adair County, Hydrologic Unit 10280202, on right bank at the downstream side of center pier on bridge on State Highway 6, 0.6 mi (1.0 km) east of Novinger, 1 mi (1.6 km) downstream from Rye Creek, 2 mi (3.2 km) upstream from Spring Creek, and at mile 73.1 (117.6 km).

DRAINAGE AREA.--1,370 mi² (3,550 km²), approximately.

PERIOD OF RECORD.--October 1930 to September 1952. October 1954 to current year. Prior to February 1931 monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 896: 1939. WSP 1116: 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 737.65 ft (224.836 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 20, 1939, nonrecording gage at bridge over old channel, 500 ft (152 m) east, at same datum. Dec. 20, 1939, to Sept. 30, 1952, and Oct. 1, 1954, to Aug. 1, 1956, water-stage recorder, supplemented by nonrecording gage, at same site and datum. Aug. 2, 1956, to May 16, 1957, nonrecording gage at present site and datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year. Some regulation by Rathbun Lake.

AVERAGE DISCHARGE.--49 years, 785 ft³/s (22.23 m³/s), 7.78 in/yr (198 mm/yr), 568,700 acre-ft/yr (701 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,900 ft³/s (649 m³/s) June 7, 13, 1947, gage height, 28.50 ft (8.687 m); minimum, 0.1 ft³/s (0.003 m³/s) Aug. 31, Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 28.6 ft (8.72 m) in June 1917.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,500 ft³/s (184 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 8	0900	14,000	396	20.54	6.261	June 25	1000	10,800	306	16.22	4.944
Apr. 14	0900	7,830	222	13.77	4.197	July 5	0200	*17,100	484	*23.07	7.032
May 14	1600	8,130	230	14.59	4.447	July 19	0900	10,000	283	16.65	5.075
May 18	2100	7,240	205	13.59	4.142	July 27	1330	10,300	292	16.95	5.166
June 15	2330	7,400	210	13.27	4.045						

Minimum, 70 ft³/s (1.98 m³/s) Oct. 24, gage height, 1.11 ft (0.388 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	236	125	276	90	980	125	1040	163	3300	1910	1340
2	120	210	111	265	90	922	111	1030	152	2020	1800	1280
3	110	183	784	250	90	862	99	1030	142	2680	1900	1260
4	111	162	984	250	90	934	108	988	130	15100	1520	1250
5	105	147	992	250	90	1500	108	528	127	16200	1650	1240
6	103	134	1010	200	80	1200	145	225	118	12700	1630	1240
7	101	123	5700	170	80	1000	142	157	101	8940	1370	1300
8	99	114	12800	160	80	900	122	137	3080	6000	1510	1250
9	98	111	6000	150	80	800	125	217	5180	3330	1730	1040
10	88	102	4500	150	80	700	111	464	2000	2200	1600	1200
11	129	99	3500	140	80	500	315	306	884	1920	1500	1230
12	108	99	3000	140	75	400	1860	241	3440	1660	1400	1230
13	79	97	2700	140	73	300	2700	241	2080	1630	1500	1220
14	75	104	2500	130	73	250	4780	5380	1260	1510	1600	1220
15	84	108	2300	130	137	220	3330	2650	2830	2260	2300	1190
16	122	107	2100	130	228	200	2310	1020	5460	2650	2100	525
17	130	101	2000	130	318	180	1340	701	2400	2370	1700	164
18	115	94	1900	130	352	170	1200	6390	1070	2850	1500	97
19	104	91	1860	130	324	160	1420	5100	1420	7900	1400	587
20	89	91	1720	130	273	150	1430	1790	1380	4820	1350	1120
21	84	80	1000	130	273	147	1270	813	1590	3300	1350	1140
22	80	84	600	130	661	228	3750	510	1590	2670	1300	1130
23	75	101	400	120	2880	205	3470	390	1730	3160	1300	1130
24	96	137	300	120	3260	172	1800	2560	2750	2600	1300	1140
25	171	137	250	120	2160	164	1310	930	8610	1970	1300	1220
26	171	130	250	110	1230	180	1210	528	5380	5130	1300	799
27	143	127	250	110	938	164	1150	400	4110	7980	1300	471
28	361	125	249	110	995	140	1120	330	2310	5800	1290	560
29	395	130	249	100	---	159	1090	285	2450	4000	1260	813
30	344	130	257	100	---	157	1060	230	6320	2700	1300	806
31	271	---	267	100	---	145	---	187	---	2000	1300	---
TOTAL	4297	3694	60658	4701	15180	14189	39111	36798	70257	141350	47270	30192
MEAN	139	123	1957	152	542	458	1304	1187	2342	4560	1525	1006
MAX	395	236	12800	276	3260	1500	4780	6390	8610	16200	2300	1340
MIN	75	80	111	100	73	140	99	137	101	1510	1260	97
CFSM	.10	.09	1.43	.11	.40	.33	.95	.87	1.71	3.33	1.11	.73
IN.	.12	.10	1.65	.13	.41	.39	1.06	1.00	1.91	3.84	1.28	.82
AC-FT	8520	7330	120300	9320	30110	28140	77580	72990	159400	280400	93760	59890

CAL YR 1980 TOTAL 322931 MEAN 882 MAX 12800 MIN 35 CFSM .64 IN 8.77 AC-FT 640500
WIR YR 1981 TOTAL 467697 MEAN 1281 MAX 16200 MIN 73 CFSM .94 IN 12.70 AC-FT 927700

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO

LOCATION.--Lat 39°32'25", long 92°47'23", in NW¼SW¼ sec.26, T.55 N., R.17 W., Chariton County, Hydrologic Unit 10280202, on right bank on downstream side of road at bridge on State Highway 129, 3.2 mi (5.1 km) northwest of Prairie Hill, 13.5 mi (21.7 km) upstream from Puzzle Creek, and at mile 19.6 (31.5 km).

DRAINAGE AREA.--1,870 mi² (4,840 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Prior to Oct. 1, 1953, published as "near Keytesville". Prior to May 1929, monthly discharge only, published in WSP 1309.

GAGE.--Water-stage recorder. Datum of gage is 632.05 ft (192.649 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1953, nonrecording gage at site 8.2 mi (13.2 km) downstream at datum 13.68 ft (4.170 m) lower. Oct. 1, 1953, to July 2, 1958, nonrecording gage at present site and datum.

REMARKS.--Records poor. Several observations of water temperature were made during the year. Some regulation by Rathbun Lake.

AVERAGE DISCHARGE.--53 years, 1,159 ft³/s (32.82 m³/s), 8.42 in/yr (214 mm/yr), 839,700 acre-ft/yr (1,040 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,900 ft³/s (903 m³/s) Apr. 23, 1973, gage height, 21.96 ft (6.693 m); maximum gage height, 25.3 ft (7.71 m) from floodmark, at site and datum then in use, June 8, 9, 1947; minimum, 4.6 ft³/s (0.13 m³/s) Aug. 7, 9, 10, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 9,000 ft³/s (255 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
May 14	2130	15,800	447	16.65	5.075	July 20	0330	13,600	385	15.28	4.657
May 18	1945	20,400	578	18.97	5.782	July 23	1930	14,500	411	15.78	4.180
July 6	0300	28,800	816	20.77	6.331	July 27	2000	*29,200	827	*20.73	6.319

Minimum discharge, 89 ft³/s (2.52 m³/s) Oct. 15, 23; gage height, 1.99 ft (0.607 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	170	289	149	461	120	1140	197	1150	524	6270	2810	1510	
2	142	252	161	430	120	1100	181	1120	486	2800	2580	1560	
3	131	215	109	420	120	1010	163	1100	462	1920	4190	1420	
4	122	197	371	410	120	972	151	1080	439	11800	2820	1340	
5	115	175	1020	400	110	1400	150	1100	440	24900	2050	1320	
6	115	159	1030	400	110	2020	149	784	426	25300	2030	1320	
7	111	147	2190	350	110	1440	151	509	391	18400	1980	1330	
8	107	139	12300	300	100	1140	171	409	385	12200	1730	1500	
9	104	133	7850	250	100	1000	174	398	3730	6990	1800	1430	
10	102	130	6250	200	100	931	171	1210	4930	3980	1970	1180	
11	96	114	5270	180	130	844	161	1380	1890	2870	1890	1290	
12	93	110	4530	170	160	556	500	756	1140	2580	1490	1340	
13	120	131	3530	170	200	395	4000	559	6570	2400	1620	1350	
14	105	113	2950	160	250	344	8680	8530	1780	2290	1640	1340	
15	97	111	2680	160	300	314	6140	9070	2880	2200	1850	1340	
16	99	109	2450	160	350	290	3340	3690	6390	2980	2820	1320	
17	107	111	2330	150	400	269	2370	1970	5280	3300	2060	1000	
18	129	109	2290	150	450	254	1560	15600	2270	3740	1680	499	
19	127	105	2170	150	531	239	1500	15600	1570	6730	1570	347	
20	113	103	2080	150	502	224	1990	6760	1800	11000	1520	405	
21	104	105	1790	150	461	210	1660	2900	1830	5870	1480	1280	
22	96	105	1000	150	450	210	1690	1760	1750	3910	1460	1300	
23	91	105	604	150	2140	251	6900	1370	1760	10200	1440	1300	
24	98	111	541	150	4300	308	3500	2880	2530	10500	1420	1310	
25	107	133	500	140	3250	253	2040	4050	21700	9440	1440	1390	
26	127	156	470	140	2300	227	1600	2060	14800	15100	1430	1500	
27	187	161	450	140	1380	230	1410	1200	6680	29300	1400	1250	
28	181	153	450	140	963	227	1310	858	3700	25500	1400	912	
29	252	142	450	130	---	216	1250	720	2320	11900	1380	889	
30	398	142	457	130	---	199	1200	675	9280	5490	1420	968	
31	375	---	454	130	---	207	---	578	---	3540	1560	---	
TOTAL	4321	4265	68876	6771	19627	18420	54459	91826	110133	285400	57930	36240	
MEAN	139	142	2222	218	701	594	1815	2962	3671	9206	1869	1208	
MAX	398	289	12300	461	4300	2020	8680	15600	21700	29300	4190	1560	
MIN	91	103	109	130	100	199	149	398	385	1920	1380	347	
CFSM	.07	.08	1.19	.12	.38	.32	.97	1.58	1.96	4.92	1.00	.65	
IN.	.09	.08	1.37	.13	.39	.37	1.08	1.83	2.19	5.68	1.15	.72	
AC-FT	8570	8460	136600	13430	38930	36540	108000	182100	218400	566100	114900	71880	
CAL YR 1980 TOTAL	384893	MEAN	1052	MAX	14400	MIN	38	CFSM	.56	IN	7.66	AC-FT	763400
WTR YR 1981 TOTAL	758268	MEAN	2077	MAX	29300	MIN	91	CFSM	1.11	IN	15.08	AC-FT	1504000

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO.--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1962 to June 1963, August 1967 to July 1975, and January 1978 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1978 to Sept. 1981. (Discontinued)

WATER TEMPERATURES: March 1978 to Sept. 1981. (Discontinued)

REMARKS.--Water temperature and specific conductance collected daily by observer. Number of missing days of record exceeded 20 percent of year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 735 micromhos Jan. 29, 1980; minimum daily, 135 micromhos Sept. 3, 1980.

WATER TEMPERATURES: Maximum daily, 32.0°C June 28, 1980; minimum daily 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (000001)	SPE- CIFIC CON- DUCT- ANCE (UMHDS) (000095)	PH (UNITS) (004000)	TEMPER- ATURE (DEG C) (000010)	TUR- BID- ITY (NTU) (000076)	OXYGEN, DIS- SOLVED (MG/L) (000300)	OXYGEN, DIS- SOLVED SATUR- ATION (000301)	COLI- FORM, FECAL, 0.7 JM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS, NONCAR- BONATE AS (MG/L) (00900)	HARD- NESS, NONCAR- BONATE AS (MG/L) (00902)	CALCIUM DIS- SOLVED (MG/L) AS CA) (00915)
NOV 04...	200	525	7.9	13.0	3.1	11.4	108	30	220	230	69	67
JAN 06...	559	585	7.8	.5	8.0	13.6	94	48	24	260	130	75
MAR 03...	1060	364	8.1	5.5	170	10.2	81	110	50	160	63	47
MAY 05...	1120	307	8.2	17.5	83	7.8	81	4000	4200	150	43	43
JUL 07...	16800	148	7.4	25.0	350	4.0	48	1600	13000	63	10	19
SEP 02...	1350	246	8.0	21.0	140	10.0	111	2400	6700	110	28	31

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L) AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K) (00935)	BICAR- BONATE FET-FLD (MG/L) AS HCO3) (00440)	CAR- BONATE FET-FLD (MG/L) AS CU3) (00445)	SULFATE DIS- SOLVED (MG/L) AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L) AS F) (00950)	SILICA, DIS- SOLVED (MG/L) AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N) (00630)
NOV 04...	15	15	5.6	180	0	94	10	.2	9.4	330	178	.60
JAN 06...	17	16	4.4	220	0	120	26	.2	11	358	540	.60
MAR 03...	11	9.8	4.1	140	0	68	7.4	.1	6.6	219	627	1.3
MAY 05...	9.1	8.9	5.1	130	0	47	6.8	.2	2.9	199	602	.53
JUL 07...	3.8	3.4	4.1	64	0	7.4	8.8	.2	7.0	111	5040	.64
SEP 02...	6.8	5.8	5.1	100	0	31	5.6	.2	5.2	154	561	.81

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L) AS N) (00623)	PHOS- PHORUS, TOTAL (MG/L) AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L) AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L) AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L) AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L) AS C) (00689)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SED. DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 04...	.030	.92	.85	.250	.090	--	10	1.0	--	--	--
JAN 06...	.240	.85	1.2	.070	.050	--	19	--	66	100	5
MAR 03...	.030	.96	.93	.380	.060	12	--	--	689	1970	64
MAY 05...	.090	1.30	.84	.260	.060	--	7.6	3.3	799	2420	11
JUL 07...	.280	2.00	1.3	.460	.050	--	5.4	2.0	1240	56200	45
SEP 02...	.100	1.60	2.3	.260	.050	13	--	--	441	1610	72

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
NOV 04...	1	1	100	100	3	7	10	0	2	<3
JAN 06...	1	0	100	100	3	<1	10	0	0	<3
MAY 05...	3	1	100	70	1	<1	30	10	26	<3
JUL 07...	9	1	400	100	4	3	30	0	12	0

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
NOV 04...	12	9	1800	140	7	2	90	30	.3
JAN 06...	9	2	720	10	6	0	50	40	1.3
MAY 05...	14	4	6900	60	11	4	330	10	.4
JUL 07...	120	17	34000	150	64	3	930	10	1.8

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 04...	.2	9	5	0	0	0	0	20	30
JAN 06...	1.5	8	3	1	1	0	0	30	7
MAY 05...	.2	33	2	0	1	0	0	40	70
JUL 07...	.3	38	6	0	0	0	0	190	20

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	495	511	---	---	---	660	229	471	178	281	245
2	---	---	540	---	---	---	582	275	480	204	---	274
3	408	492	541	---	---	---	546	---	483	238	248	279
4	399	511	541	---	---	---	583	315	500	---	245	---
5	---	541	365	---	---	---	---	312	503	---	279	---
6	399	541	257	---	---	---	594	324	497	152	301	---
7	405	560	---	---	---	---	591	358	---	147	286	---
8	407	561	150	---	---	---	594	392	495	146	285	---
9	441	---	150	---	---	---	628	419	497	171	---	---
10	441	569	198	---	---	---	596	---	256	195	254	---
11	455	560	195	---	---	---	589	350	243	---	260	---
12	462	560	247	---	---	---	426	428	248	---	275	---
13	462	540	248	---	---	---	---	431	157	---	274	---
14	441	529	---	---	---	565	278	245	---	---	245	235
15	430	525	265	---	---	---	305	191	267	---	245	232
16	429	---	265	---	---	575	308	---	274	---	---	233
17	429	---	270	---	---	580	306	---	212	---	241	229
18	---	529	265	---	427	596	351	221	246	---	252	229
19	---	531	270	---	424	596	---	200	---	181	243	275
20	450	531	270	---	446	623	311	165	292	207	244	---
21	450	529	---	---	442	624	369	193	---	182	239	228
22	485	525	295	---	---	---	370	326	---	206	238	221
23	487	---	293	---	284	609	309	374	281	171	---	221
24	485	---	399	---	273	606	308	---	295	167	236	237
25	---	510	---	---	270	608	344	173	174	---	234	218
26	---	510	---	329	318	612	374	232	162	---	236	227
27	431	533	---	333	345	615	368	251	151	153	233	---
28	480	531	---	393	357	623	361	365	---	151	234	322
29	550	---	---	---	---	645	---	410	199	164	235	331
30	469	---	---	---	---	---	347	383	202	261	---	327
31	470	---	---	---	---	645	---	---	---	289	238	---
MEAN	449	532	311	352	359	608	438	302	316	188	253	254
WTR YR 1981	MEAN	361		MAX	660	MIN	146					

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	8.0	6.0	---	---	---	12.0	17.0	22.0	24.0	24.0	23.0
2	---	---	2.0	---	---	---	12.0	17.0	21.0	24.0	---	23.0
3	15.0	1.0	1.5	---	---	---	19.0	---	21.0	25.0	25.0	23.0
4	19.0	9.0	3.5	---	---	---	14.0	19.0	23.5	---	25.0	---
5	---	12.0	6.0	---	---	---	---	17.0	24.0	---	26.0	---
6	19.5	12.0	8.0	---	---	---	9.0	15.0	24.0	28.0	26.0	---
7	14.0	13.0	---	---	---	---	16.0	17.0	---	26.0	24.0	---
8	14.0	11.5	5.0	---	---	---	15.0	15.0	26.0	26.0	24.0	---
9	14.0	---	4.5	---	---	---	12.0	14.0	27.0	26.0	---	---
10	16.0	10.0	4.0	---	---	---	15.0	---	23.0	27.0	25.0	---
11	15.0	8.0	4.0	---	---	---	20.0	12.0	22.0	---	24.0	---
12	---	7.0	5.0	---	---	---	19.0	14.0	23.0	---	23.0	---
13	16.0	14.5	5.0	---	---	---	---	15.0	22.0	---	23.0	---
14	14.0	7.0	---	---	---	6.0	15.0	12.0	---	---	25.0	23.0
15	16.0	7.0	4.0	---	---	---	15.0	13.0	23.0	---	28.0	23.0
16	17.0	---	4.0	---	---	8.0	14.0	---	21.0	---	---	21.0
17	14.0	---	4.0	---	---	9.0	15.0	---	20.0	---	22.0	16.0
18	12.0	3.5	5.0	---	1.0	6.0	17.0	12.0	21.0	---	21.0	14.0
19	---	3.0	1.0	---	2.0	5.0	---	12.0	---	27.0	21.0	15.0
20	13.0	2.0	.0	---	4.0	7.0	14.5	12.0	26.0	26.0	21.0	---
21	12.0	3.5	---	---	6.0	8.0	13.0	19.0	---	24.0	21.0	18.0
22	18.5	4.0	4.0	---	---	---	12.0	17.0	---	25.0	21.0	15.0
23	19.0	---	4.0	---	3.0	9.0	14.0	18.0	22.0	25.0	---	17.0
24	16.0	---	4.0	---	3.0	9.0	13.0	---	24.0	25.0	24.0	19.0
25	---	5.0	---	---	5.0	11.0	15.0	18.0	25.0	---	25.0	18.0
26	---	5.0	---	.0	6.0	10.0	19.0	18.0	24.0	---	25.0	19.0
27	7.0	5.5	---	.0	8.0	11.0	20.0	20.0	24.0	23.5	25.0	---
28	7.0	6.0	---	1.0	5.0	14.0	18.0	22.0	---	22.0	26.0	20.0
29	6.0	---	---	---	---	14.0	---	23.0	24.0	24.0	23.0	20.0
30	7.0	---	---	---	---	---	18.0	22.0	24.0	25.0	---	20.0
31	7.0	---	---	---	---	15.0	---	---	---	25.0	24.0	---
MEAN	14.0	7.0	4.0	.5	4.5	9.5	15.0	16.5	23.0	25.0	24.0	19.5
WTR YR 1981	MEAN	15.5		MAX	28.0	MIN	.0					

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO.--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 4,80 1535	MAR 3,81 1400	MAY 5,81 1415	JUL 7,81 1530	SEP 2,81 1415
TOTAL CELLS/ML	3100	2700	12000	1800	1900
DIVERSITY: DIVISION	1.0	1.4	0.5	1.1	0.8
..CLASS	1.0	1.4	0.5	1.1	0.8
...ORDER	1.4	2.0	0.7	1.1	0.8
...FAMILY	1.7	2.5	0.7	1.1	0.8
....GENUS	2.7	3.0	1.4	1.1	0.8

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....CHARACIACEAE										
....SCHWABERDIA	20	1	--	-	--	-	--	-	--	-
....OCCYSTACEAE										
....ANKISTRICESMUS	100	3	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	160	5	98	4	110	1	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	110	1	--	-	--	-
....OCCYSTIS	20	1	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	110	1	--	-	--	-
....SCENEDESMACEAE										
....CRUCIGENIA	80	3	--	-	--	-	--	-	--	-
....SCENEDESMUS	100	3	--	-	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	20	1	280	11	110	1	--	-	--	-
...VOLVOCAEAE										
....PANDORINA	--	-	--	-	--	-	560#	32	--	-
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
....CCSCINODISCACEAE										
....CYCLOTELLA	600#	20	530#	20	9300#	75	--	-	--	-
....MELOSIRA	1400#	44	790#	30	960	8	--	-	--	-
....STEPHANODISCUS	160	5	--	-	740	6	--	-	--	-
...PENNIALES										
....ACHNANTHACEAE										
....ACHNANTHES	--	-	14	1	--	-	--	-	--	-
...FRAGILARIACEAE										
....SYNEDRA	40	1	--	-	--	-	--	-	--	-
...NAVICULACEAE										
....GYROSIGMA	--	-	14	1	--	-	--	-	--	-
....NAVICULA	20	1	42	2	--	-	--	-	480#	25
...NITZSCHACEAE										
....NITZSCHIA	180	6	70	3	320	3	70	4	--	-
...SURIRELLACEAE										
....SURIRELLA	--	-	200	7	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROCOCCALES										
....CHROCOCCACEAE										
....ANACYSTIS	180	6	14	1	640	5	--	-	--	-
...HORMOGONIALES										
....NOSTOCACEAE										
....CYLINDROSPERMUM	--	-	280	11	--	-	--	-	--	-
...OSCILLATORIACEAE										
....OSCILLATORIA	--	-	210	8	--	-	--	-	1400#	75
...RIVULARIACEAE										
....RAPHIOTICPSIS	--	-	84	3	--	-	1100#	64	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
....EUGLENAEAE										
....TRACHELOMONAS	20	1	28	1	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

CHARITON RIVER BASIN

06906000 MUSSEL FORK NEAR MUSSELFORK, MO

LOCATION.--Lat 39°31'26", long 92°56'59", in SW¼SW¼SE¼ sec.32, T.55 N., R.18 W., Chariton County, Hydrologic Unit 10280202, on left bank at downstream side of pier of bridge on State Highway 5, 4.5 mi (7.2 km) southwest of Musselfork, and 1.5 mi (2.4 km) upstream from Long Branch.

DRAINAGE AREA.--267 mi² (692 km²).

PERIOD OF RECORD.--October 1948 to December 1951, October 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 639.25 ft (194.843 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1952, nonrecording gage at same site and datum.

REMARKS.--Records fair except periods of indefinite stage-discharge relation and no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--22 years (1948-51, 1962-81), 501 ft³/s (14.19 m³/s), 11.09 in/yr (282 mm/yr), 157,900 acre-ft/yr (195 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,100 ft³/s (654 m³/s) Apr. 22, 1973, gage height, 22.11 ft (6.739 m); no flow Sept. 29 to Oct. 16, Oct. 30 to Nov. 2, 1963, Aug. 16-26, 27-29, Nov. 16-24, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (57 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 10	1900	2,080	58.9	17.17	5.233	July 6	2400	5,420	153	19.99	6.093
May 19	1930	7,920	224	20.32	6.194	July 28	1400	20,500	581	21.86	6.663
June 25	2300	*23,800	674	22.47	6.849						

Minimum daily discharge, 1.0 ft³/s (0.03 m³/s) Nov. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	3.0	3.8	2.4	22	9.7	47	20	15	56	1510	359	48		
2	3.1	7.0	2.4	21	9.7	41	19	21	49	569	162	116		
3	100	6.0	2.3	21	9.4	35	18	27	44	180	221	51		
4	20	13	2.4	20	8.6	33	18	33	40	854	1260	28		
5	10	23	2.4	19	7.7	101	17	39	44	2520	360	21		
6	6.0	15	2.4	19	7.3	299	16	45	67	5360	161	17		
7	2.8	2.2	2.5	18	7.2	224	16	45	49	4990	92	16		
8	2.8	2.2	961	16	7.3	93	16	31	35	1250	69	15		
9	2.8	2.2	1790	15	7.2	54	17	33	36	240	56	15		
10	3.0	2.1	2020	14	7.0	42	18	421	29	130	71	27		
11	2.9	2.1	180	13	7.3	37	19	701	30	60	45	24		
12	2.8	2.1	146	12	7.6	34	20	241	29	46	39	18		
13	2.6	1.8	101	12	7.4	31	20	107	595	56	35	15		
14	2.7	1.0	75	11	7.2	29	696	1370	714	44	32	13		
15	2.7	1.4	59	11	7.2	28	1110	2360	300	33	30	12		
16	10	1.6	50	10	7.7	26	190	2640	1000	30	28	11		
17	46	1.6	47	9.8	9.1	24	75	2670	170	32	81	10		
18	49	1.6	43	9.5	11	24	58	3110	130	333	56	9.6		
19	45	1.4	39	9.4	39	23	68	6080	190	1050	33	9.2		
20	40	1.3	36	9.3	49	21	110	6500	250	1150	26	8.9		
21	32	1.2	31	9.5	36	21	138	2970	1100	1430	23	8.1		
22	10	1.1	27	9.3	28	20	126	643	1500	282	21	6.9		
23	33	1.1	26	9.1	150	20	471	218	240	2110	20	7.0		
24	3.8	1.1	24	9.1	525	20	1260	272	190	4560	20	7.4		
25	3.4	1.2	23	10	442	21	268	378	1520	7590	18	8.0		
26	4.6	1.4	22	11	163	23	55	776	17500	8570	18	11		
27	4.8	1.6	21	11	82	23	31	367	7310	15800	24	17		
28	4.9	1.8	21	11	57	22	21	160	2280	18100	23	18		
29	3.1	2.3	21	11	---	22	15	108	407	10400	19	15		
30	7.0	2.4	21	10	---	22	15	64	859	3760	18	12		
31	3.0	---	21	9.7	---	21	---	66	---	820	18	---		
TOTAL	475.6	107.6	6419.8	402.7	1716.6	1481	4943	32531	36763	93899	3438	595.1		
MEAN	15.3	3.59	207	13.0	61.3	47.8	165	1049	1225	3029	111	19.8		
MAX	100	23	2020	22	525	299	1260	6500	17500	18100	1260	116		
MIN	2.7	1.0	2.3	9.1	7.0	20	15	15	29	30	18	6.9		
CFSM	.06	.01	.78	.05	.23	.18	.62	3.93	4.59	11.3	.42	.07		
IN.	.07	.01	.89	.06	.24	.21	.69	4.53	5.12	13.08	.48	.08		
AC=FT	943	213	12730	799	3400	2940	9800	64530	72420	186200	6820	1180		
CAL YR 1980	TOTAL	25115.10	MEAN	68.6	MAX	2020	MIN	.90	CFSM	.26	IN	3.50	AC=FI	49820
WIR YR 1981	TOTAL	182722.40	MEAN	501	MAX	18100	MIN	1.0	CFSM	1.88	IN	25.46	AC=FI	362500

LITTLE CHARITON RIVER BASIN

06906200 EAST FORK LITTLE CHARITON RIVER NEAR MACON, MO

LOCATION.--Lat 39°44'47", long 92°31'05", NW¼NW¼NW¼ sec.18, T.57 N., R.14 W., Macon County, Hydrologic Unit 10280203, on downstream end of right abutment of bridge on U.S. Highway 36, 1000 ft (308 m) downstream from Long Branch Lake and 3 mi (4.8 km) west of Macon.

DRAINAGE AREA.--112 mi² (290 km²).

PERIOD OF RECORD.--September 1971 to current year. Partial-record station since May 1970.

GAGE.--Water-stage recorder. Datum of gage is 741.43 ft (225.988 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Several observations of water temperatures were made during the year. Some regulation from Long Branch Lake.

AVERAGE DISCHARGE.--10 years, 104 ft³/s (2.945 m³/s), 75,300 acre-ft/yr (92.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,700 ft³/s (246 m³/s) Apr. 21, 1973, gage height, 20.60 ft (6.279 m); no flow in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,390 ft³/s (39.36 m³/s) July 28, gage height, 14.48 ft (4.414 m), no peak above regulated base of 1,000 ft³/s (28.3 m³/s); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	2.0	2.5	10	9.0	45	30	50	192	165	725	586		
2	.00	2.0	2.0	5.0	5.0	40	30	50	241	143	602	389		
3	.00	2.0	2.0	5.0	4.0	40	30	50	184	134	549	426		
4	.00	2.0	2.0	5.0	3.0	60	30	50	269	215	544	439		
5	.00	10	1.5	30	3.0	80	30	50	192	263	477	437		
6	.40	1.5	5.0	5.0	5.0	70	30	512	340	284	439	469		
7	.40	1.5	30	50	5.0	15	30	667	309	281	414	18		
8	.40	1.5	300	10	5.0	50	30	484	7.8	272	394	105		
9	.40	1.5	20	3.0	3.0	45	30	409	144	250	382	469		
10	.40	1.5	20	5.0	3.0	43	30	600	226	230	377	473		
11	.20	1.5	8.0	30	3.0	40	30	450	81	210	372	471		
12	.00	1.5	7.0	30	3.0	40	5.0	400	30	200	363	471		
13	.00	1.0	7.0	30	3.1	40	40	391	51	190	353	469		
14	.00	1.5	40	40	3.1	45	100	150	45	180	347	473		
15	.00	1.5	40	45	3.2	45	50	12	15	170	342	473		
16	5.0	1.5	40	46	3.3	45	50	11	26	160	334	473		
17	20	1.5	40	45	30	45	50	17	135	150	329	473		
18	20	1.4	50	40	9.0	45	50	80	207	150	326	472		
19	18	1.4	54	30	5.0	45	60	28	133	150	371	469		
20	15	1.4	50	20	3.0	45	60	40	58	150	376	467		
21	5.0	1.1	45	35	50	45	80	107	64	150	370	464		
22	2.0	2.0	45	35	100	45	100	120	16	150	354	467		
23	10	2.0	30	35	80	45	100	119	128	250	342	473		
24	.60	2.0	15	10	70	45	80	119	229	200	348	469		
25	2.0	2.0	10	5.0	60	45	70	115	346	200	347	193		
26	4.0	4.0	9.0	10	50	45	60	189	106	338	372	.00		
27	4.0	4.0	25	3.0	45	45	60	322	93	814	385	.00		
28	4.0	3.0	20	3.0	50	45	60	319	74	1280	376	.51		
29	4.0	3.0	15	9.0	---	200	50	268	84	1200	376	.05		
30	4.0	3.0	13	9.0	---	30	50	2.6	160	1090	376	1.4		
31	3.0	---	12	9.0	---	30	---	5.7	---	908	374	---		
TOTAL	122.80	65.8	960.0	647.0	615.7	1543	1505.0	6187.3	4185.8	10527	12436	10391.96		
MEAN	3.96	2.19	31.0	20.9	22.0	49.8	50.2	200	140	340	401	346		
MAX	20	10	300	50	100	200	100	667	346	1280	725	473		
MIN	.00	1.0	1.5	3.0	3.0	15	5.0	2.6	7.8	134	326	.00		
CFSM	.04	.02	.28	.19	.20	.45	.45	1.79	1.25	3.04	3.58	3.09		
IN.	.04	.02	.32	.21	.20	.51	.50	2.06	1.39	3.50	4.13	3.45		
AC-FT	244	131	1900	1280	1220	3060	2990	12270	8300	20880	24670	20610		
CAL YR 1980	TOTAL	8810.67	MEAN	24.1	MAX	300	MIN	.00	CFSM	.22	IN	2.93	AC-FT	17480
WIR YR 1981	TOTAL	49187.36	MEAN	135	MAX	1280	MIN	.00	CFSM	1.21	IN	16.34	AC-FT	97560

LITTLE CHARITON RIVER BASIN

06906300 EAST FORK LITTLE CHARITON RIVER NEAR HUNTSVILLE, MO

LOCATION.--Lat 39°27'16", long 92°34'16", in NW¼NW¼NW¼ sec.26, T.54 N., R.15 W., Randolph County, Hydrologic Unit 10280203, on right bank 600 ft downstream from bridge on State Highway C, 1 mi (1.6 km) downstream from Sugar Creek, and 1.5 mi (2.4 km) northwest of Huntsville.

DRAINAGE AREA.--220 mi² (570 km²).

PERIOD OF RECORD.--October 1962 to current year. Occasional low-flow measurements, water years 1942-43, 1945-46.

GAGE.--Water-stage recorder. Datum of gage is 655.86 ft (199.906 m) National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission). From July 18, 1972, to Sept. 23, 1974, at datum 0.63 ft (0.192 m) higher and from Sept. 24, 1974, at present datum.

REMARKS.--Records poor. Several observations of water temperatures were made during the year. Flow partly regulated by Long Branch Lake.

AVERAGE DISCHARGE.--19 years, 173 ft³/s (4.899 m³/s), 10.68 in/yr (271 mm/yr), 125,300 acre-ft/yr (154 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s (850 m³/s) Apr. 21, 1973, gage height, 20.78 ft (6.333 m), at datum then in use, from rating curve extended above 4,000 ft³/s (115 m³/s) on basis of slope-area measurement of peak flow; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (43 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
May 14	1530	1,820	51.5	14.92	4.548	June 26	1200	2,480	70.2	16.25	4.953
May 18	0830	4,240	120	17.52	5.340	June 27	1000	*10,400	295	*19.25	5.867
June 16	2100	2,920	82.7	16.80	5.121						

Minimum discharge, 0.05 ft³/s (0.001 m³/s) Oct. 13; gage height, 5.60 ft (1.707 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	7.2	2.5	2.5	13	10	50	36	55	148	368	900	328		
2	3.4	2.1	2.0	6.0	10	45	36	55	299	260	805	308		
3	27	2.5	2.0	6.0	4.2	45	36	50	356	238	930	335		
4	.50	2.4	2.5	6.0	3.1	55	35	52	282	608	620	380		
5	.50	19	1.5	38	3.1	65	35	55	336	1210	550	390		
6	.50	1.8	1.5	6.0	5.4	85	35	98	278	632	494	390		
7	.70	1.8	11	82	5.0	65	36	638	408	431	449	300		
8	.70	1.7	394	11	5.0	18	35	550	358	384	410	60		
9	.70	1.7	26	3.6	3.1	50	35	488	88	360	380	124		
10	.70	1.6	40	4.0	3.1	47	35	692	115	353	362	395		
11	.70	1.6	9.2	34	3.0	45	35	482	222	334	352	400		
12	.10	1.6	7.2	34	4.2	45	35	410	118	320	338	400		
13	.05	1.3	7.2	34	4.2	45	10	397	129	308	314	402		
14	.30	1.5	7.2	44	4.2	45	32	1740	233	293	320	395		
15	.25	1.8	40	53	4.0	49	178	1420	250	282	308	418		
16	4.3	1.8	40	58	12	49	50	296	1410	275	298	406		
17	22	1.6	40	58	36	49	60	230	258	262	290	402		
18	22	1.5	50	48	10	49	50	3670	192	282	281	402		
19	21	2.0	60	38	8.4	49	70	3430	246	642	270	396		
20	19	1.5	60	26	4.2	49	70	1580	368	398	290	395		
21	19	1.5	50	23	5.4	49	80	335	1410	283	305	390		
22	2.5	2.0	50	39	100	49	103	222	1820	248	317	388		
23	18	2.0	40	37	90	49	208	276	298	2120	312	394		
24	2.4	2.0	19	50	80	49	105	260	226	2920	290	390		
25	1.0	2.0	13	5.4	63	49	80	170	2100	2740	290	432		
26	4.0	4.0	10	5.6	55	49	70	134	2400	4220	287	127		
27	4.0	4.0	28	12	50	49	65	252	1310	6320	327	21		
28	4.2	3.0	23	3.1	55	47	65	397	281	3970	329	11		
29	4.2	3.0	19	3.1	---	50	60	378	215	2510	324	11		
30	5.2	3.0	16	10	---	294	55	990	530	1810	329	11		
31	3.6	---	13	10	---	36	---	646	---	1220	318	---		
TOTAL	199.70	79.8	1086.8	800.8	640.6	1769	1835	20448	16684	36601	12389	9201		
MEAN	6.44	2.66	35.1	25.8	22.9	57.1	61.2	660	556	1181	400	307		
MAX	27	19	394	82	100	294	208	3670	2400	6320	930	432		
MIN	.05	1.3	1.5	3.1	3.0	18	10	50	88	238	270	11		
CFSM	.03	.01	.16	.12	.10	.26	.28	3.00	2.53	5.37	1.82	1.40		
IN.	.03	.01	.18	.14	.11	.30	.31	3.46	2.82	6.19	2.09	1.56		
AC-FT	396	158	2160	1590	1270	3510	3640	40560	33090	72600	24570	18250		
CAL YR 1980	TOTAL	13464.69	MEAN	36.8	MAX	400	MIN	.05	CFSM	.17	IN	2.28	AC-FT	26710
WTR YR 1981	TOTAL	101734.70	MEAN	279	MAX	6320	MIN	.05	CFSM	1.27	IN	17.20	AC-FT	201800

LAMINE RIVER BASIN

06908000 BLACKWATER RIVER AT BLUE LICK, MO

LOCATION.--Lat 38°59'25", long 93°12'14", in NW¼NE¼ sec.34, T.49 N., R.21 W., Saline County, Hydrologic Unit 10300104, on right bank upstream from county bridge, 0.8 mile (1.3 km) downstream from Finney Creek, 1 mi (1.6 km) south of Blue Lick, and at mile 30.8 (49.6 km).

DRAINAGE AREA.--1,120 mi² (2,900 km²), approximately.

PERIOD OF RECORD.--June 1922 to September 1933, May 1938 to current year.

REVISED RECORDS.--WSP 1006: 1929.

GAGE.--Water-stage recorder. Datum of gage is 593.79 ft (180.987 m) National Geodetic Vertical Datum of 1929. Prior to July 25, 1925, nonrecording gage at site 75 ft (23 m) downstream at datum 0.10 ft (0.030 m) lower. July 25, 1925, to Sept. 30, 1933, and May 23, 1938, to Dec. 3, 1956, nonrecording gage at site 25 ft (7.6 m) downstream at same datum.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--54 years, 651 ft³/s (18.44 m³/s), 8.42 in/yr (214 mm/yr), 503,500 acre-ft/yr (621 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,000 ft³/s (1,530 m³/s) Nov. 18, 1928, gage height, 41.25 ft (12.573 m) from floodmarks, from rating curve extended above 32,000 ft³/s (906 m³/s) by logarithmic plotting; minimum, 0.08 ft³/s (0.002 m³/s) Aug. 9, 10, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10,000 ft³/s (283 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
May 22	0500	9,080	257	29.07	8.861
July 27	1130	*10,200	289	*30.11	9.178

Minimum, 0.50 ft³/s (0.014 m³/s) Nov. 9, gage height, 5.71 ft (1.740 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	UCI	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	4.2	14	9.6	4.8	8.0	17	29	12	152	5020	6200	373		
2	5.8	7.8	8.4	5.5	7.5	15	22	9.1	100	4000	1470	2510		
3	3.0	3.9	7.5	6.4	7.5	13	17	7.3	607	3000	683	3050		
4	2.5	2.0	7.1	6.6	9.0	13	14	6.8	370	2000	413	2120		
5	2.1	1.3	6.8	6.6	11	38	11	6.6	160	1100	313	498		
6	2.4	1.1	6.7	6.5	10	71	9.1	6.7	101	900	834	217		
7	2.5	1.0	6.5	6.2	9.0	72	7.9	6.0	72	486	725	169		
8	2.1	.67	107	6.0	9.0	51	7.6	5.8	55	259	284	269		
9	2.1	.63	453	6.0	9.5	35	11	6.0	44	232	196	206		
10	2.0	.84	233	6.0	9.5	25	12	20	35	177	214	147		
11	2.1	7.2	114	5.8	10	20	12	41	37	128	985	110		
12	2.8	8.0	62	5.7	10	16	10	52	101	102	483	88		
13	2.8	9.0	37	5.5	11	13	9.6	58	2160	83	251	74		
14	2.9	10	26	5.5	11	12	13	363	1090	67	170	63		
15	4.8	13	21	5.4	12	10	12	541	1770	178	138	56		
16	32	2.4	18	5.4	15	8.7	15	291	2500	5170	120	50		
17	85	2.7	14	5.4	30	8.0	17	499	1600	5310	105	47		
18	74	3.3	13	5.4	70	8.2	14	6940	1100	6480	88	39		
19	44	5.7	12	5.4	115	7.5	500	7620	900	6670	73	31		
20	19	8.5	9.0	5.4	91	6.9	1240	7770	2500	6160	62	27		
21	9.1	8.9	7.2	5.2	62	6.3	491	4000	8140	5480	56	25		
22	4.3	9.3	6.3	5.2	54	10	187	2500	7280	4950	52	24		
23	2.7	9.6	5.8	6.0	85	14	120	1000	5130	3920	46	27		
24	3.0	10	5.3	6.5	99	11	88	700	994	838	42	24		
25	3.3	20	4.8	7.0	62	25	65	274	5510	1060	40	28		
26	3.4	32	4.4	8.0	40	24	49	167	6650	2810	40	32		
27	18	24	4.1	9.0	29	20	37	123	4000	8460	186	33		
28	47	17	4.0	9.2	22	18	28	96	3000	8880	311	57		
29	96	13	4.0	9.2	---	19	23	162	2500	9230	184	47		
30	49	10	4.0	9.0	---	19	16	231	2100	9160	110	32		
31	24	---	4.2	8.5	---	32	---	338	---	8320	77	---		
TOTAL	557.9	256.84	1225.7	198.3	918.0	658.6	3087.2	33852.3	60758	110610	14951	10533		
MEAN	18.0	8.56	39.5	6.40	32.8	21.2	103	1092	2025	3568	482	351		
MAX	96	32	453	9.2	115	72	1240	7770	8140	9230	6200	3050		
MIN	2.0	.63	4.0	4.8	7.5	6.3	7.6	5.8	35	67	40	24		
CFSM	.02	.008	.04	.006	.03	.02	.09	.98	1.81	3.19	.43	.31		
IN.	.02	.01	.04	.01	.03	.02	.10	1.12	2.02	3.67	.50	.35		
AC-FT	1110	509	2430	393	1820	1310	6120	67150	120500	219400	29660	20890		
CAL YR 1980	TOTAL	68973.35	MEAN	188	MAX	4870	MIN	.00	CFSM	.17	IN	2.29	AC-FT	136800
WIR YR 1981	TOTAL	237606.84	MEAN	651	MAX	9230	MIN	.63	CFSM	.58	IN	7.89	AC-FT	471300

LAMINE RIVER BASIN

06908800 LAMINE RIVER NEAR BLACKWATER, MO
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 38°56'47", long 92°56'53", in NW¼NE¼SE¼ sec.10, T.48 N., R.18 W., Cooper county, hydrologic unit 10300103 at bridge on county road 6.4 mi (10.5 km) downstream from Blackwater River.

DRAINAGE AREA.--2610 mi² (6760 km²).

PERIOD OF RECORD.--March 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1979 to September 1981. (Discontinued)

WATER TEMPERATURE: March 1979 to September 1981. (Discontinued)

REMARKS.--Water temperature and specific conductance collected daily by observer.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1450 micromhos Oct. 27, 28, 29, Nov. 5, 6, 1979; minimum daily, 93 micromhos June 13, 1981.

WATER TEMPERATURE: Maximum daily, 36.0°C Aug. 6, 1979; minimum daily, 0.0°C Jan. 8, 9, Feb. 1, 2, 7, 8, 9, 10, 12, 16, 17, Mar. 2, 1980.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily 1320 micromhos Oct. 10, 19, 20, 21. Minimum daily, 93 micromhos June 13.

WATER TEMPERATURES: Maximum daily 35.5 °C July 12; Minimum daily 0.5°C Dec. 27.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLCN- INSTAN- TANECUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMFC5) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (MG/L) (00301)	CHLOR- IDE, DIS- SOLVED (MG/L) (00940)	FLUOR- IDE, DIS- SOLVED (MG/L) (00950)	SILICA, DIS- SOLVED (MG/L) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, TOTAL (MG/L) (00630)
NOV 03...	--	585	7.6	10.5	3.1	9.0	80	440	460	160	26	41	
JAN 05...	--	1130	7.6	2.0	14	10.8	78	56	84	240	47	62	
MAR 02...	--	580	8.6	9.5	25	13.6	118	420	24	180	42	45	
MAY 04...	--	475	8.7	21.0	12	10.4	116	100	900	170	58	44	
JUL 06...	4080	221	7.6	25.0	630	3.0	36	8600	13000	89	27	26	
SEP 01...	--	423	8.0	25.0	27	12.2	147	160	56	150	35	40	
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L) (00925)	SODIUM, DIS- SOLVED (MG/L) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L) (00935)	BICAR- BONATE FET-FLD (MG/L) (00440)	CHLOR- IDE, DIS- SOLVED (MG/L) (00445)	SULFATE DIS- SOLVED (MG/L) (00945)	CHLOR- IDE, DIS- SOLVED (MG/L) (00940)	FLUOR- IDE, DIS- SOLVED (MG/L) (00950)	SILICA, DIS- SOLVED (MG/L) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, TOTAL (MG/L) (00630)	
NOV 03...	13	49	7.3	152	0	36	77	.3	5.5	356	--	.50	
JAN 05...	20	110	9.6	140	0	63	170	.3	12	589	--	4.2	
MAR 02...	17	46	4.7	160	8	47	69	.2	4.7	314	--	1.0	
MAY 04...	15	32	5.2	120	8	40	51	.2	8.3	294	--	.16	
JUL 06...	5.9	7.1	5.9	76	0	5.6	16	.3	8.6	163	1800	1.4	
SEP 01...	11	25	5.7	140	0	39	44	.2	4.8	224	--	.32	
DATE	NITRO- GEN, AMMONIA TOTAL (MG/L) (00610)	NITRO- GEN, AMMONIA + ORGANIC TOTAL (MG/L) (00625)	NITRO- GEN, AMMONIA + ORGANIC TOTAL (MG/L) (00623)	PHOS- PHORUS, TOTAL (MG/L) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L) (00666)	CARBON, ORGANIC TOTAL (MG/L) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L) (00681)	CARBON, ORGANIC PEN- DED (MG/L) (00689)	SEDIM- ENT, DIS- SOLVED (MG/L) (80154)	SEDIM- ENT, DIS- SOLVED (MG/L) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)		
NOV 03...	.400	1.50	1.5	.370	.230	--	12	1.3	7	--	0		
JAN 05...	5.60	8.50	8.0	1.60	1.30	--	20	.8	60	--	35		
MAR 02...	.410	1.90	2.0	.350	.270	12	--	--	50	--	77		
MAY 04...	.090	1.30	1.5	.190	.040	--	9.1	2.4	16	--	16		
JUL 06...	.320	2.30	1.1	.510	.130	--	6.8	3.6	1430	15800	67		
SEP 01...	.120	1.90	.54	.170	.030	9.6	--	--	40	--	61		

LAMINE RIVER BASIN

06908800 LAMINE RIVER NEAR BLACKWATER, MO--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CU) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
NOV 03...	2	1	100	100	3	3	0	0	2	<3
JAN 05...	2	2	100	100	1	2	10	0	0	<3
MAY 04...	3	2	100	100	0	2	30	10	0	<3
JUL 06...	13	2	600	100	0	0	40	0	7	0

DATE	CUPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
NOV 03...	10	9	1200	220	7	4	240	160	.7
JAN 05...	8	5	1200	210	3	1	450	410	.7
MAY 04...	6	4	630	<10	8	6	260	10	.9
JUL 06...	33	4	29000	310	26	1	920	20	.8

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 03...	.5	10	7	0	0	0	0	20	20
JAN 05...	.2	6	4	0	0	0	0	50	30
MAY 04...	.2	4	2	0	0	0	0	40	10
JUL 06...	.2	29	4	0	0	0	0	120	40

LAMINE RIVER BASIN

06908800 LAMINE RIVER NEAR BLACKWATER, MO--continued

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	988	500	1120	748	876	644	860	489	524	118	196	402
2	1020	523	900	750	974	634	851	491	504	173	278	179
3	1020	549	801	889	1000	702	840	496	485	226	311	142
4	1020	523	805	897	959	712	858	521	439	274	361	191
5	1030	525	915	886	980	714	868	554	428	212	439	198
6	1020	511	915	914	1070	714	871	547	471	196	447	243
7	1030	519	920	815	1020	646	885	563	468	278	457	298
8	1020	520	1060	835	945	634	887	566	483	311	404	303
9	1020	523	930	916	934	639	896	596	494	393	399	387
10	1030	523	590	931	967	660	899	661	481	406	399	381
11	1030	611	600	919	977	662	898	664	492	427	400	387
12	1040	617	540	953	932	795	894	354	179	468	390	388
13	1040	611	545	978	885	820	892	451	93	480	395	380
14	1050	640	529	990	899	813	887	622	173	532	416	403
15	1050	641	540	949	1040	803	918	423	219	555	449	447
16	1060	645	540	977	942	801	266	405	139	125	474	483
17	1300	660	540	974	975	892	873	407	119	118	475	599
18	1320	657	615	978	1140	897	438	168	200	126	477	634
19	1320	731	615	1070	1150	898	421	125	206	132	543	615
20	1320	940	640	974	756	897	410	119	154	133	552	651
21	1320	950	640	949	730	895	335	165	144	134	570	659
22	1060	940	675	932	723	870	332	175	143	174	575	660
23	1060	950	679	1000	655	857	322	219	188	178	613	709
24	1040	940	727	1110	655	841	323	218	293	208	629	716
25	1040	890	727	1190	520	848	346	400	128	178	641	734
26	1060	960	815	1100	509	902	350	398	123	174	637	771
27	1050	960	819	1020	516	901	350	467	117	125	246	777
28	675	1030	835	972	521	902	388	467	160	98	238	777
29	683	1100	839	1070	---	907	453	538	197	133	396	778
30	580	995	880	1040	---	907	478	547	226	139	401	887
31	599	---	885	1050	---	910	---	---	---	164	394	---
MEAN	1030	727	748	961	866	797	643	427	282	238	439	506

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	11.0	5.0	3.0	2.0	10.0	17.0	21.0	24.5	24.5	24.5	25.0
2	22.0	10.0	5.5	3.0	1.0	10.5	18.0	22.0	26.0	25.0	25.5	23.0
3	18.0	10.5	4.5	2.5	1.0	9.5	17.5	22.5	25.0	25.0	26.0	23.0
4	18.0	9.5	4.5	2.0	2.0	9.0	17.0	21.5	28.0	26.0	28.0	25.0
5	18.0	11.0	4.5	2.5	3.0	8.5	16.0	20.0	28.0	25.0	28.5	25.0
6	18.0	12.0	5.0	2.0	3.0	7.0	15.5	19.0	26.0	25.0	27.0	24.0
7	17.5	13.0	8.0	1.5	2.5	8.0	18.0	20.0	24.0	26.5	27.0	24.0
8	18.0	13.5	8.0	2.0	3.0	9.0	17.0	21.0	30.0	28.5	25.0	25.0
9	17.5	14.0	6.0	1.5	2.0	8.0	18.5	19.0	27.0	29.0	25.0	23.5
10	19.0	13.0	6.5	2.5	2.0	9.5	20.0	18.0	30.0	31.0	26.0	24.0
11	18.0	13.5	7.0	2.0	1.0	9.0	19.5	16.0	29.0	32.0	27.0	24.0
12	20.0	13.0	6.5	2.0	1.5	9.5	23.0	14.0	23.0	35.5	25.0	25.0
13	19.0	13.0	5.5	2.0	1.0	10.0	23.0	16.0	21.5	34.0	25.0	25.0
14	18.5	12.0	5.0	3.0	2.0	10.0	19.0	15.0	24.0	34.0	25.0	29.0
15	19.0	12.0	5.5	2.5	3.0	12.0	19.0	17.0	24.5	33.5	28.0	26.0
16	20.0	10.0	5.5	2.0	4.5	11.5	19.0	16.5	22.0	26.5	27.0	23.5
17	20.0	9.0	5.5	3.0	4.5	11.0	21.0	15.5	21.0	27.0	25.0	21.0
18	21.0	9.0	5.0	3.0	4.5	11.5	19.0	15.0	23.0	26.0	28.0	20.0
19	19.5	8.0	3.5	2.0	5.0	11.0	18.0	13.0	24.5	25.5	26.0	22.0
20	19.0	7.0	2.5	2.5	5.0	12.0	17.5	15.0	24.0	25.5	25.0	24.0
21	20.0	8.0	2.5	2.5	5.5	12.0	17.5	16.0	24.0	27.0	28.0	26.0
22	17.5	7.5	1.5	2.5	5.5	11.0	17.0	16.0	24.0	26.5	27.0	22.0
23	18.0	7.0	2.0	3.0	6.0	11.0	18.0	18.0	22.0	24.5	28.0	21.0
24	13.5	6.0	1.5	3.5	7.0	11.0	17.0	18.0	23.0	25.0	29.0	19.5
25	12.0	5.0	1.0	4.0	10.0	11.5	19.5	20.0	23.0	24.0	28.0	21.5
26	12.0	5.0	1.0	4.0	10.0	13.0	20.0	20.0	24.0	24.5	25.0	21.0
27	11.5	4.0	.5	3.0	9.5	16.5	23.5	24.0	24.0	24.0	24.0	20.0
28	11.0	4.0	2.5	2.0	10.0	16.0	23.5	23.5	23.0	24.0	24.0	20.5
29	11.0	1.5	3.0	2.5	---	16.0	24.0	24.0	26.0	24.0	28.0	21.0
30	10.5	4.5	4.5	2.0	---	17.0	20.5	23.5	25.5	23.0	27.0	20.5
31	11.0	---	4.5	2.5	---	17.0	---	---	---	24.0	26.5	---
MEAN	17.0	9.0	4.5	2.5	4.0	11.0	19.0	18.5	25.0	27.0	26.5	23.0

WTR YR 1981

MEAN

15.5

MAX

35.5

MIN

.5

LAMINE RIVER BASIN

06908800 LAMINE RIVER NEAR BLACKWATER, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 3,80 1200	MAR 2,81 1140	MAY 4,81 1220	JUL 6,81 1200	SEP 1,81 1050
TOTAL CELLS/ML	43000	110000	130000	10000	73000
DIVERSITY: DIVISION	0.5	0.6	1.1	0.6	1.6
..CLASS	0.5	0.6	1.1	0.6	1.6
..ORDER	1.3	0.9	1.4	1.4	2.1
...FAMILY	1.3	1.0	1.6	1.5	2.3
....GENUS	1.4	1.0	2.3	1.5	2.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
....COELASTRACEAE										
.....COELASTRUM	--	-	--	-	--	-	220	2	4900	7
...MICRACIINIACEAE										
....MICRACIINIUM	--	-	90000#	83	7300	6	--	-	--	-
...OCCYSTACEAE										
....ANKISTRODESMUS	*	0	*	0	--	-	*	0	580	1
....DICTYOSPHAERIUM	--	-	--	-	3600	3	--	-	1700	2
....GLOEACTINIUM	--	-	--	-	--	-	--	-	1200	2
....KIRCHNERIELLA	--	-	--	-	--	-	--	-	1200	2
....OCCYSTIS	--	-	--	-	*	0	*	0	*	0
....SELENASTRUM	--	-	--	-	*	0	--	-	--	-
...SCENEDESMACEAE										
....CRUCIGENIA	--	-	--	-	--	-	--	-	1700	2
....SCENEDESMUS	*	0	670	1	3000	2	82	1	1400	2
....TETRASTRUM	400	1	--	-	--	-	55	1	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	400	1	5700	5	2400	2	*	0	580	1
...VOLVOCAEAE										
....PANDORINA	--	-	--	-	4900	4	--	-	--	-
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
....COSCINODISCAEAE										
.....CYCLOTELLA	1000	2	8300	8	36000#	28	*	0	23000#	31
.....MELOSIRA	710	2	--	-	59000#	46	*	0	2600	4
...PENNALES										
....CYMBELLACEAE										
.....AMPHICRA	--	-	--	-	--	-	*	0	--	-
....FRAGILARIACEAE										
.....SYNEDRA	--	-	1000	1	--	-	*	0	--	-
....NAVICULACEAE										
.....NAVICULA	--	-	--	-	--	-	*	0	--	-
....NITZSCHACEAE										
.....NITZSCHIA	--	-	*	0	--	-	410	4	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
....CRYPTOMONADACEAE										
.....CRYPTOMONAS	*	0	--	-	*	0	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROCOCCOCCALES										
....CHROCOCCACEAE										
.....ANACYSTIS	11000#	25	--	-	4900	4	2600#	24	20000#	28
....HORMOGONIALES										
....OSCILLATORIACEAE										
.....OSCILLATORIA	29000#	67	--	-	5500	4	6900#	66	13000#	18
EUGLENCOPHYTA (EUGLENOIDS)										
..EUGLENCOPHYCEAE										
...EUGLENALES										
....EUGLENAEAE										
.....EUGLENA	--	-	--	-	*	0	*	0	870	1
....TRACHELOMONAS	500	1	2000	2	910	1	69	1	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

MISSOURI RIVER MAIN STEM

06909000 MISSOURI RIVER AT BOONVILLE, MO

LOCATION.--Lat 38°58'42", long 92°45'13", sec.35, T.49 N., R.17 W., Cooper County, Hydrologic Unit 10300102, on downstream side of second pier from right abutment of Missouri-Kansas-Texas Railroad Co. bridge at Boonville. River mile 196.6 (316.3 km).

DRAINAGE AREA.--501,700 mi² (1,299,000 km²), approximately.

PERIOD OF RECORD.--October 1925 to current year. Gage-height records collected at same site 1893-99 are contained in reports of Missouri River Commission; since 1900 in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 565.42 ft (172.340 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1928, nonrecording gage at site 0.4 mi (0.6 km) downstream at datum 3.14 ft (0.957 m) lower. Oct. 1, 1928, to May 9, 1931, nonrecording gage at site 50 ft (15 m) upstream from present site at present datum. May 10, 1931, to Apr. 12, 1934, water-stage recorder at site 0.4 mi (0.6 km) downstream at different datum.

REMARKS.--Records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--56 years, 50,220 ft³/s (1,422 m³/s), 42,220,000 acre-ft/yr (52,060 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 550,000 ft³/s (15,580 m³/s) July 17, 1951; maximum gage height, 32.82 ft (10.004 m) July 17, 1951; minimum discharge, about 1,800 ft³/s (51.0 m³/s) Jan. 10, 1940; minimum gage height, -0.85 ft (-0.259 m) Jan. 13, 1937.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 21, 1844, reached a stage of 32.7 ft (9.97 m) discharge, about 710,000 ft³/s (20,110 m³/s), computed by Corps of Engineers. Flood of June 6, 1903, reached a stage of 30.5 ft (9.30 m) discharge, about 612,000 ft³/s (17,330 m³/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 238,000 ft³/s (6,740 m³/s) July 29, gage height, 27.66 ft (8.431 m); minimum, 17,500 ft³/s (496 m³/s) Feb. 11, gage height, 2.81 ft (0.856 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	41600	46400	40200	22600	26500	29400	41300	40600	49500	121000	122000	56000		
2	41800	44900	38800	22700	26300	29300	42000	40600	44800	104000	90800	55500		
3	42700	44000	37900	24200	26300	28900	43500	40900	44100	74900	51700	55000		
4	43200	43100	35600	25800	26700	28400	44900	41300	47500	71200	39300	53000		
5	43200	42700	33700	26800	25900	28000	43700	40900	53700	102000	43500	52000		
6	43100	43100	32400	28300	22100	27300	42100	41400	56000	114000	74600	51000		
7	42800	44200	30300	29700	20400	30700	41600	43700	53200	103000	83300	54000		
8	42900	44200	39500	28600	19400	31100	41700	49800	50100	90400	101000	56000		
9	43000	43600	82200	26200	18600	29700	41100	48200	46500	76600	100000	55000		
10	42500	43300	50600	23800	18100	28300	40000	44800	46000	61500	85100	54000		
11	41900	43600	76100	23200	17700	27000	40500	48600	44000	49900	72700	53000		
12	41500	43800	56900	22900	18800	26000	39800	49700	45000	43600	67900	50200		
13	42100	43900	43100	23900	20800	25200	41400	44400	46000	41800	63700	47500		
14	43000	44000	37100	24100	21400	24500	53200	45700	49000	39000	61600	46000		
15	43200	44700	34600	23400	21700	24200	68000	72000	52000	37000	60000	44900		
16	43600	46200	33300	23600	18800	24100	66900	75400	77700	44300	60100	44600		
17	45100	47400	32400	22700	17900	23500	59200	63100	99100	54500	60600	44000		
18	46500	48500	32300	22500	18400	23500	51300	94500	90300	55100	57500	43600		
19	47800	49200	32200	22700	20000	23300	47400	166000	73100	61000	55500	43300		
20	49400	49100	32200	23000	23900	22600	49700	179000	83000	87100	55000	43100		
21	49100	48800	32000	23000	32400	21900	50600	153000	103000	97100	53400	43300		
22	46400	47500	31500	22800	38700	22300	47100	120000	107000	78000	50800	44100		
23	44600	47900	30000	22700	40100	22900	48300	89100	93900	79400	48800	44100		
24	44300	47800	27600	22800	42100	23400	50300	75800	70400	91100	48000	43800		
25	45100	48000	25200	23100	43900	24700	48000	85200	99000	98800	47300	43700		
26	44500	48300	23200	23300	37500	28700	45400	74600	134000	115000	45700	44200		
27	44200	48600	21900	22900	32900	34100	43200	71100	128000	156000	47100	45700		
28	44700	47900	21900	22700	30700	36300	41100	59700	95200	207000	49700	49700		
29	47600	46600	22600	23100	---	40500	40600	53100	75900	234000	53600	52100		
30	48300	43500	23300	24200	---	40900	40700	53200	76000	210000	56000	48300		
31	47300	---	23300	25600	---	40700	---	52000	---	169000	57000	---		
TOTAL	1377000	1374800	1154300	746900	728000	873800	1394600	2157400	2133000	2967300	1963300	1460700		
MEAN	44420	45830	37240	24090	26000	28190	46490	69590	71100	95720	63330	48690		
MAX	49400	49200	50600	29700	43900	40900	68000	179000	134000	234000	122000	56000		
MIN	41500	42700	21900	22500	17700	21900	39800	40600	44000	37000	39300	43100		
CFSM	.09	.09	.07	.05	.05	.06	.09	.14	.14	.19	.13	.10		
IN	.10	.10	.09	.06	.05	.06	.10	.16	.16	.22	.15	.11		
AC-FT	2731000	2727000	2290000	1481000	1444000	1733000	2766000	4279000	4231000	5886000	3894000	2897000		
CAL YR 1980	ICIAL	18984500	MEAN	51870	MAX	180000	MIN	21900	CFSM	.10	IN	1.41	AC-FT	37660000
WIR YR 1981	ICIAL	18331100	MEAN	50220	MAX	234000	MIN	17700	CFSM	.10	IN	1.36	AC-FT	36360000

PERCHE CREEK BASIN

06910230 HINKSON CREEK AT COLUMBIA, MO

LOCATION.--Lat 38°55'42", long 92°20'26", in NE¼NW¼SW¼ sec.24, T.48 N., R.13 W., Boone County, Hydrologic Unit 10300102, on left bank 400 ft (122 m) downstream from bridge on State Highway 163, 0.5 mi (0.8 km) south of Columbia, and 1 mi (1.6 km) upstream from Flat Branch.

DRAINAGE AREA.--70.2 mi² (182 km²).

PERIOD OF RECORD.--October 1966 to current year. Occasional low-flow measurements, 1942, 1943, 1946, 1952, 1953, 1962, 1963.

GAGE.--Water-stage recorder. Datum of gage is 583.52 ft (177.857 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years, 51.9 ft³/s (1.470 m³/s), 10.04 in/yr (255 mm/yr), 37,600 acre-ft/yr (46.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,000 ft³/s (283 m³/s) Apr. 11, 1979, gage height, 19.62 ft (5.980 m); no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (57 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 18	0500	4,510	128	June 21	1330	*7,650	217
May 19	0630	3,190	90.3	June 25	0830	2,750	77.9
May 29	2100	3,680	104	July 19	0600	3,110	88.1
							13.07
							3.984

No flow several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.86	.63	.72	1.1	1.7	1.5	.96	2.8	36	79	16	.96
2	.63	.38	.64	1.1	1.8	.96	.72	2.5	239	55	11	.48
3	.00	.36	.40	1.1	1.8	.84	1.6	2.2	219	90	8.2	.12
4	.00	.52	.36	1.1	1.8	2.8	.84	3.3	64	55	10	.36
5	.00	.34	.56	1.2	1.8	7.8	2.8	4.1	340	103	45	.24
6	.00	.00	.72	1.2	1.8	4.9	1.7	2.9	68	29	29	.12
7	.00	.00	.81	1.2	1.8	5.1	1.3	2.4	24	15	9.8	.48
8	.00	.00	2.8	1.2	1.8	2.1	1.5	2.1	14	12	5.0	.90
9	.00	.00	7.9	1.2	1.8	1.7	3.2	2.1	11	9.6	3.0	.60
10	.00	.12	4.2	1.2	1.8	1.5	1.8	201	8.5	8.0	2.5	.40
11	.00	.12	2.5	1.2	1.8	1.2	47	180	186	6.9	2.5	.30
12	.00	.01	2.1	1.2	1.8	1.1	15	35	90	6.0	2.5	.30
13	.00	.21	1.7	1.2	1.8	.84	7.5	15	29	5.0	2.0	.30
14	.00	.65	1.5	1.2	1.8	.72	36	150	15	4.2	2.0	.40
15	3.7	.62	1.3	1.2	1.8	.72	7.2	131	206	5.0	2.0	.30
16	9.1	.60	1.2	1.2	1.8	.60	3.7	34	345	99	2.0	2.5
17	30	.81	1.0	1.3	1.8	.72	3.4	201	55	15	2.0	2.0
18	2.8	.72	1.0	1.3	1.8	1.2	11	2350	25	41	2.0	1.5
19	1.5	.64	.94	1.3	1.5	.96	419	1500	18	977	2.0	1.0
20	1.2	.96	1.0	1.3	1.8	.96	182	205	244	492	2.0	.80
21	.86	.99	1.0	1.4	2.7	1.1	31	92	3150	215	2.0	.60
22	.74	1.2	1.0	1.4	11	2.0	72	54	604	49	2.0	.50
23	.77	1.5	1.0	1.4	19	2.1	125	56	166	3790	2.0	.80
24	3.3	.54	1.0	1.5	7.6	1.2	22	54	85	476	2.0	2.0
25	1.8	.91	1.0	1.6	5.1	1.1	11	51	947	238	2.0	1.0
26	3.7	.60	1.0	1.7	3.9	1.1	7.5	20	152	958	1.8	.80
27	40	.92	1.0	1.7	3.0	1.1	5.6	12	57	809	20	.50
28	7.9	.82	1.1	1.7	1.6	1.5	4.6	11	32	527	7.5	.50
29	2.4	.96	1.1	1.7	---	1.6	3.9	468	36	112	2.7	.50
30	1.4	.89	1.1	1.7	---	2.2	3.4	276	366	40	1.5	.50
31	1.0	---	1.1	1.7	---	3.4	---	69	---	22	1.1	---
TOTAL	113.68	17.42	69.95	41.5	89.7	56.22	1034.22	6149.4	7831.3	9342.7	205.1	24.46
MEAN	3.67	.58	2.26	1.34	3.20	1.81	34.5	198	261	301	6.62	.82
MAX	40	1.5	28	1.7	19	7.8	419	2350	3150	3790	45	3.0
MIN	.00	.00	.36	1.1	1.5	.60	.72	2.1	8.5	4.2	1.1	.12
CFSM	.05	.008	.05	.02	.05	.03	.49	2.62	3.72	4.29	.09	.01
IN.	.06	.01	.04	.02	.05	.03	.55	3.26	4.15	4.95	.11	.01
AL-F-T	225	35	139	62	178	112	2050	12200	15330	18530	407	.49

CAL YR 1960 101AL 4925.99 MEAN 13.5 MAX 415 MIN .00 CFSM .19 IN 2.61 AL-F-T 9770
WIR YR 1961 101AL 24975.65 MEAN 68.4 MAX 3790 MIN .00 CFSM .97 IN 13.23 AL-F-T 49540

OSAGE RIVER BASIN

06916650 MARAIS DES CYGNES RIVER NEAR WORLAND, MO.

WATER-QUALITY RECORDS

LOCATION.--Lat 38°13'07", long 94°36'45", in NW¼ sec.6, T.39 N., R.33 W., Bates County, Hydrologic Unit 10290102, at county road bridge on Kansas-Missouri State line and 2.2 mi (3.6 km) northwest of Worland.

DRAINAGE AREA.--3,230 mi² (8,366 km²).

PERIOD OF RECORD.--August 1962 to June 1963, October 1972 to July 1975, July 1977 to September 1981 (discontinued).

REMARKS.--Records of discharge are given for gaging station near Kansas-Missouri State line, 6.8 mi (10.9 km) upstream.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (CULS./ 100 ML) (31625)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03) (00902)
OCT											
15...	1028	29001	438	7.8	17.0	8.6	89	30	140	180	18
NOV											
17...	1028	29001	771	8.0	9.0	7.8	67	16	16	--	--
DEC											
09...	1028	29001	662	8.0	8.0	10.2	86	19	24	--	--
JAN											
14...	1028	29001	985	8.0	1.5	12.8	91	24	2	400	290
FEB											
17...	1028	29001	712	8.1	3.5	12.4	93	18	2	--	--
MAR											
17...	1028	29001	500	8.1	12.5	9.2	86	23	.21	--	--
APR											
16...	1028	29001	472	8.2	17.5	7.2	75	22	14	180	22
MAY											
13...	1028	29001	428	7.9	17.0	7.4	76	11	210	--	--
JUN											
16...	1028	29001	135	7.7	23.0	6.0	69	54	5400	--	--
JUL											
13...	1028	29001	327	8.1	29.0	6.4	83	20	56	140	25
AUG											
12...	1028	29001	382	8.1	27.0	6.6	82	18	520	--	--
SEP											
10...	1028	29001	339	8.0	24.5	10.4	124	20	260	--	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCU3) (00440)	CAR- BONATE FET-FLD (MG/L AS CU3) (00445)	ALKA- LINITY FIELD (MG/L AS CAC03) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CU2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT										
15...	57	8.9	18	3.7	196	0	161	5.0	27	18
NOV										
17...	--	--	--	--	152	0	125	2.4	--	--
DEC										
09...	--	--	--	--	160	0	131	2.6	--	--
JAN										
14...	128	19	46	8.7	128	0	105	2.0	350	55
FEB										
17...	--	--	--	--	160	0	131	2.0	--	--
MAR										
17...	--	--	--	--	124	0	102	1.6	--	--
APR										
16...	57	9.0	26	4.5	192	0	157	1.9	41	35
MAY										
13...	--	--	--	--	180	0	148	3.6	--	--
JUN										
16...	--	--	--	--	60	0	49	1.9	--	--
JUL										
13...	44	8.0	13	3.6	144	0	118	1.8	27	6.2
AUG										
12...	--	--	--	--	168	0	138	2.1	--	--
SEP										
10...	--	--	--	--	144	0	118	2.3	--	--

OSAGE RIVER BASIN

06916650 MARAIS DES CYGNES RIVER NEAR WORLAND, MO--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	FLUORIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHURUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT 15...	<.1	268	24	<.05	.020	.100	2	3	<5	6
NOV 17...	--	--	10	<.05	<.010	.040	--	--	--	--
DEC 09...	--	--	14	<.05	.050	.060	--	--	--	--
JAN 14...	.4	691	6	.06	.020	.060	3	2	<5	<5
FEB 17...	--	--	7	.05	<.010	.080	--	--	--	--
MAR 17...	--	--	27	<.05	<.010	.070	--	--	--	--
APR 16...	.3	274	24	.06	<.010	.110	<2	<2	<5	<5
MAY 13...	--	--	12	<.05	.020	.060	--	--	--	--
JUN 16...	--	--	440	.91	.120	.790	--	--	--	--
JUL 13...	<.2	210	150	.44	.040	<.020	14	2	12	7
AUG 12...	--	--	164	.75	.030	.040	--	--	--	--
SEP 10...	--	--	82	.74	.010	.090	--	--	--	--

[illegible]

OSAGE RIVER BASIN

06918080 OSAGE RIVER NEAR SCHELL CITY, MO.
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 38°03'20", long 94°08'44", Bates County, Hydrologic Unit 10290105, at bridge on county road.

DRAINAGE AREA.--5500 mi² (14,200 km²) approximately above gage.

PERIOD OF RECORD.--March 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1979 to September 1981. (Discontinued)

WATER TEMPERATURES: March 1979 to September 1981. (Discontinued)

REMARKS.--Water temperature and specific conductance collected daily by observer.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,950 micromhos Oct. 11, 1980; minimum daily, 114 micromhos June 12, 1981.

WATER TEMPERATURE: Maximum daily, 32.0°C July 11, 1980; minimum daily, 0.0°C Feb. 5, 1980, Feb. 11, 12, 13, 14, 1981.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily 1,950 micromhos Oct. 11; minimum daily 114 June 12.

WATER TEMPERATURE: Maximum daily 29.0°C July 16, 17, 18; minimum daily 0.0°C Feb. 11, 12, 13, 14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTANTANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCTANCE (UMFCS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, SOLVED CENT SATUR- ATION (00301)	COLI- FORM, FECAL, 0.7 UM-MF (CCLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (CCLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
NOV 18...	25	572	8.2	8.0	7.8	9.0	76	10	<5	230	97	71
JAN 14...	--	600	8.6	2.5	5.4	13.4	99	2	2	220	0	68
MAR 17...	--	1240	8.2	15.0	18	8.2	81	2	7	460	310	120
MAY 14...	15	1100	8.1	16.0	21	7.4	75	51	44	420	220	110
JUL 14...	3000	342	8.0	29.5	46	4.6	60	84	160	160	37	48
SEP 10...	--	343	7.9	24.0	80	10.6	125	420	290	140	25	45

DATE	MANGNE- SIUM, LTS- SOLVED (MG/L AS MG) (00925)	SILICON, LTS- SOLVED (MG/L AS MG) (00930)	POTAS- SIUM, LTS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD AS HCO3 (MG/L AS CL3) (00440)	CAR- BONATE FET-FLD (MG/L AS CL3) (00445)	SULFATE LTS- SOLVED (MG/L AS SO4) (00945)	CHLOR- IDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUOR- IDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L DAY) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, AC2+NO3 TOTAL (MG/L AS N) (00630)
NOV 18...	12	28	5.3	180	0	110	34	.4	3.3	370	25.0	.00
JAN 14...	12	35	4.7	140	24	91	42	.5	2.8	357	--	.00
MAR 17...	38	90	7.1	180	0	350	120	.6	.7	861	--	.04
MAY 14...	36	76	5.6	240	0	290	78	.5	3.3	729	29.5	.02
JUL 14...	9.0	9.8	3.9	150	0	46	11	.2	6.3	208	1690	.63
SEP 10...	7.3	9.6	4.8	140	0	44	9.1	.3	9.0	217	--	1.2

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PENDE- D TOTAL (MG/L AS C) (00689)	SEDI- MENT, DIS- SOLVED (MG/L DAY) (80154)	SEDI- MENT, DIS- SOLVED (MG/L DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
------	---	--	---	--	---	--	---	--	--	--	--

NOV 18...	.000	1.10	.55	.090	.040	--	8.2	1.4	27	1.8	0
JAN 14...	.050	1.30	.56	.160	.010	--	3.5	--	39	--	55
MAR 17...	.040	1.30	.84	.120	.030	8.9	--	--	89	--	70
MAY 14...	.080	1.80	1.3	.060	.040	--	7.4	--	35	1.4	40
JUL 14...	.090	1.10	.72	.120	.050	--	6.0	1.1	163	1320	86
SEP 10...	.170	1.50	.94	.150	.010	7.5	--	--	95	--	98

OSAGE RIVER BASIN

06918080 OSAGE RIVER NEAR SCHELL CITY, MO--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CU) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
NOV 18...	1	1	200	100	0	<1	0	0	0	<3
JAN 14...	1	1	100	100	2	4	0	0	0	<3
MAY 14...	2	1	200	200	3	2	10	10	2	<3
JUL 14...	3	2	100	200	2	5	10	0	1	<3

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
NOV 18...	7	5	530	20	4	0	130	50	.2
JAN 14...	5	3	370	20	2	0	130	40	.2
MAY 14...	7	3	2000	20	2	3	520	290	.1
JUL 14...	7	4	3800	120	3	7	190	20	.3

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 18...	.2	6	2	0	0	0	0	10	4
JAN 14...	.1	4	4	0	0	0	0	20	8
MAY 14...	.3	2	5	0	0	0	0	30	20
JUL 14...	.1	5	3	0	0	0	0	20	60

OSAGE RIVER BASIN

06918080 OSAGE RIVER NEAR SCHELL CITY, MO--continued

SPECIFIC CONDUCTANCE (MICROMMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	489	405	529	626	852	1370	1100	947	351	236	235	375
2	489	411	511	650	842	1410	1110	1000	340	234	296	248
3	489	420	507	665	876	1420	791	942	329	224	329	240
4	485	440	503	697	891	1410	687	1010	325	230	365	352
5	495	480	509	693	877	1420	668	1010	311	236	350	319
6	500	560	550	679	857	1460	709	1000	322	261	364	295
7	850	653	600	718	832	1490	670	1010	332	286	351	301
8	1480	760	640	819	870	1360	753	1080	339	307	355	307
9	1020	840	607	670	873	1310	755	1080	388	325	374	333
10	1310	889	657	583	870	1390	764	1030	436	328	377	339
11	1950	900	611	577	871	1420	758	977	379	338	376	346
12	1730	900	720	551	888	1420	803	956	114	340	378	351
13	1190	890	659	543	924	1420	764	978	142	338	391	357
14	1160	847	735	538	1110	1410	724	1070	154	340	380	363
15	1170	825	810	533	1050	1400	742	1100	153	337	399	370
16	1030	780	701	577	958	1410	777	1180	146	345	447	398
17	690	705	609	574	1010	1420	792	1240	145	347	567	375
18	550	629	560	575	1080	1420	792	645	162	353	342	386
19	503	595	557	577	1070	1430	766	243	168	398	354	400
20	495	581	551	622	1080	1430	767	214	168	271	367	415
21	420	570	551	631	1120	1440	832	215	175	236	368	420
22	383	560	599	636	1160	1440	867	244	209	293	365	422
23	370	545	609	661	1220	1440	924	323	212	309	368	431
24	367	533	595	691	1260	1440	904	365	218	300	374	433
25	393	530	601	732	1170	1420	900	308	224	325	375	439
26	373	527	615	776	1180	1440	991	316	191	361	331	431
27	370	525	620	842	1200	1430	1140	286	205	306	321	425
28	373	---	630	839	1220	1430	1240	319	217	310	279	422
29	382	520	610	864	---	1440	1240	331	218	263	299	417
30	385	520	620	872	---	1460	1070	326	250	154	447	417
31	391	---	609	865	---	1420	---	333	---	179	317	---
MEAN	719	652	606	673	1010	1420	860	714	244	294	363	371

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.5	10.0	6.0	2.5	3.0	10.0	15.0	20.0	20.0	24.0	23.0	24.0
2	20.0	10.0	5.5	2.5	1.0	10.0	16.0	19.0	21.0	24.0	24.0	22.0
3	18.0	11.0	3.5	2.5	1.0	9.0	17.0	20.0	21.0	25.0	25.0	22.0
4	18.0	11.0	4.0	2.0	1.0	9.0	14.0	21.0	21.0	25.0	24.0	23.0
5	17.0	11.5	7.0	2.0	2.0	8.0	15.0	21.0	22.0	25.0	27.0	23.0
6	17.5	11.5	4.5	2.5	1.5	7.0	15.0	20.0	23.0	25.0	27.0	23.0
7	18.0	12.5	10.5	2.0	1.5	7.0	15.0	19.0	23.0	25.0	27.0	23.0
8	19.0	13.0	4.5	2.0	1.0	7.0	17.0	19.0	24.0	25.0	26.0	22.0
9	19.0	13.0	6.0	2.0	1.5	7.0	16.0	18.0	25.0	26.0	26.0	22.0
10	18.5	12.5	7.0	1.0	1.0	8.0	16.0	17.0	27.0	26.0	27.0	22.0
11	18.0	12.5	6.5	1.0	.0	9.0	20.0	15.0	25.0	25.0	26.0	23.0
12	16.5	12.0	6.0	1.0	.0	9.0	20.0	16.0	19.0	27.0	26.0	24.0
13	16.0	12.5	6.5	1.0	.0	10.0	21.0	18.0	21.0	28.0	26.0	25.0
14	17.0	12.0	5.5	1.0	.0	10.0	20.0	16.0	22.0	28.0	25.0	25.0
15	17.0	11.0	6.0	2.0	.5	11.0	18.0	17.0	23.0	28.0	26.0	25.0
16	16.0	9.0	5.5	1.0	1.0	10.0	16.0	20.0	22.0	29.0	27.0	24.0
17	17.0	8.5	5.0	1.0	1.0	11.0	20.0	18.0	22.0	29.0	26.0	22.0
18	16.0	7.5	5.0	1.0	3.0	11.0	21.0	15.0	22.0	29.0	25.0	20.0
19	15.0	6.5	4.0	1.5	3.0	10.0	22.0	14.0	23.0	28.0	25.0	20.0
20	15.0	6.5	2.0	2.0	5.0	9.0	19.0	13.0	23.0	26.0	25.0	20.0
21	14.5	6.0	2.0	2.5	6.0	10.0	17.0	14.0	24.0	25.0	24.0	20.0
22	15.0	6.0	1.0	1.5	6.0	11.5	18.0	15.0	24.0	26.0	24.0	20.0
23	15.5	6.5	1.0	2.5	5.0	10.0	17.0	17.0	24.0	27.0	24.0	20.0
24	15.0	6.0	1.0	3.0	6.0	10.0	18.0	17.0	24.0	27.0	24.0	21.0
25	13.0	5.0	1.0	5.0	8.0	10.0	18.0	19.0	25.0	27.0	25.0	21.0
26	12.0	4.5	1.0	4.5	10.0	12.0	20.0	19.0	24.0	28.0	25.0	22.0
27	12.5	4.5	1.0	4.0	11.0	13.0	21.0	20.0	24.0	28.0	23.0	21.0
28	11.0	---	1.0	4.0	11.0	15.0	22.0	21.0	25.0	26.0	23.0	21.0
29	10.0	4.5	1.5	4.5	---	15.0	21.0	21.0	24.0	24.0	23.0	21.0
30	9.5	5.0	2.0	2.0	---	15.0	21.0	22.0	24.0	23.0	24.0	21.0
31	10.0	---	2.5	2.0	---	16.0	---	20.0	---	23.0	25.0	---
MEAN	15.5	9.0	4.5	2.0	3.5	10.5	18.5	18.0	23.0	26.0	25.0	22.0

WIP YR 1981 MEAN 15.0 MAX 29.0 MIN .0

OSAGE RIVER BASIN

06918080 OSAGE RIVER NEAR SCHELL CITY, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 18,80 0920	MAR 17,81 1600	MAY 14,81 0745	JUL 14,81 0715	SEP 10,81 1530
TOTAL CELLS/ML	11000	29000	25000	4400	980
DIVERSITY: DIVISION	1.7	1.9	2.0	1.6	1.3
..CLASS	1.7	1.9	2.0	1.6	1.3
..ORDER	1.9	2.2	2.6	2.3	1.3
...FAMILY	2.2	2.4	2.9	2.5	1.3
....GENUS	2.8	2.6	3.5	3.2	1.3

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
...CHARACIACEAE										
....SCHRADERIA	--	-	--	-	--	-	*	0	--	-
...MICRACIINIACEAE										
...MICRACIINIUM	90	1	--	-	--	-	--	-	--	-
...OCCYSTACEAE										
....ANKISTRODESNIUS	180	2	1300	4	2200	9	97	2	70	7
....DICTYOSPHAERIUM	590	5	--	-	--	-	170	4	--	-
....GLOECCACTINIUM	--	-	--	-	--	-	250	6	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	*	0	--	-
....OCCYSTIS	--	-	--	-	--	-	28	1	--	-
....SELENASTRUM	*	0	--	-	--	-	--	-	--	-
....TETRAEDRON	*	0	--	-	--	-	--	-	--	-
....TREUBARIA	90	1	--	-	--	-	--	-	--	-
...SCENEDESMACEAE										
....CRUCIGENIA	540	5	--	-	1300	5	330	8	--	-
....SCENEDESMUS	270	2	520	2	670	3	110	3	--	-
....TETRASTRUM	180	2	--	-	--	-	69	2	--	-
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CARTERIA	--	-	260	1	830	3	--	-	--	-
....CHLAMYDOMONAS	410	4	3300	11	1000	4	28	1	--	-
...PHACOTACEAE										
....PTEROMONAS	--	-	--	-	--	-	*	0	--	-
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCACEAE										
....CYCLOCTELLA	1500	14	4300	15	3500	14	400	9	--	-
....MELOSIRA	2300#	21	520	2	5700#	23	120	3	140	14
...PENNIALES										
....ACHNANTHACEAE										
....ACHNANTHES	--	-	--	-	1300	5	--	-	--	-
...FRAGILARIACEAE										
....SYNEDRA	--	-	*	0	--	-	--	-	--	-
...NAVICULACEAE										
....NAVICULA	--	-	390	1	170	1	--	-	--	-
...NITZSCHACEAE										
....NITZSCHIA	*	0	1600	5	500	2	83	2	--	-
..CHRYSCOPHYCEAE										
...CHRYSOMONADALES										
...OCHROMONADACEAE										
....OCHROMONAS	--	-	--	-	--	-	*	0	--	-

OSAGE RIVER BASIN

06918080 OSAGE RIVER NEAR SCHELL CITY, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 18,80 0920		MAR 17,81 1600		MAY 14,81 0745		JUL 14,81 0715		SEP 10,81 1530	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
....CRYPTOCCHRYSIDACEAE										
....CHROOMCNAS	90	1	910	3	330	1	--	-	--	-
...CRYPTOMONADACEAE										
....CRYPTOMCNAS	230	2	520	2	500	2	97	2	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCCOCALLES										
....CHROOCCOCACEAE										
....AGMENELLUM	--	-	--	-	--	-	110	3	--	-
....ANACYSTIS	4200#	39	14000#	49	1700	7	1500#	34	--	-
...HORMOGONIALES										
...OSCILLATORIA										
....LYNGBYA	--	-	--	-	--	-	55	1	--	-
....OSCILLATORIA	--	-	--	-	1500	6	810#	19	700#	71
EUGLENCOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
....EUGLENA	--	-	650	2	170	1	*	0	70	7
....TRACHELOMONAS	--	-	390	1	3200	13	41	1	--	-
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
...GYMNODINIALES										
....GYMNODINIACEAE										
....GYMNODINIUM	--	-	--	-	170	1	--	-	--	-
...PERIDINIALES										
....GLENODINIACEAE										
....GLENODINIUM	*	0	*	0	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

OSAGE RIVER BASIN

06918440 SAC RIVER NEAR DADEVILLE, MO

LOCATION.--Lat 37°26'35", long 93°41'05", in NE¼NE¼NW¼ sec.9, T.31 N., R.25 W., Dade County, Hydrologic Unit 10290106, on downstream side of bridge on State Highway 245, 2 mi (3.2 km) upstream from Cave Spring Branch and 2 mi (3.2 km) south of Dadeville.

DRAINAGE AREA.--257 mi² (666 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1966 to current year. Annual maximum, water years 1965-66.

GAGE.--Water-stage recorder. Datum of gage is 869.78 ft (265.109 m) National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission). Prior to June 1966, crest-stage gage at same site and datum.

REMARKS.--Water-discharge records good. Several observations of water temperature were made during the year. No maximum and minimum daily water temperature available this year.

AVERAGE DISCHARGE.--15 years, 210 ft³/s (5.947 m³/s), 11.10 in/yr (282 mm/yr), 152,100 acre-ft/yr (188 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,030 ft³/s (227 m³/s) Nov. 1, 1972, gage height, 20.63 ft (6.288 m) from floodmark; minimum discharge, 4.0 ft³/s (0.11 m³/s) Sept. 16, 1980; minimum gage height, 4.34 ft (1.323 m) Aug. 21, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,800 ft³/s (108 m³/s) June 20, gage height, 14.67 ft (4.471 m), no peak above base of 3,000 ft³/s (85 m³/s); minimum discharge, 5.0 ft³/s (0.14 m³/s) Oct. 11, 12, gage height, 4.41 ft (1.344 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	9.5	24	15	16	16	30	40	24	57	673	52	41		
2	9.0	22	15	15	14	28	38	23	51	370	76	42		
3	8.0	20	15	15	14	27	36	21	54	305	83	35		
4	6.5	19	15	15	14	35	35	22	48	262	72	31		
5	6.0	18	15	14	14	47	33	22	44	238	60	29		
6	6.0	17	15	16	14	47	31	20	44	208	55	26		
7	6.5	16	15	15	14	46	29	19	42	258	52	27		
8	6.5	15	26	15	14	44	28	19	38	213	57	28		
9	6.0	14	49	14	14	42	28	20	34	185	50	25		
10	6.0	15	51	14	17	39	29	31	42	166	47	23		
11	5.5	15	45	14	16	36	27	46	217	148	46	22		
12	5.5	15	39	12	18	34	26	43	152	135	43	21		
13	5.5	14	35	14	18	32	25	71	122	120	41	20		
14	6.0	15	31	14	18	32	27	514	102	110	39	20		
15	11	16	28	13	20	31	25	330	94	102	36	21		
16	17	16	26	14	22	32	22	244	108	100	57	20		
17	204	16	25	12	26	30	22	200	96	122	46	19		
18	81	17	23	13	32	28	21	217	85	119	38	18		
19	42	17	21	14	33	27	22	233	84	98	35	18		
20	30	17	19	14	31	26	32	194	2650	90	33	17		
21	24	16	18	15	33	27	39	164	787	82	30	17		
22	20	16	19	15	36	27	42	137	855	78	28	16		
23	18	17	19	14	36	27	39	119	610	74	27	15		
24	17	17	18	14	37	26	36	105	418	70	25	14		
25	17	17	15	14	36	25	34	93	352	65	27	13		
26	16	16	19	13	35	25	30	82	305	60	69	13		
27	23	16	18	13	33	25	28	73	258	56	65	12		
28	33	17	17	13	33	25	26	66	226	58	62	12		
29	35	17	17	13	---	32	26	61	195	58	50	12		
30	30	16	17	13	---	40	28	57	306	55	42	12		
31	26	---	16	14	---	43	---	55	---	72	37	---		
TOTAL	736.5	503	716	434	658	1015	904	3325	8477	4750	1480	659		
MEAN	23.8	16.8	23.1	14.0	21.5	32.7	30.1	107	283	153	47.7	21.3		
MAX	204	24	51	16	37	47	42	514	2650	673	83	42		
MIN	5.5	14	15	12	14	25	21	19	34	55	25	12		
CFSM	.09	.07	.09	.05	.09	.13	.12	.42	1.10	.60	.19	.08		
IN.	.11	.07	.10	.06	.10	.15	.13	.48	1.23	.69	.21	.09		
AC-FT	1460	998	1420	861	1310	2010	1790	6600	16810	9420	2940	1270		
CAL YR 1980	TOTAL	36626.7	MEAN	100	MAX	1620	MIN	4.5	CFSM	.34	IN	5.30	AC-FT	72650
WTR YR 1981	TOTAL	23637.5	MEAN	64.8	MAX	2650	MIN	5.5	CFSM	.25	IN	3.42	AC-FT	46880

OSAGE RIVER BASIN

06918440 SAC RIVER NEAR DADEVILLE, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: June 1974 thru September 1978, October 1980 to current year.

INSTRUMENTATION.--Temperature recorder June 1974 thru September 1978, October 1980 to current year.

REMARKS.--Number of missing days of record exceed 20 percent of year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 28.5°C Aug. 22, 23, 1975; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 27.0°C June 9, July 26.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.0	11.0	---	---	7.5	6.5	3.0	2.0	4.0	2.0	---	---
2	14.5	12.5	---	---	7.0	4.5	3.0	1.0	3.0	1.5	---	---
3	14.5	13.5	---	---	5.0	3.5	2.5	2.0	2.5	1.0	---	---
4	15.0	14.0	---	---	6.5	4.0	2.0	1.0	2.5	1.0	---	---
5	15.5	15.0	---	---	9.0	6.5	1.5	.5	1.5	1.5	---	---
6	15.0	12.5	---	---	11.0	9.0	2.5	1.0	3.0	1.5	---	---
7	14.0	12.5	---	---	12.0	11.0	3.0	1.5	3.5	2.0	---	---
8	---	---	---	---	8.0	9.5	3.0	2.0	3.5	2.0	---	---
9	---	---	---	---	9.5	8.0	2.5	1.5	2.5	1.5	---	---
10	---	---	---	---	8.0	6.0	2.5	1.0	2.0	1.0	---	---
11	---	---	---	---	6.5	5.0	2.5	1.0	---	---	10.5	8.0
12	---	---	---	---	7.0	5.5	2.0	1.0	---	---	---	---
13	---	---	11.5	10.5	6.5	5.5	2.5	1.0	---	---	---	---
14	---	---	11.0	10.0	6.0	4.5	2.5	1.0	---	---	---	---
15	---	---	10.0	8.5	6.5	5.0	3.0	2.0	---	---	---	---
16	---	---	8.5	7.5	6.0	5.0	2.5	1.0	---	---	---	---
17	---	---	7.5	6.0	6.0	4.5	2.0	1.0	---	---	---	---
18	---	---	7.0	5.5	6.5	4.5	2.0	1.0	---	---	---	---
19	---	---	6.0	4.5	5.0	2.5	2.0	1.5	---	---	---	---
20	---	---	6.0	4.0	2.5	1.0	2.0	1.5	---	---	---	---
21	---	---	6.0	4.0	1.5	.5	3.5	2.0	---	---	---	---
22	---	---	5.0	4.0	1.0	.5	4.0	2.5	---	---	---	---
23	---	---	5.5	5.0	1.0	.5	4.5	2.5	---	---	---	---
24	---	---	6.5	5.0	1.0	.5	5.0	3.5	---	---	---	---
25	---	---	5.0	3.5	1.0	.5	6.5	4.0	---	---	---	---
26	---	---	4.0	3.5	1.0	.5	6.5	5.0	---	---	---	---
27	---	---	3.5	3.5	1.5	.5	6.0	4.5	---	---	---	---
28	---	---	4.5	2.5	1.5	.5	6.5	4.5	---	---	---	---
29	---	---	5.0	3.5	2.0	1.0	5.0	3.0	---	---	---	---
30	---	---	6.5	4.0	3.0	1.0	4.5	3.0	---	---	---	---
31	---	---	---	---	3.5	2.0	4.0	2.5	---	---	---	---
MONTH	15.5	11.0	11.5	2.5	12.0	.5	6.5	.5	4.0	1.0	10.5	8.0

OSAGE RIVER BASIN

06918440 SAC RIVER NEAR DADEVILLE, MO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

OSAGE RIVER BASIN

06918460 TURNBACK CREEK ABOVE GREENFIELD, MO

LOCATION.--Lat 37°24'09", long 93°48'06", on line between secs. 21 and 28, T.31 N., R.26 W., Dade County, Hydrologic Unit 10290106, on downstream side of left pier of bridge on State Highway O, 1.5 mi (2.4 km) downstream from Limestone Creek, and 2 mi (3.2 km) southeast of Greenfield.

DRAINAGE AREA.--252 mi² (653 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 870.34 ft (265.280 m) National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission).

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years, 230 ft³/s (6.514 m³/s), 12.39 in/yr (315 mm/yr), 166,600 acre-ft/yr (205 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,100 ft³/s (654 m³/s) Nov. 1, 1972, gage height, 24.45 ft (7.452 m) from floodmark; minimum, 9.8 ft³/s (0.28 m³/s) Sept. 15, 1980; minimum gage height, 5.15 ft (1.570 m) Nov. 19, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,030 ft³/s (114 m³/s) June 20, gage height, 14.33 ft (4.368 m), no peak above base of 3,000 ft³/s (85 m³/s); minimum discharge, 9.4 ft³/s (0.27 m³/s) Oct. 12, 13, gage height, 5.47 ft (1.667 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	12	26	21	22	20	36	46	36	55	455	176	61		
2	12	29	20	21	20	34	43	33	52	336	193	63		
3	11	24	20	21	20	33	41	31	46	305	182	56		
4	11	22	20	20	20	38	40	31	42	277	150	51		
5	11	21	20	20	18	46	38	31	39	256	128	48		
6	11	22	21	20	18	48	37	29	38	235	115	46		
7	11	20	20	21	18	48	36	27	40	334	110	47		
8	11	20	30	20	18	46	35	27	37	252	101	47		
9	11	20	45	20	18	45	36	28	35	222	92	44		
10	10	20	45	20	22	45	34	57	239	203	85	41		
11	10	20	41	20	22	46	33	39	1260	187	81	39		
12	9.4	20	38	20	22	44	31	35	507	172	76	37		
13	10	20	36	20	22	42	30	66	369	161	73	36		
14	10	20	35	20	22	40	33	455	298	151	71	37		
15	12	20	32	20	22	40	30	250	260	141	70	35		
16	31	20	32	20	24	42	28	184	276	132	275	33		
17	139	21	31	20	26	42	27	154	248	343	94	33		
18	65	22	30	20	30	39	26	155	217	208	78	32		
19	38	22	28	20	30	36	30	184	200	177	71	31		
20	30	22	29	22	29	35	42	152	2110	157	65	30		
21	26	27	27	22	32	35	56	129	962	141	60	28		
22	23	21	26	21	44	35	56	114	877	180	55	27		
23	21	22	26	20	47	34	57	104	735	142	52	26		
24	20	22	25	20	45	33	56	96	535	128	48	25		
25	20	22	24	20	43	32	52	85	439	116	54	24		
26	20	21	23	18	41	31	47	80	377	107	157	23		
27	27	21	22	18	39	31	43	74	328	99	96	22		
28	38	22	23	18	36	30	40	66	286	99	79	22		
29	36	21	23	18	---	35	38	63	253	96	70	22		
30	32	21	22	18	---	52	39	60	348	90	63	21		
31	29	---	22	18	---	51	---	57	---	160	58	---		
TOTAL	757.4	651	657	618	770	1224	1180	2912	11508	6062	3078	1087		
MEAN	24.4	21.7	27.6	19.9	27.5	39.5	39.3	93.9	384	196	99.3	36.2		
MAX	139	29	45	22	47	52	57	455	2110	455	275	63		
MIN	9.4	20	20	18	18	30	26	27	35	90	48	21		
CFSM	.10	.09	.11	.08	.11	.16	.16	.37	1.52	.78	.39	.14		
IN.	.11	.10	.13	.09	.11	.18	.17	.43	1.70	.89	.45	.16		
AC-FT	1500	1290	1700	1230	1530	2430	2340	5780	22830	12020	6110	2160		
CAL YR 1980	TOTAL	40504.4	MEAN	111	MAX	1680	MIN	9.4	CFSM	.44	IN	5.98	AC-FT	80340
WTR YR 1981	TOTAL	30704.4	MEAN	84.1	MAX	2110	MIN	9.4	CFSM	.33	IN	4.53	AC-FT	60900

OSAGE RIVER BASIN

06918460 TURNBACK CREEK ABOVE GREENFIELD, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1980 to current year.

INSTRUMENTATION.--Temperature recorder since November 1980.

REMARKS.--Temperature recorder inoperative Aug. 20 through Sept. 30.

EXTREMES FOR CURRENT YEAR. --

WATER TEMPERATURES: Maximum, 28.0°C June 9; minimum, 0°C Feb. 10 and 11.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1			---	---	10.5	8.5	5.5	4.0	4.5	2.5	12.5	9.5
2			---	---	9.5	6.5	5.5	2.5	3.0	.5	11.5	10.0
3			---	---	6.5	4.5	5.0	3.0	3.0	.5	9.5	8.5
4			---	---	9.0	5.5	3.5	2.0	3.0	.5	9.0	8.5
5			14.0	11.0	12.5	9.0	3.0	1.5	2.0	1.0	9.0	7.5
6			14.0	10.5	14.0	12.0	5.0	2.5	4.0	2.0	10.5	6.5
7			15.5	12.5	14.5	13.5	5.5	3.0	5.5	3.0	9.0	7.5
8			15.5	12.5	14.5	10.5	5.5	3.0	5.0	2.0	10.5	7.5
9			15.5	13.0	10.5	8.5	4.5	2.0	3.5	2.0	11.0	7.5
10			15.0	12.0	8.5	7.0	3.5	1.5	3.0	.0	10.0	8.0
11			14.0	12.5	8.5	6.5	4.0	1.5	1.5	.0	12.0	8.5
12			14.0	11.5	9.5	7.5	3.0	1.0	2.0	.5	12.5	8.5
13			13.0	11.0	9.0	7.0	4.0	1.5	3.5	.5	13.0	10.0
14			12.5	10.5	8.0	6.0	4.5	2.0	4.0	.5	13.0	9.0
15			10.5	9.0	8.5	7.0	5.5	3.0	5.5	1.5	12.5	10.5
16			9.0	8.0	8.0	7.5	3.5	1.5	6.5	3.0	13.0	9.5
17			8.0	7.0	8.5	6.0	3.0	.5	8.5	3.5	13.0	10.0
18			8.5	6.5	9.0	7.0	3.0	.5	9.0	6.0	12.5	9.5
19			8.0	5.0	7.0	3.5	4.0	2.0	11.0	7.0	12.0	8.0
20			8.0	5.0	3.5	1.5	4.0	3.0	11.0	7.5	12.0	8.0
21			8.0	5.0	2.5	1.0	6.0	3.5	11.5	9.5	11.5	10.0
22			7.5	5.5	2.0	1.0	6.5	3.5	10.0	8.5	11.0	9.5
23			8.0	7.0	3.0	1.5	7.0	3.5	10.0	7.0	13.0	8.5
24			8.0	7.0	3.0	1.0	8.0	4.0	11.0	7.0	13.5	9.5
25			7.0	5.0	1.5	.5	9.0	6.0	13.0	8.5	14.0	11.0
26			5.5	5.0	2.0	1.0	8.5	6.5	13.5	11.0	15.5	11.5
27			5.5	5.0	3.0	1.0	8.0	5.5	15.0	12.5	17.5	13.0
28			6.5	4.0	4.5	2.0	8.0	5.0	14.0	11.5	17.0	14.5
29			7.5	5.0	5.0	3.0	6.5	4.0	---	---	17.5	14.5
30			9.5	5.5	6.0	3.0	6.0	3.0	---	---	18.0	14.0
31			---	---	7.0	4.5	5.0	2.5	---	---	18.5	15.0
MONTH			15.5	4.0	14.5	.5	9.0	.5	15.0	.0	18.5	6.5
	APRIL			MAY	JUNE		JULY		AUGUST		SEPTEMBER	
1	18.0	14.0	21.0	18.0	21.0	17.5	22.5	21.0	23.5	21.5		
2	18.0	14.0	20.5	16.5	22.0	18.5	22.0	21.5	23.0	21.5		
3	17.5	16.0	21.0	17.0	22.0	20.0	22.0	21.0	23.0	21.0		
4	16.5	14.5	21.0	19.0	24.5	20.5	22.0	21.0	24.5	21.5		
5	15.5	12.5	20.0	18.5	23.5	22.0	23.0	21.0	24.5	22.5		
6	16.0	12.0	20.5	17.5	23.0	21.5	23.0	21.0	24.5	23.5		
7	18.0	13.0	20.0	16.5	25.0	21.0	22.5	21.0	24.5	22.5		
8	18.0	15.5	18.5	16.5	26.5	22.5	24.0	22.0	24.0	21.5		
9	18.5	15.5	18.5	16.5	28.0	24.5	25.0	22.5	24.0	21.5		
10	20.5	16.0	17.0	14.5	26.5	22.5	25.5	23.0	23.0	22.0		
11	21.5	18.5	17.5	13.0	22.5	20.5	26.0	23.0	24.0	21.5		
12	23.0	19.0	17.5	14.5	21.0	20.0	26.5	23.5	23.5	20.5		
13	23.0	20.0	16.0	15.5	22.0	20.5	26.5	23.5	24.0	22.0		
14	21.0	17.5	15.5	15.0	22.5	21.0	27.0	24.0	25.0	22.0		
15	17.5	15.0	16.5	14.5	23.0	21.0	27.0	24.0	26.5	23.5		
16	18.5	15.0	16.0	15.5	21.0	20.0	27.0	24.5	25.0	23.5		
17	22.5	17.0	16.0	15.0	20.5	18.5	26.0	24.0	23.5	22.0		
18	22.5	19.5	17.5	16.0	21.5	18.5	24.5	23.5	22.5	20.5		
19	20.5	20.0	16.5	15.0	24.0	20.5	25.0	23.0	21.0	20.0		
20	20.0	16.0	16.5	14.0	22.0	21.0	26.5	23.0	---	---		
21	17.0	15.0	18.0	14.5	21.5	20.5	25.5	23.5	---	---		
22	18.5	16.5	19.0	16.0	21.0	19.5	25.0	22.0	---	---		
23	19.5	15.5	20.5	18.0	20.0	18.0	25.5	23.0	---	---		
24	20.0	15.5	21.5	19.0	21.5	20.0	26.5	23.5	---	---		
25	20.5	16.0	20.0	18.0	21.5	20.0	26.5	24.0	---	---		
26	22.0	17.5	21.0	17.5	20.5	20.0	27.0	24.5	---	---		
27	23.0	19.0	21.5	18.0	20.0	19.5	26.5	25.0	---	---		
28	23.0	20.5	22.5	19.5	21.5	19.5	26.0	24.0	---	---		
29	23.0	19.0	21.5	20.0	23.5	20.5	24.0	22.0	---	---		
30	22.5	20.0	20.5	19.5	22.0	21.0	23.0	20.5	---	---		
31	---	---	19.5	18.0	---	---	23.0	21.0	---	---		
MONTH	23.0	12.0	22.5	13.0	28.0	17.5	27.0	20.5	26.5	20.0		
YEAR	28.0	.0										

OSAGE RIVER BASIN

06918740 LITTLE SAC RIVER NEAR MORRISVILLE, MO

LOCATION.--Lat 37°28'58", long 93°29'07", SW¼SW¼ sec.20, T.32 N., R.23 W., Polk County, Hydrologic Unit 10290106, on downstream side of center pier of Hamilton Bridge on State Highway 215, 0.7 mi (1.1 km) upstream from Slagle Creek and 3 mi (4.8 km) west of Morrisville.

DRAINAGE AREA.--237 mi² (614 km²).

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 881 ft (268.5 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--13 years, 211 ft³/s (5.976 m³/s), 12.09 in/yr (307 mm/yr), 152,900 acre-ft/yr (189 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,200 ft³/s (374 m³/s) Nov. 1, 1972, gage height, 21.95 ft (6.690 m) from rating curve extended above 4,000 ft³/s (113 m³/s); minimum, 0.3 ft³/s (.008 m³/s) Sept. 15, 1980; minimum gage height, 1.98 ft (.605 m) Sept. 15, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
May 14	0200	4,110	116	10.79	3.289
June 20	0800	*10,100	286	*18.59	5.666

Minimum discharge, 0.90 ft³/s (0.025 m³/s) Oct. 13; gage height, 2.02 ft (0.616 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	24	10	14	11	38	53	44	53	539	34	35
2	3.9	20	9.5	12	11	34	50	39	49	264	58	30
3	5.3	16	9.5	11	12	32	45	37	271	208	218	24
4	2.7	14	10	11	11	40	44	35	231	182	119	20
5	2.1	12	10	10	11	155	40	31	117	162	77	18
6	1.8	11	10	9.8	11	135	37	28	95	142	58	18
7	1.8	11	14	9.6	12	102	33	26	89	135	51	18
8	1.8	9.8	96	10	11	78	31	24	72	139	52	17
9	2.7	9.0	204	9.8	11	65	29	26	59	116	41	15
10	1.8	8.5	120	9.4	13	56	29	88	163	96	36	14
11	1.8	8.4	78	9.1	15	51	27	188	267	86	32	12
12	1.8	8.8	60	8.7	18	46	25	126	201	74	29	11
13	1.5	8.3	49	8.5	22	43	24	519	139	65	26	10
14	1.8	8.6	42	8.2	24	39	26	1940	102	57	24	12
15	4.2	8.4	38	8.4	28	37	22	515	93	51	21	15
16	7.6	8.4	34	8.1	47	37	21	320	170	58	24	13
17	323	9.1	31	7.5	58	35	21	251	117	305	23	12
18	66	10	28	7.1	54	33	20	385	85	210	23	10
19	35	9.6	25	7.3	49	31	22	543	2180	138	21	9.8
20	24	10	22	8.5	44	29	22	284	7270	106	18	9.3
21	17	10	21	9.3	39	28	29	206	1660	84	17	8.8
22	13	9.6	19	9.4	45	28	34	159	2250	71	16	8.3
23	12	10	18	8.9	65	28	44	138	1230	63	14	7.4
24	11	11	16	8.6	61	26	45	120	630	57	13	7.2
25	11	10	16	8.4	53	25	39	98	503	52	16	9.3
26	10	10	16	8.2	47	25	34	87	411	44	43	9.3
27	14	10	16	7.9	42	25	30	74	337	37	49	6.4
28	54	10	16	7.5	41	25	28	64	290	38	53	5.5
29	53	10	15	7.6	---	40	26	56	249	39	42	5.9
30	39	10	14	8.2	---	83	44	52	309	38	36	6.9
31	31	---	14	8.7	---	72	---	31	---	35	31	---
TOTAL	757.8	325.5	1081.2	280.7	871	1521	980	6554	19693	3691	1315	398.1
MEAN	24.4	10.9	34.9	9.05	31.1	49.1	32.7	211	656	119	42.4	13.3
MAX	323	24	204	14	66	155	58	1940	7270	539	218	35
MIN	1.5	8.3	9.5	7.1	11	25	20	24	49	35	13	5.5
CFSM	.10	.05	.15	.04	.13	.21	.14	.89	2.77	.50	.18	.06
IN.	.12	.05	.17	.04	.14	.24	.15	1.03	3.09	.58	.21	.06
AC-FT	1500	646	2140	557	1730	3020	1940	13000	39060	7320	2610	790

CAL YR 1980	TOTAL	35295.10	MEAN	96.4	MAX	2820	MIN	.50	CFSM	.41	IN	5.54	AC-FT	70010
WTR YR 1981	TOTAL	37468.30	MEAN	103	MAX	7270	MIN	1.5	CFSM	.44	IN	5.88	AC-FT	74320

OSAGE RIVER BASIN

06918990 STOCKTON LAKE NEAR STOCKTON, MO

LOCATION.--Lat 37°41'38", long 93°45'55", SW¼SE¼SW¼ sec.10, T.34 N., R.26 W., Cedar County, Hydrologic Unit 10290106, in power house at dam on Sac River, 2 mi (3.2 km) east of Stockton.

DRAINAGE AREA.--1,160 mi² (3,004 km²).

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

GAGE.--Water-stage recorder. Nonrecording gage prior to May 30, 1973. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Lake is formed by a rock shell earth-fill dam (crest elevation, 911 ft or 277.7 m). Spillway is equipped with 4 tainter gates, 40 ft (12.2 m) by 30.5 ft (9.30 m), crest elevation, 861.5 ft or (262.59 m). Embankment closed and river diverted on Sept. 23, 1968. Gates closed and storage began on Dec. 12, 1969; minimum power elevation 830.0 ft (252.98 m) reached on May 1, 1970. Gross storage at top of flood control pool is 1,666,659 acre-ft (2,055 hm³) at elevation 892 ft (271.88 m), of which 779,550 acre-ft (961 hm³) between elevations 867 ft (264.3 m) and 892 ft (271.9 m) is used for flood control, and 887,109 acre-ft (1,093 hm³) between elevations 760 ft (231.6 m) and 867 ft (264.3 m) is used for multipurpose and power. Sedimentation reserve is 25,000 acre-ft (30.8 hm³). Lake is used for flood control, power, and recreational purposes.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,450,000 acre-ft (1,790 hm³) Apr. 28, 1973, elevation, 885.94 ft (270.034 m); minimum, since initial filling to minimum power pool level, 352,000 acre-ft (434 hm³) Aug. 27 to Sept. 4, 1970, elevation, 839.60 ft (255.910 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 932,000 acre-ft (1,149 hm³) July 7, 8; maximum elevation, 868.79 ft (264.807 m) July 7; minimum contents, 696,000 acre-ft (858 hm³) Feb. 7, 8; minimum elevation, 858.75 ft (261.747 m) Feb. 7.

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

859	701,700	870	963,400
862	768,300	875	1,100,000
866	862,500	877	1,158,000

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	708000	704000	698000	699000	696000	701000	707000	710000	752000	921000	917000	894000
2	707000	705000	699000	700000	697000	701000	707000	710000	753000	925000	922000	890000
3	706000	704000	698000	699000	697000	701000	709000	710000	755000	927000	921000	887000
4	706000	704000	699000	699000	697000	703000	707000	710000	756000	928000	918000	887000
5	706000	704000	698000	699000	697000	704000	707000	710000	757000	930000	915000	887000
6	705000	705000	699000	699000	697000	704000	707000	710000	756000	930000	914000	887000
7	705000	703000	699000	699000	696000	704000	708000	710000	757000	932000	914000	887000
8	705000	703000	701000	698000	696000	704000	707000	710000	756000	932000	914000	887000
9	704000	703000	701000	698000	697000	705000	707000	710000	757000	930000	914000	887000
10	704000	703000	702000	698000	697000	705000	707000	711000	759000	928000	914000	886000
11	703000	703000	702000	698000	698000	705000	708000	712000	765000	929000	912000	886000
12	703000	703000	702000	698000	698000	705000	708000	712000	768000	929000	909000	886000
13	702000	701000	702000	697000	698000	705000	707000	716000	770000	927000	907000	886000
14	702000	702000	702000	697000	698000	705000	709000	722000	771000	925000	902000	885000
15	704000	702000	702000	697000	698000	705000	709000	725000	774000	923000	898000	885000
16	705000	701000	702000	697000	698000	706000	710000	727000	776000	923000	898000	884000
17	706000	701000	702000	697000	697000	705000	709000	729000	777000	920000	898000	884000
18	706000	701000	701000	697000	697000	705000	709000	737000	778000	919000	898000	883000
19	706000	701000	701000	697000	697000	705000	710000	741000	792000	920000	898000	883000
20	706000	700000	701000	697000	698000	705000	710000	743000	853000	918000	898000	882000
21	706000	700000	701000	697000	698000	705000	710000	745000	864000	917000	898000	882000
22	705000	701000	701000	697000	699000	705000	710000	746000	885000	915000	897000	881000
23	705000	700000	700000	697000	699000	705000	710000	748000	894000	913000	897000	881000
24	705000	700000	700000	697000	699000	705000	710000	748000	898000	913000	893000	881000
25	705000	700000	700000	697000	700000	705000	710000	749000	902000	913000	895000	881000
26	706000	699000	700000	697000	700000	705000	710000	749000	906000	913000	898000	880000
27	706000	700000	700000	697000	700000	706000	710000	750000	908000	914000	898000	880000
28	706000	699000	700000	697000	701000	709000	710000	750000	909000	914000	899000	880000
29	706000	700000	700000	697000	---	707000	711000	751000	909000	913000	899000	875000
30	705000	699000	700000	697000	---	707000	710000	751000	915000	913000	899000	873000
31	705000	---	699000	698000	---	707000	---	752000	---	916000	896000	---

WTR YR 1980

(+)	895.15	858.88	858.89	858.82	858.96	859.25	859.41	861.27	868.13	868.17	867.36	866.43
(#)	-3,000	-6,000	0	-1,000	+3,000	+6,000	+3,000	+42,000	+163,000	+1,000	-20,000	-23,000

MAX	708,000	705,000	702,000	700,000	701,000	709,000	711,000	752,000	915,000	932,000	922,000	894,000
MIN	702,000	699,000	698,000	697,000	696,000	701,000	707,000	710,000	752,000	913,000	893,000	873,000

CAL YR 1980.....# -150,000

WTR YR 1981.....# +165,000

(+) Elevation, in feet NGVD, at end of month.

(#) Change in contents in acre-feet.

OSAGE RIVER BASIN

06919000 SAC RIVER NEAR STOCKTON, MO

LOCATION.--Lat 37°41'51", long 93°45'43", in SE¼NW¼SE¼ sec.10, T.34 N., R.26 W., Cedar County, Hydrologic Unit 10290106, on left bank 0.5 mi (0.8 km) upstream from bridge on State Highway 32, 0.5 mi (0.8 km) downstream from Stockton Dam, 2.0 mi (3.2 km) upstream from Bear Creek, 2.0 mi (3.2 km) east of Stockton, and at mile 49.5 (79.6 km).

DRAINAGE AREA.--1,160 mi² (3,000 km²), approximately.

PERIOD OF RECORD.--July 1921 to current year.

REVISED RECORDS.--WSP 926: 1940.

GAGE.--Water-stage recorder. Revised datum of gage is 758.12 ft (231.075 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1973, all previous gages at site 0.5 mi (0.8 km) downstream and at datum 6.00 ft (1.829 m) higher. Prior to May 4, 1960, nonrecording gage. Datum lowered 6.00 ft Oct. 1, 1978.

REMARKS.--Records good except periods of backwater and releases from Stockton Dam which are poor. Several observations of water temperature were made during the year. Flow regulated by Stockton Lake since Dec. 12, 1969.

AVERAGE DISCHARGE.--60 years, 953 ft³/s (26.99 m³/s), 690,400 acre-ft/yr (851 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120,000 ft³/s (3,400 m³/s) May 19, 1943, gage height, 31.8 ft (9.693 m); no flow Sept. 9-23, 1954, Oct. 14, 17-20, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1943, 29.3 ft (8.93 m) in July 1909.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,460 ft³/s (69.7 m³/s) Aug. 10; minimum, 50 ft³/s (1.41 m³/s) June 2, Aug. 28, Sept. 11-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	54	53	58	58	58	52	67	51	100	835	1480
2	54	53	54	58	58	58	52	65	50	55	100	1760
3	53	53	53	58	57	58	51	65	55	55	1550	1640
4	54	53	53	58	57	59	52	67	55	55	2100	72
5	54	118	53	58	57	59	52	67	55	55	1900	52
6	54	53	54	57	57	57	52	65	880	778	889	52
7	54	58	52	57	58	57	51	65	57	85	75	52
8	57	53	56	59	57	57	51	61	55	776	54	51
9	57	53	59	59	58	56	53	61	55	979	54	51
10	52	54	54	59	59	57	53	60	54	998	54	51
11	55	54	59	59	60	57	54	59	55	1100	876	50
12	55	53	54	57	57	56	54	59	53	83	1290	50
13	54	53	55	57	57	57	54	58	53	1010	1520	50
14	55	56	55	58	57	57	60	59	52	1110	2340	50
15	55	55	55	59	57	57	58	62	55	1130	2460	52
16	54	55	60	59	57	57	57	57	55	1150	126	54
17	54	54	57	59	718	55	57	56	53	2380	58	54
18	54	54	56	58	60	58	59	55	52	1070	56	54
19	54	54	60	57	59	57	61	55	55	105	54	52
20	54	53	59	59	59	57	59	55	55	1020	53	52
21	53	52	58	59	58	56	56	55	55	1140	54	52
22	54	54	58	59	59	57	57	53	55	979	57	54
23	54	54	57	59	59	57	59	52	55	1210	55	54
24	54	54	60	59	59	57	57	54	55	97	1840	53
25	54	54	58	58	58	56	56	52	1180	61	81	53
26	54	63	56	58	58	55	54	52	1070	430	55	54
27	56	53	57	58	57	56	68	52	85	568	54	55
28	54	52	57	57	58	54	66	52	55	107	50	54
29	295	53	57	58	---	53	70	51	712	62	54	1440
30	53	52	57	58	---	52	71	52	1070	61	54	1620
31	304	---	57	58	---	52	---	52	---	60	1540	---
TOTAL	2172	1664	1745	1804	2283	1749	1705	1795	6295	18869	20538	9268
MEAN	70.1	56.1	56.3	58.2	91.5	56.4	55.4	57.9	210	609	656	309
MAX	304	118	60	59	718	59	71	67	1180	2380	2460	1760
MIN	52	52	52	57	57	52	51	51	50	55	50	50
CFSM	.06	.05	.05	.05	.07	.05	.05	.05	.18	.53	.57	.27
IN.	.07	.05	.06	.06	.07	.06	.05	.06	.20	.61	.65	.30
AC-FT	4310	3340	3460	3560	4330	3470	3380	3560	12490	37430	40340	18360
CAL YR 1980 TOTAL	218088		MEAN 546	MAX 3840	MIN 38	CFSM .51	IN 6.99	AC-FT 432600				
WTR YR 1981 TOTAL	69708		MEAN 191	MAX 2460	MIN 50	CFSM .17	IN 2.24	AC-FT 138300				

OSAGE RIVER BASIN

06919020 SAC RIVER AT HIGHWAY J BELOW STOCKTON, MO

LOCATION.--Lat 37°44'11", long 93°46'26", NW¼ sec.3, T.34 N., R.26 W., Cedar County, Hydrologic Unit 10290106, on right bank 500 ft (152.4 m) upstream from bridge on State Highway J, 4.5 mi (7.2 km) downstream from Bear Creek, 6.3 mi (10.1 km) downstream from Stockton Lake, 3 mi (4.8 km) north of Stockton and at mile 44.9 (72.2 km).

DRAINAGE AREA.--1,292 mi² (3,346 km²) approximately.

PERIOD OF RECORD.--October 1973 to current year. Occasional discharge measurements in water year 1973.

GAGE.--Water-stage recorder. Datum of gage is 750.19 ft (228.658 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for periods of release from Stockton Dam which are poor. Several observations of water temperature were made during the year. Mostly regulated by Stockton Lake.

AVERAGE DISCHARGE.--8 years, 955 ft³/s (27.05 m³/s) 691,900 acre-ft/yr (853 hm³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum observed discharge, 7,720 ft³/s (219 m³/s) Nov. 11, 1972, gage height, 21.20 ft (6.462 m); minimum, 24 ft³/s (0.68 m³/s) Mar. 25, 26, 1977, gage height, 4.76 ft (1.451 m).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 6,290 ft³/s (178 m³/s) June 20; minimum daily, 51 ft³/s (1.44 m³/s) Oct. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	57	74	53	65	73	67	55	70	84	924	1100	1380		
2	56	56	53	65	74	66	54	65	105	337	853	1340		
3	54	55	53	65	71	66	53	65	212	252	1510	1580		
4	54	55	53	64	70	70	54	65	221	367	2250	668		
5	54	135	53	64	70	75	54	69	164	410	2130	80		
6	58	62	53	65	70	88	54	65	991	689	1130	76		
7	52	59	53	63	70	83	53	69	132	329	303	76		
8	58	57	72	65	70	78	53	68	101	836	107	76		
9	59	57	76	65	71	75	52	69	85	1120	98	74		
10	51	57	67	65	75	73	54	74	81	1090	93	73		
11	55	56	70	66	76	71	56	85	206	1130	832	72		
12	56	55	65	66	76	70	55	90	130	406	1280	70		
13	56	55	64	66	75	68	57	89	135	920	1670	69		
14	57	57	64	67	71	67	67	116	107	1180	2340	69		
15	62	57	63	67	72	68	66	144	144	1220	2710	69		
16	59	57	67	67	80	67	65	110	314	1230	555	69		
17	59	56	64	67	791	66	65	100	151	2290	93	68		
18	59	56	62	66	105	63	65	375	114	1150	80	67		
19	59	56	61	66	74	64	66	767	2220	539	72	68		
20	58	56	62	68	70	63	64	295	6290	871	70	68		
21	58	56	62	70	68	63	60	179	1260	1190	68	69		
22	57	56	63	70	73	63	60	134	2390	1080	67	68		
23	57	58	63	69	73	63	61	115	2870	1350	65	67		
24	60	58	64	68	72	63	60	171	559	340	1670	67		
25	59	57	63	68	72	62	59	123	1310	84	476	67		
26	59	72	62	67	70	62	58	100	1110	390	273	66		
27	68	56	62	67	68	61	71	91	591	591	115	67		
28	69	54	62	67	67	60	75	88	272	354	85	66		
29	291	54	63	68	---	62	75	84	754	101	76	1360		
30	93	54	64	70	---	59	75	87	1530	90	71	1850		
31	316	---	64	71	---	57	---	89	---	325	1540	---		
TOTAL	2320	1803	1920	2067	2767	2083	1816	4131	24433	23205	23782	9859		
MEAN	74.8	60.1	61.9	66.7	98.8	67.2	60.5	133	814	749	767	329		
MAX	316	135	76	71	791	88	75	787	6290	2290	2710	1850		
MIN	51	54	53	63	67	57	52	65	81	84	65	66		
CFSM	.06	.05	.05	.05	.08	.05	.05	.10	.63	.58	.59	.26		
IN.	.07	.05	.06	.06	.08	.06	.05	.12	.70	.67	.68	.28		
AC-FT	4600	3580	3810	4100	5490	4130	3600	8190	48460	46030	47170	19560		
CAL YR 1980	TOTAL	235217	MEAN	643	MAX	3690	MIN	51	CFSM	.50	IN	6.77	AC-FT	466600
WTR YR 1981	TOTAL	100186	MEAN	274	MAX	6290	MIN	51	CFSM	.21	IN	2.88	AC-FT	198700

OSAGE RIVER BASIN

06919500 CEDAR CREEK NEAR PLEASANT VIEW, MO

LOCATION.--Lat 37°50'03", long 93°52'31", in NE¼ sec.2, T.35 N., R.27 W., Cedar County, Hydrologic Unit 10290106, on downstream side of right pier of bridge on State Highway 39, 1.5 mi (2.4 km) north of Pleasant View, 1.8 mi (2.9 km) downstream from Alder Creek, and 5.8 mi (9.3 km) upstream from mouth.

DRAINAGE AREA.--420 mi² (1,090 km²), approximately.

PERIOD OF RECORD.--April 1923 to September 1926, October 1948 to current year.

REVISED RECORDS.--WSP 1146: 1923-26, drainage area. WSP 1176: 1924(M).

GAGE.--Water-stage recorder. Datum of gage is 739.5 ft (225.40 m) National Geodetic Vertical Datum of 1929. Apr. 22, 1923, to Sept. 30, 1926, and Oct. 1, 1948, to May 10, 1950, nonrecording gage at site 50 ft (15 m) downstream at same datum. May 11, 1950 to Dec. 17, 1952, nonrecording gage, at present site and datum.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--36 years, 291 ft³/s (8.241 m³/s), 9.41 in/yr (239 mm/yr), 210,800 acre-ft/yr (260 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,900 ft³/s (960 m³/s) July 17, 1958, gage height, 27.35 ft (8.336 m); no flow at times in 1953-54, 1956, 1959-61, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 27.7 ft (8.44 m) July 20, 1909, from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s (99.1 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
June 20	1700	*20,100	569	*25.02	7.626
July 1	1230	5,700	161	18.64	5.681

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.06	.22	.38	.88	5.8	3.2	13	72	5290	68	40
2	.00	.05	.21	.38	.97	4.9	3.1	9.9	82	3800	773	64
3	.00	.06	.20	.38	.97	4.1	2.8	7.5	565	717	2340	73
4	.00	.06	.20	.38	.88	5.2	3.1	7.1	1300	441	596	47
5	.00	.06	.20	.38	.80	7.4	3.1	6.9	572	348	273	32
6	.00	.06	.20	.38	.80	8.1	3.0	6.0	300	479	179	24
7	.00	.06	.20	.38	.80	10	2.9	5.4	200	271	134	21
8	.00	.06	.20	.38	.80	10	2.8	5.7	149	205	103	19
9	.00	.05	1.7	.36	.80	11	2.3	6.6	110	174	81	18
10	.00	.05	1.6	.32	1.4	11	2.1	9.3	81	144	65	23
11	.00	.04	1.2	.30	1.4	11	2.2	8.9	1350	117	56	19
12	.00	.04	.72	.26	1.2	9.6	2.2	8.5	2240	97	48	16
13	.00	.03	.65	.26	1.2	8.9	2.5	11	579	80	41	14
14	.00	.06	.65	.26	1.2	8.2	7.0	14	363	66	36	12
15	.00	.08	.65	.25	1.3	7.9	11	14	328	56	31	11
16	.00	.08	.65	.24	1.3	7.9	18	13	2350	49	64	9.6
17	.00	.08	.58	.23	1.3	7.6	15	42	1350	41	63	8.5
18	.00	.08	.58	.23	1.3	6.6	17	254	500	156	33	7.8
19	.00	.09	.52	.22	1.3	5.9	24	546	801	174	25	7.1
20	.00	.09	.41	.28	1.3	4.8	28	538	11500	47	20	6.5
21	.00	.09	.38	.36	4.3	4.4	25	230	10500	61	16	5.8
22	.00	.09	.34	.38	8.8	3.8	25	135	5660	44	16	5.5
23	.00	.14	.34	.40	7.4	3.4	24	90	5260	34	17	5.1
24	.00	.16	.38	.41	7.1	2.9	23	183	2090	70	15	4.5
25	.00	.16	.34	.41	6.2	2.7	21	669	667	71	16	4.1
26	.00	.16	.34	.41	4.9	2.9	20	190	575	44	194	4.0
27	.06	.18	.38	.41	5.5	2.6	18	116	410	30	348	3.4
28	.13	.19	.38	.41	6.2	2.4	15	81	701	110	235	3.2
29	.11	.19	.38	.39	---	3.1	15	58	382	267	130	3.3
30	.09	.19	.38	.41	---	3.2	15	50	1540	101	72	2.9
31	.07	---	.38	.58	---	3.4	---	64	---	92	46	---
TOTAL	.46	2.79	16.26	10.82	72.30	190.7	358.3	3372.8	52577	13786	6136	514.3
MEAN	.015	.093	.52	.35	2.58	6.15	11.9	109	1753	445	198	17.1
MAX	.13	.19	1.7	.58	8.8	11	28	669	11500	5290	2340	73
MIN	.00	.03	.20	.22	.80	2.4	2.1	5.4	72	30	15	2.9
CFSM	.000	.000	.001	.001	.006	.02	.03	.26	4.17	1.06	.47	.04
IN.	.00	.00	.00	.00	.01	.02	.03	.30	4.66	1.22	.54	.05
AC-FT	.9	5.5	32	21	143	378	711	6690	104300	27340	12170	1020

CAL YR 1960	TOTAL	48819.84	MEAN	133	MAX	4600	MIN	.00	CFSM	.32	IN	4.32	AC-FT	96830
WIR YR 1961	TOTAL	77037.73	MEAN	211	MAX	11500	MIN	.00	CFSM	.50	IN	6.82	AC-FT	152800

OSAGE RIVER BASIN

06919900 SAC RIVER NEAR CAPLINGER MILLS, MO

LOCATION.--Lat 37°52'12", long 93°48'11", in NW¼NE¼SW¼ sec.21, St. Clair County, Hydrologic Unit 10290106, on right downstream wingwall of bridge on State Highway W, 1.5 mi (2.4 km) downstream from Cedar Creek and 5 mi (8.0 km) north of Caplinger Mills.

DRAINAGE AREA.--1,810 mi² (4,690 km²).

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 720.82 ft (219.602 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except during periods of no gage-height record which are poor. Several observations of water temperature were made during the year. Some regulation from Stockton Lake.

AVERAGE DISCHARGE.--7 years, 1114 ft³/s (31.55 m³/s) 807,100 acre-ft/yr (995 hm³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,900 ft³/s (507 m³/s) Nov. 4, 1974, gage height, 25.99 ft (7.921 m) from floodmark; minimum, 48 ft³/s (1.36 m³/s) Sept. 13, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,500 ft³/s (297 m³/s) June 23, gage height, 18.87 ft (5.752 m); minimum daily, 44 ft³/s (1.25 m³/s) Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	319	48	52	62	91	59	94	205	7870	938	1130
2	48	66	48	51	57	87	57	89	192	5590	1780	1630
3	48	58	48	51	58	87	58	78	695	1510	3430	1600
4	47	55	48	50	58	103	55	76	2060	969	2490	1560
5	47	55	48	51	57	103	55	85	960	914	2300	164
6	47	151	48	52	57	113	53	80	1170	924	1710	120
7	48	58	48	51	57	116	53	80	696	1120	1010	111
8	48	58	76	51	57	110	53	80	300	493	268	109
9	49	58	85	54	57	102	55	80	231	1220	226	100
10	49	57	75	53	66	95	55	80	183	1240	199	101
11	44	55	75	52	62	93	58	90	1240	1090	188	99
12	45	55	70	51	70	90	62	100	3120	1250	994	92
13	46	55	70	52	61	88	60	120	1010	279	1470	83
14	60	51	65	53	61	83	85	150	589	1180	1800	83
15	59	51	65	54	68	84	89	200	498	1190	2650	80
16	52	51	65	52	80	83	89	150	2950	1200	1710	76
17	51	51	57	53	105	80	85	200	2210	1940	265	72
18	50	51	53	54	739	75	82	300	822	1450	170	72
19	50	50	51	55	108	72	87	1500	2570	1340	136	70
20	49	50	50	56	89	70	95	1200	8970	281	119	70
21	49	50	50	58	87	69	102	518	8600	1160	109	70
22	47	50	50	57	109	69	110	315	7960	1140	101	71
23	48	51	51	57	107	68	98	253	8810	1100	96	72
24	52	55	52	55	106	67	91	386	4340	1160	400	71
25	48	55	50	54	108	66	83	964	1640	222	1510	68
26	48	55	50	53	101	66	83	340	2440	168	358	68
27	70	72	50	52	97	66	87	246	1240	495	722	68
28	80	55	52	52	95	67	94	192	1110	757	347	68
29	72	51	52	54	---	73	98	160	803	471	257	176
30	515	51	52	61	---	67	101	186	3830	250	180	1720
31	78	---	53	59	---	62	---	222	---	432	609	---
TOTAL	1694	2000	1755	1660	2839	2565	2290	8614	71444	40405	28542	9874
MEAN	61.1	66.7	56.6	53.5	101	82.7	76.3	278	2381	1303	921	329
MAX	515	319	85	61	739	116	110	1500	8970	7870	3430	1720
MIN	44	50	48	50	57	62	53	76	183	168	96	68
CFSM	.03	.04	.03	.03	.06	.05	.04	.15	1.32	.72	.51	.18
IN.	.04	.04	.04	.03	.06	.05	.05	.18	1.47	.83	.59	.20
AC-FT	3760	5970	3480	3290	5630	5090	4540	17090	141700	80140	56610	19590
CAL YR 1980	TOTAL	282885	MEAN 773	MAX 7140	MIN 44	CFSM .43	IN 5.81	AC-FT	561100			
WIR YR 1981	TOTAL	173882	MEAN 476	MAX 6970	MIN 44	CFSM .26	IN 3.57	AC-FT	344900			

OSAGE RIVER BASIN

06921070 POMME DE TERRE RIVER NEAR POLK, MO

LOCATION.--Lat 37°40'56", long 93°22'12", in NE¼NW¼ sec.17, T.34 N., R.22 W., Polk County, Hydrologic Unit 10290107, on right bank 150 ft (46 m) upstream from Jefferson Bridge on State Highway D and 5 mi (8.0 km) southwest of Polk.

DRAINAGE AREA.--276 mi² (715 km²).

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 872.61 ft (265.971 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--13 years, 240 ft³/s (6.797 m³/s), 11.81 in/yr (300 mm/yr), 173,900 acre-ft/yr (214 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,300 ft³/s (575 m³/s) Nov. 1, 1972, gage height, 21.88 ft (6.669 m); minimum, 0.3 ft³/s (0.008 m³/s) Aug. 11, 1980; minimum gage height, 1.26 ft (0.384 m) Sept. 1, 2, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,500 ft³/s (156 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 18	2200	6,840 194	11.74 3.578
June 19	1345	*18,200 515	*20.56 6.267

Minimum, 0.8 ft³/s (0.02 m³/s) Oct. 11-13, gage height, 1.48 ft (0.451 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	18	18	14	16	41	46	67	58	219	41	16
2	1.2	16	17	14	16	39	42	59	62	174	40	16
3	.80	14	17	14	16	37	37	43	515	137	53	14
4	.80	13	17	13	15	46	36	37	546	115	52	12
5	1.5	11	17	13	15	162	34	51	130	110	45	11
6	1.5	9.7	17	13	15	174	31	28	112	95	38	10
7	1.5	12	20	13	15	145	29	26	110	87	32	11
8	1.5	12	35	13	16	113	27	24	95	85	26	12
9	1.5	12	78	13	16	95	26	23	84	75	24	11
10	1.2	12	62	13	16	84	26	166	127	65	22	11
11	1.0	12	53	13	19	77	26	278	261	56	20	9.0
12	.80	12	43	13	21	68	25	187	169	50	16	8.3
13	.80	13	36	13	24	62	23	254	109	44	18	8.2
14	.80	16	31	13	24	56	28	2760	84	40	17	8.0
15	2.2	16	27	13	27	53	26	694	83	35	26	7.5
16	4.2	16	25	13	113	50	25	294	131	2600	31	7.3
17	527	16	24	12	128	49	25	179	107	770	18	8.3
18	65	16	23	12	95	46	22	2530	87	271	15	7.8
19	24	16	21	12	75	43	21	1700	11000	151	14	7.8
20	16	17	19	13	60	41	22	538	7320	119	17	7.4
21	12	17	18	14	51	38	22	638	1360	108	17	6.7
22	12	17	17	14	54	38	22	190	3390	92	17	6.7
23	10	17	17	14	73	37	25	147	2270	81	14	6.5
24	10	19	16	14	70	35	29	400	974	72	13	6.0
25	10	19	16	13	59	33	24	136	717	65	25	6.0
26	7.8	19	15	13	51	32	23	108	570	59	68	6.2
27	16	19	15	13	45	31	21	90	400	52	27	6.0
28	35	19	15	13	43	31	19	74	305	50	21	6.0
29	36	19	15	13	---	34	20	65	227	54	25	6.0
30	25	18	15	14	---	49	25	61	272	49	22	5.3
31	20	---	15	14	---	52	---	56	---	44	18	---
TOTAL	848.30	462.7	774	409	1191	1911	804	11883	51283	6024	834	265.0
MEAN	27.4	15.4	25.0	13.2	42.5	61.6	26.8	383	1043	194	26.9	8.83
MAX	527	19	78	14	128	182	46	2760	11000	2600	68	16
MIN	.80	9.7	15	12	15	31	19	23	58	35	13	5.3
CFSM	.10	.06	.09	.05	.15	.22	.10	1.39	3.73	.70	.10	.03
IN.	.11	.06	.10	.06	.16	.24	.11	1.60	4.22	.81	.11	.04
AC-FT	1680	918	1540	811	2360	3790	1590	23570	62050	11950	1650	526

CAL YR 1980	TOTAL	34663.30	MEAN	108	MAX	3030	MIN	.50	CFSM	.39	IN	5.35	AC-FT	78670
WTR YR 1981	TOTAL	56689.00	MEAN	155	MAX	11000	MIN	.80	CFSM	.56	IN	7.64	AC-FT	112400

OSAGE RIVER BASIN

06921200 LINDLEY CREEK NEAR POLK, MO

LOCATION.--Lat 37°45'02", long 93°15'58", in NE¼SE¼ sec.29, T.35 N., R.21 W., Polk County, Hydrologic Unit 10290107, on left bank 30 ft (9 m) upstream from county highway bridge, 0.5 mi (0.8 km) downstream from Panther Creek, 2.5 mi (4.0 km) northeast of Polk, and 11 mi (17.7 km) upstream from Ingalls Creek.

DRAINAGE AREA.--112 mi² (290 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 884.08 ft (269.468 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 25, 1957, nonrecording gage at site 30 ft (9 m) downstream at same datum.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--24 years, 86.1 ft³/s (2.438 m³/s), 10.44 in/yr (265 mm/yr), 62,380 acre-ft/yr (76.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft³/s (793 m³/s) May 5, 1961, gage height, 23.60 ft (7.193 m), from rating extended above 12,000 ft³/s (340 m³/s) on basis of slope-conveyance study; no flow on many days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in September 1914, reached a stage of about 25.2 ft (7.68 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (57 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
May 18	2330	3,260	92.3	13.69	4.173
June 19	1400	*12,300	348	*18.98	5.785
July 16	0500	2,420	68.5	12.05	3.673

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	1.1	3.6	1.4	2.4	13	9.1	4.0	65	252	9.2	2.4
2	.00	.75	3.9	1.2	3.9	11	7.1	2.6	93	111	8.0	1.8
3	.00	.74	3.7	1.2	3.9	10	6.1	1.6	319	78	9.2	1.5
4	.00	.62	3.8	1.0	2.9	22	6.0	1.6	235	80	11	1.5
5	.00	.50	4.0	.82	2.4	99	5.0	1.5	109	81	7.7	1.4
6	.00	.82	4.2	.82	2.2	59	4.2	1.4	89	54	5.4	1.1
7	.00	.91	4.6	.82	2.4	39	3.7	1.3	88	43	4.2	1.2
8	.00	.91	6.4	.82	2.4	30	3.5	1.1	63	35	3.1	1.7
9	.00	.91	22	.82	2.4	24	3.5	1.1	47	27	2.4	1.3
10	.00	.74	21	.74	4.2	21	3.4	127	39	20	1.9	.93
11	.00	.74	16	.74	4.4	18	4.2	102	828	17	1.5	.88
12	.00	.74	12	.67	4.2	15	4.0	49	190	14	1.2	.81
13	.00	.74	9.2	.67	3.9	14	3.7	57	103	11	1.4	.67
14	.00	.91	6.9	.67	8.0	12	7.3	294	74	9.6	1.7	.53
15	.00	1.2	5.5	.67	60	12	8.6	93	75	7.3	5.1	.33
16	.00	1.4	4.6	.67	62	12	7.4	57	289	720	113	.22
17	.52	1.5	4.0	.60	60	11	5.8	52	119	75	27	.17
18	.18	1.5	3.7	.50	41	9.5	4.9	1830	78	57	13	.14
19	3.8	1.5	3.2	.50	28	7.5	5.0	1000	4770	38	7.6	.13
20	.95	1.5	2.6	.74	21	6.5	5.0	256	1600	30	4.5	.12
21	.42	1.5	2.1	1.2	17	6.2	4.7	141	329	23	3.2	.09
22	.34	1.5	1.8	1.4	29	6.2	4.8	96	453	19	2.1	.09
23	.16	2.2	1.8	1.4	43	5.9	5.2	77	315	19	1.8	.11
24	.14	3.1	1.8	1.2	31	5.3	5.3	655	148	18	1.3	.09
25	.13	2.5	1.6	1.1	24	5.1	4.2	154	242	15	1.3	.08
26	.12	2.7	1.4	1.0	19	4.9	3.4	99	150	12	1.6	.06
27	.82	2.7	1.4	.91	16	4.6	2.7	73	97	9.2	2.6	.06
28	.34	2.9	1.2	.82	14	4.4	2.3	58	77	23	2.3	.05
29	.14	2.7	1.4	.74	---	7.5	2.2	52	61	22	3.8	.05
30	4.2	3.1	1.5	1.0	---	16	3.5	69	401	14	3.4	.05
31	2.0	---	1.5	1.2	---	13	---	67	---	11	2.3	---
TOTAL	111.08	44.63	164.4	26.04	514.6	524.6	145.8	5474.2	11547	1945.1	263.8	19.56
MEAN	3.58	1.49	5.30	.90	18.4	16.9	4.86	177	385	62.7	8.51	.65
MAX	34	3.1	22	1.4	62	99	9.1	1830	4770	720	113	2.4
MIN	.00	.50	1.2	.50	2.2	4.4	2.2	1.1	39	7.3	1.2	.05
CFSM	.03	.01	.05	.008	.10	.15	.04	1.58	3.44	.56	.08	.006
IN.	.04	.01	.05	.01	.17	.17	.05	1.82	3.84	.65	.09	.01
AC-FT	220	89	326	56	1020	1040	289	10860	22900	3860	523	39

CAL YR 1980 TOTAL 10472.31 MEAN 28.6 MAX 940 MIN .00 CFSM .26 IN 3.48 AC-FT 20770
WTR YR 1981 TOTAL 20782.81 MEAN 56.9 MAX 4770 MIN .00 CFSM .51 IN 6.90 AC-FT 41220

OSAGE RIVER BASIN

06921200 LINDLEY CREEK NEAR POLK, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1980 to current year.

INSTRUMENTATION.--Temperature recorder since November 1980.

REMARKS.--Temperature recorder inoperative Dec. 1 through Feb. 17, the period when the minimum temperature may have occurred. Number of missing days of record exceed 20 percent of year.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 32.0°C July 15.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1			---	---					---	---	11.5	9.5
2			---	---					---	---	11.0	9.5
3			---	---					---	---	9.5	8.0
4			---	---					---	---	8.5	7.5
5			---	---					---	---	8.0	7.0
6			---	---					---	---	8.5	6.0
7			---	---					---	---	8.5	6.5
8			---	---					---	---	9.0	6.5
9			---	---					---	---	9.0	6.5
10			---	---					---	---	10.0	7.5
11			---	---					---	---	10.0	7.5
12			---	---					---	---	10.5	7.5
13			---	---					---	---	13.0	9.5
14			---	---					---	---	12.5	9.5
15			---	---					---	---	11.5	10.0
16			---	---					---	---	12.5	9.0
17			---	---					---	---	12.5	9.0
18			---	---					3.5	1.5	12.5	9.5
19			---	---					6.5	3.5	11.5	8.5
20			6.5	5.0					8.0	5.5	10.5	8.0
21			6.0	5.0					9.0	7.5	10.0	8.5
22			6.0	4.5					9.0	8.0	10.0	9.0
23			6.5	5.5					8.5	7.0	12.5	8.0
24			6.5	6.0					9.0	6.5	13.5	9.0
25			6.0	5.5					10.5	7.5	13.0	10.0
26			5.5	4.0					12.5	10.0	14.5	10.5
27			5.5	3.5					13.5	12.0	16.0	12.0
28			5.5	3.5					13.0	11.0	16.0	14.0
29			5.5	4.0					---	---	18.0	14.5
30			7.0	4.5					---	---	17.5	14.0
31			---	---					---	---	19.5	15.5
MONTH			7.0	3.5					13.5	1.5	19.5	6.0

OSAGE RIVER BASIN

06921200 LINDLEY CREEK NEAR POLK, MO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

OSAGE RIVER BASIN

06921325 POMME DE TERRE LAKE NEAR HERMITAGE, MO

LOCATION.--Lat 37°54'06", long 93°19'05", in NE¼ sec.2, T.36 N., R.22 W., Hickory County, Hydrologic Unit 10290107, in intake tower at dam on Pomme de Terre River, and 3 mi (4.8 km) southwest of Hermitage.

DRAINAGE AREA.--611 mi² (1,583 km²).

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

GAGE.--Water-stage recorder. Nonrecording gage prior to Nov. 9, 1961. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Lake is formed by earth fill embankment with a concrete gravity section-type dam. Closure operation began on June 28, 1960; conservation pool level reached June 15, 1963. Capacity nominal top of flood control pool, 648,700 acre-ft (800 hm³) at elevation, 874 ft or 266.4 m, crest of spillway, of which 407,200 acre-ft (502 hm³) between elevations 839 ft or 255.7 m and 874 ft or 266.4 m is used for flood control, and 228,700 acre-ft (282 hm³) between elevations 783 ft or 238.7 m and 839 ft or 255.7 m is used for conservation and 12,840 acre-ft (15.8 hm³) below elevation 783 ft or 238.7 m is sediment storage. Lake used for flood control and recreational purposes.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 481,000 acre-ft (593 hm³) Apr. 30, 1973, elevation, 862.35 ft (262.844 m), minimum, since initial filling to conservation pool level, 215,880 acre-ft (266 hm³) Mar. 3, 1964, elevation, 835.61 ft (254.694 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 337,000 acre-ft (416 hm³) June 26, elevation, 849.74 ft (259.001 m); minimum daily, 218,000 acre-ft (269 hm³) Jan. 17 to Feb. 16, elevation, 835.89 ft (254.779 m).

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

837	226,200	847	310,400
840	249,500	850	339,600
843	274,500	853	370,700

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	222000	223000	220000	220000	218000	224000	229000	232000	258000	332000	253000	250000
2	222000	223000	220000	220000	218000	224000	229000	231000	256000	330000	253000	250000
3	221000	223000	220000	220000	218000	224000	229000	231000	255000	328000	253000	250000
4	221000	223000	220000	220000	218000	224000	229000	232000	255000	326000	253000	250000
5	221000	223000	220000	220000	218000	225000	229000	232000	254000	324000	253000	250000
6	221000	223000	220000	219000	218000	226000	229000	232000	252000	322000	253000	249000
7	220000	223000	220000	219000	218000	226000	229000	231000	250000	319000	253000	249000
8	220000	222000	220000	219000	218000	227000	229000	231000	247000	308000	252000	249000
9	220000	222000	221000	219000	218000	228000	229000	231000	247000	302000	252000	247000
10	220000	222000	221000	219000	218000	228000	229000	233000	246000	296000	252000	249000
11	220000	222000	221000	219000	218000	228000	230000	236000	250000	291000	252000	248000
12	219000	222000	221000	219000	218000	228000	230000	238000	253000	285000	252000	248000
13	219000	222000	221000	219000	218000	228000	230000	238000	253000	280000	251000	248000
14	219000	222000	221000	219000	218000	228000	231000	241000	253000	274000	251000	248000
15	219000	222000	221000	219000	218000	229000	231000	247000	252000	274000	251000	248000
16	220000	222000	221000	219000	218000	229000	231000	248000	252000	272000	252000	248000
17	222000	221000	221000	218000	219000	229000	231000	248000	253000	272000	252000	248000
18	222000	221000	221000	218000	219000	229000	231000	253000	253000	267000	252000	248000
19	223000	221000	221000	218000	220000	229000	231000	275000	256000	262000	251000	247000
20	223000	221000	221000	218000	220000	229000	231000	280000	302000	257000	251000	247000
21	222000	221000	221000	218000	220000	229000	231000	279000	318000	251000	251000	247000
22	222000	221000	221000	218000	221000	229000	232000	277000	320000	251000	251000	246000
23	222000	221000	221000	218000	222000	229000	232000	276000	331000	252000	250000	246000
24	222000	221000	221000	218000	222000	229000	232000	274000	334000	251000	250000	246000
25	222000	221000	221000	218000	223000	229000	232000	274000	334000	252000	250000	245000
26	222000	221000	220000	218000	223000	229000	232000	272000	337000	251000	250000	245000
27	222000	221000	220000	218000	223000	229000	231000	270000	335000	251000	251000	245000
28	223000	220000	220000	218000	223000	229000	231000	267000	333000	253000	251000	245000
29	223000	220000	220000	218000	---	229000	231000	265000	331000	253000	250000	244000
30	223000	220000	220000	218000	---	229000	231000	262000	330000	253000	250000	244000
31	223000	---	220000	218000	---	229000	---	261000	---	253000	250000	---

WTR YR 1981

(+)	836.60	836.19	836.17	835.89	836.61	837.39	837.70	841.36	849.03	840.39	840.05	839.30
(#)	+1000	-3000	0	-2000	+5000	+6000	+2000	+30000	+69000	-77000	-3000	-6000
MAX	223000	223000	221000	220000	223000	229000	232000	280000	337000	332000	253000	250000
MIN	219000	220000	220000	218000	218000	224000	229000	231000	246000	251000	250000	244000

CAL YR 1980.....\$ -23000

WTR YR 1981.....\$ +22000

(+) Elevation, in feet NGVD, at end of month.

(#) Change in contents, in acre-feet.

OSAGE RIVER BASIN

06921350 POMME DE TERRE RIVER NEAR HERMITAGE, MO

LOCATION.--Lat 37°54'20", long 93°19'45", in NW¼NW¼ sec.2, T.36 N., R.22 W., Hickory County, Hydrologic Unit 10290107, on right bank 2,000 ft (610 m) downstream from outlet of Pomme de Terre Lake, 2.5 mi (4.0 km) south west of Hermitage, 4.5 mi (7.2 km) upstream from Green Branch, and at mile 43.4 (69.8 km).

DRAINAGE AREA.--615 mi² (1,590 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 749.33 ft (228.396 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by Pomme de Terre Lake.

AVERAGE DISCHARGE.--21 years, 450 ft³/s (12.74 m³/s), 326,000 acre-ft/yr (402 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,000 ft³/s (255 m³/s) May 9, 1961, gage height, 15.02 ft (4.578 m); no flow Sept. 10, 1960, Mar. 9-17, 1971, Nov. 4-6, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,160 ft³/s (89.5 m³/s) July 8; minimum daily discharge, 2.1 ft³/s (0.06 m³/s) Oct. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	44	43	45	49	55	50	45	45	1520	1580	88	15		
2	43	43	46	50	56	50	45	45	1520	1580	88	83		
3	43	43	45	50	56	49	45	45	1530	1580	88	84		
4	43	43	46	50	56	50	45	45	1520	1580	87	84		
5	43	43	46	49	56	50	45	45	1530	1570	87	84		
6	43	43	46	50	55	50	45	45	1520	1570	87	84		
7	43	43	46	50	54	48	45	45	1510	2350	87	84		
8	43	43	49	50	55	49	45	45	962	3160	87	84		
9	43	43	48	50	54	49	44	45	478	2830	88	84		
10	43	43	48	50	55	49	44	58	480	2820	88	88		
11	42	43	48	50	55	48	45	48	499	2810	86	2.1		
12	42	43	48	50	54	48	45	46	485	2800	86	2.1		
13	43	43	48	50	54	49	45	48	484	2170	86	2.1		
14	36	44	48	50	52	49	46	47	483	2900	86	2.1		
15	16	43	48	50	51	49	45	156	488	2900	86	2.1		
16	23	43	49	51	50	49	45	269	489	2920	86	2.1		
17	45	44	49	51	50	49	45	274	363	2890	86	26		
18	45	44	49	51	50	47	45	328	203	2880	86	81		
19	45	44	49	51	50	48	46	278	515	2870	86	81		
20	45	44	50	51	50	47	45	690	517	2850	86	81		
21	45	44	50	51	51	47	45	1550	514	1210	86	81		
22	44	44	50	52	52	47	45	1540	516	88	86	82		
23	44	45	50	52	51	47	45	1540	517	87	86	82		
24	45	45	50	51	50	47	45	1550	1070	88	86	82		
25	44	45	50	52	50	47	45	1540	945	87	86	82		
26	44	45	49	53	50	47	45	1530	1080	87	86	82		
27	47	45	48	53	50	46	45	1530	1590	89	87	84		
28	45	44	48	53	50	46	45	1530	1590	90	86	84		
29	44	45	49	53	---	46	45	1520	1580	88	86	84		
30	43	45	49	55	---	45	45	1530	1590	87	86	84		
31	43	---	49	55	---	45	---	1520	---	88	51	---		
TOTAL	1301	1312	1493	1583	1472	1487	1350	19527	28088	50699	2647	1882.6		
MEAN	42.0	43.7	48.2	51.1	52.6	48.0	45.0	630	936	1635	85.4	62.8		
MAX	47	45	50	55	56	50	46	1550	1590	3160	88	88		
MIN	16	43	45	49	50	45	44	45	203	87	51	2.1		
CFSM	.07	.07	.08	.08	.09	.08	.07	1.02	1.52	2.66	.14	.10		
IN.	.08	.08	.09	.10	.09	.09	.08	1.18	1.70	3.07	.16	.11		
AC=FT	2580	2600	2960	3140	2920	2950	2680	38730	55710	100600	5250	3730		
CAL YR 1980	TOTAL	82201.0	MEAN	225	MAX	2360	MIN	16	CFSM	.37	IN	4.97	AC=FT	163000
WIR YR 1981	TOTAL	112841.6	MEAN	309	MAX	3160	MIN	2.1	CFSM	.50	IN	6.83	AC=FT	223800

OSAGE RIVER BASIN

06921590 SOUTH GRAND RIVER AT ARCHIE, MO

LOCATION.--Lat 38°28'44", long 94°20'03", in NW¼NW¼SE¼ sec.34, T.43 N., R.31 W., Cass County, Hydrologic Unit 10290108, on right bank 25 ft (8 m) downstream from bridge on State Highway B, 0.9 mi (1.4 km) east of Archie, 1.4 mi (2.3 km) upstream from Mormon Fork, and 7.4 mi (11.9 km) downstream from South Fork.

DRAINAGE AREA.--356 mi² (663 km²), revised 1980.

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

GAGE.--Water-stage recorder. Datum of gage is 768.99 ft (234.388 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--12 years, 228 ft³/s (6.457 m³/s), 11.87 in/yr (301 mm/yr), 162,300 acre-ft/yr (200 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,600 ft³/s (442 m³/s) Oct. 13, 1969, gage height, 19.4 ft (5.91 m); no flow Aug. 11 to Oct. 10, 1976, Oct. 13-24, 1978, July 10 to Aug. 4, Sept. 21 to Sept. 30, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Nov. 13, 1928, and Sept. 15, 1961, reached stages of 27.6 ft (8.41 m) and 23.8 ft (7.25 m), respectively, at point 1 mi (1.6 km) northeast of gage, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,500 ft³/s (156 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
May 18	1745	6,630	188	12.05	3.673
May 19	0015	5,600	159	10.98	3.347
June 15	2115	*9,770	277	*15.30	4.663

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	1.4	4.5	3.0	2.6	3.8	6.0	7.7	15	6550	1090	55
2	.00	1.2	3.5	3.0	3.1	3.7	4.8	3.0	18	6530	1090	.00
3	.00	1.1	3.2	3.0	4.2	3.0	3.7	.29	18	227	1090	75
4	.00	.67	4.0	3.0	4.3	4.0	3.7	.71	26	164	1090	117
5	.00	.18	4.1	3.0	4.5	3.4	2.1	3.3	17	127	1090	72
6	.00	.10	4.2	3.0	3.3	3.0	1.3	2.2	12	96	1090	44
7	.00	.15	4.9	3.0	2.9	2.5	.56	1.2	11	71	1090	44
8	.00	.17	9.6	3.0	3.0	2.5	.32	2.1	9.3	66	1090	44
9	.00	.15	28	2.6	3.4	2.8	.35	3.4	8.7	46	1090	44
10	.00	.10	22	2.6	3.7	3.4	.36	4.3	8.8	40	944	26
11	.00	.19	9.2	2.6	3.5	3.3	.67	3.1	2350	32	337	20
12	.00	.58	6.5	2.6	4.1	2.0	.90	5.8	765	28	121	20
13	.00	.78	5.0	2.6	4.2	1.5	1.2	7.4	140	18	68	20
14	.00	1.1	4.0	2.6	4.1	1.5	2.8	8.1	64	15	48	20
15	.00	1.2	3.6	2.6	4.4	2.0	3.2	62	4990	12	37	20
16	.00	1.3	3.2	2.6	5.3	1.8	2.8	46	6080	85	30	20
17	.00	1.4	3.0	2.6	7.0	1.4	2.4	177	561	132	23	20
18	.00	1.5	3.0	2.6	8.2	2.4	4.3	4800	245	393	20	20
19	.00	1.0	3.0	2.6	8.6	2.1	24	1820	2070	557	16	20
20	.00	.48	3.0	2.6	9.3	2.0	40	293	3660	416	13	20
21	.00	.38	3.0	2.6	9.6	1.7	39	142	2280	139	11	20
22	.00	.60	3.0	2.6	9.6	1.9	18	87	3250	82	9.5	20
23	.00	3.1	3.0	2.6	7.7	4.1	9.4	54	719	60	8.5	20
24	.00	3.8	3.0	2.6	5.6	5.0	7.7	42	292	43	7.6	11
25	.00	3.8	3.0	2.6	5.4	5.9	7.7	32	2310	2290	8.0	3.2
26	.00	4.1	3.0	2.6	4.9	13	7.7	23	695	475	116	6.5
27	.00	4.2	3.0	2.6	4.0	17	7.7	16	260	1890	122	8.4
28	.00	4.0	3.0	2.6	4.3	16	7.7	13	256	1180	37	7.1
29	.33	4.4	3.0	2.6	---	11	7.7	12	663	895	17	6.1
30	1.8	4.4	3.0	2.6	---	6.6	7.7	12	6680	431	10	4.3
31	1.5	---	3.0	2.6	---	5.6	---	13	---	343	7.3	---
TOTAL	3.63	47.53	164.5	83.8	144.6	139.9	225.76	7696.60	38473.8	23453	11820.9	827.60
MEAN	.12	1.58	5.31	2.70	5.16	4.51	7.53	248	1282	756	381	27.6
MAX	1.8	4.4	28	3.0	9.6	17	40	4800	6680	6550	1090	117
MIN	.00	.10	3.0	2.6	2.6	1.4	.32	.29	8.7	12	7.3	.00
CFSM	.000	.006	.02	.01	.02	.02	.03	.97	5.01	2.95	1.49	.11
IN.	.00	.01	.02	.01	.02	.02	.03	1.12	5.59	3.41	1.72	.12
AC-FT	7.2	94	326	166	287	277	448	15270	76310	46480	23450	1640
CAL YR 1980	TOTAL	34293.80	MEAN	93.7	MAX	4460	MIN	.00	CFSM	.37	IN	4.98
WTR YR 1981	TOTAL	83061.62	MEAN	228	MAX	6680	MIN	.00	CFSM	.89	IN	12.07
										AC-FT	68020	
										AC-FT	164800	

OSAGE RIVER BASIN
06922200 TPBO CREEK AT LEESVILLE, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°22'04", long 93°32'41" in SE¼NW¼ sec.2, T.41 N., R.24 W., Henry County, Hydrologic Unit 10290108, at bridge on County Highway PP, 1.5 mi (2.4 km) north of Leesville.

PERIOD OF RECORD.--Water year 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SPE- CIFIC CUN- DUCI- ANCE (UMHUS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACU3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)
OCT											
16...	359	7.7	18.0	7.4	71	4	150	35	45	10	8.6
NOV											
17...	448	8.2	11.5	7.4	68	<2	160	37	45	11	8.7
DEC											
09...	362	8.2	8.0	10.6	89	4	160	29	45	11	9.1
JAN											
13...	396	8.2	4.0	11.6	89	<1	170	55	49	12	10
FEB											
17...	379	8.1	5.5	12.8	102	<1	170	55	49	11	12
MAR											
17...	412	7.7	9.0	7.8	67	1	180	98	53	12	11
APR											
16...	420	8.0	18.0	8.2	85	1	190	75	55	13	10
MAY											
14...	410	7.9	17.0	8.6	89	25	190	59	55	13	11
JUN											
10...	185	7.5	21.5	6.0	67	9400	77	41	21	5.9	4.4
JUL											
13...	287	8.2	31.5	3.0	41	28	120	41	35	8.5	7.1
AUG											
13...	509	7.3	25.0	6.0	72	160	220	140	57	18	11
SEP											
11...	500	7.6	24.5	8.6	102	84	120	54	34	9.0	7.0

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCU3) (00440)	CAR- BONATE FET-FLD (MG/L AS CU3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)
OCT											
16...	5.2	140	0	54	7.9	.2	1.8	208	.02	2.10	.030
NOV											
17...	5.1	150	0	54	7.7	.2	1.8	220	.30	1.20	.010
DEC											
09...	5.2	160	0	55	7.8	.2	1.7	219	.26	1.50	.050
JAN											
13...	5.2	140	0	74	7.6	.3	1.8	232	.19	.97	.100
FEB											
17...	4.6	140	0	70	8.4	.1	1.1	238	.44	.80	.100
MAR											
17...	4.6	100	0	85	10	.2	.9	253	.17	.85	.050
APR											
16...	4.9	140	0	81	8.4	.2	.1	264	.03	1.10	.050
MAY											
14...	4.2	160	0	88	14	.2	.9	263	.06	1.70	.070
JUN											
16...	4.7	44	0	62	3.3	.2	8.0	134	.38	2.40	.220
JUL											
13...	5.2	96	0	57	6.4	.2	3.4	179	.05	1.40	.070
AUG											
13...	5.7	96	0	160	6.0	.2	7.3	320	.11	1.40	.080
SEP											
11...	5.5	80	0	78	4.8	.2	2.5	200	.03	.99	.050

OSAGE RIVER BASIN

06922200 TEBO CREEK AT LEESVILLE, MO--continued

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, RECOV. FM BOT- TUM MA- TERIAL (UG/G) (01108)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM RECOV. FM BOT- TUM MA- TERIAL (UG/G) AS CU) (01028)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, RECOV. FM BOT- TUM MA- TERIAL (UG/G) (01029)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, RECOV. FM BOT- TUM MA- TERIAL (UG/G) AS CU) (01043)
OCT 16...	20	4000	1	1	0	5	5	20
JAN 13...	20	30	1	1	0	5	4	12
APR 16...	200	6700	1	0	10	3	6	9
JUL 13...	650	10000	2	0	10	7	4	4

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, RECOV. FM BOT- TUM MA- TERIAL (UG/G) AS FE) (01170)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, RECOV. FM BOT- TUM MA- TERIAL (UG/G) AS PB) (01052)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, RECOV. FM BOT- TUM MA- TERIAL (UG/G) (01053)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, RECOV. FM BOT- TUM MA- TERIAL (UG/G) AS ZN) (01093)
OCT 16...	330	8500	3	20	--	580	20	60
JAN 13...	140	9000	1	10	180	710	20	57
APR 16...	210	1400	4	10	230	100	30	2
JUL 13...	720	6500	3	20	120	350	20	6

OSAGE RIVER BASIN

06923500 BENNETT SPRING AT BENNETT SPRINGS, MO

LOCATION.--Lat 37°43'03", long 92°51'26", in NW¼ sec.1, T.34 N., R.18 W., Dallas County, Hydrologic Unit 10290110, on left bank 300 ft (91 m) downstream from spring outlet, 1.5 mi (2.4 km) upstream from Niangua River and at Bennett Springs.

PERIOD OF RECORD.--September 1916 to March 1920, October 1928 to September 1941, October 1965 to current year. Prior to March 1920 and October 1939 to September 1941 monthly discharge only published in WSP 1310. Occasional discharge measurements 1923, 1954, 1964, 1965.

GAGE.--Nonrecording gage. Datum of gage 864.71 ft (263.564 m) National Geodetic Vertical Datum of 1929. Sept. 1916 to Mar. 1920, in the vicinity, datum unknown; Oct. 17, 1928, to Apr. 11, 1934, at site 1,780 ft (543 m) downstream at datum 2.30 ft (0.70 m) lower; Apr. 12 to Dec. 13, 1934, nonrecording gage, and Dec. 14, 1934, to Sept. 17, 1941, water-stage recorder at present site and datum.

REMARKS.--Records fair. Occasional runoff from drainage area of 42.4 mi² (109.8 km²) included in records.

AVERAGE DISCHARGE.--32 years (1916-19, 1928-41, 1965-81), 157 ft³/s (4.446 m³/s), 113,700 acre-ft/yr (140 hm³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,000 ft³/s (255 m³/s) Nov. 1, 1973, gage height, 9.14 ft (2.786 m) from floodmark, includes about 7,200 ft³/s (204 m³/s) from Spring Creek, by indirect measurement of peak flow over dam; minimum, about 55 ft³/s (1.6 m³/s) Nov. 13, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,710 ft³/s (105 m³/s) June 19; minimum measured discharge, 79 ft³/s (2.24 m³/s) Apr. 21; minimum observed gage height, 1.26 ft (0.384 m) Apr. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	103	91	85	94	98	89	88	150	207	177	105
2	90	100	87	85	91	95	89	87	200	192	168	103
3	90	97	87	85	88	92	89	87	400	183	138	101
4	85	94	87	85	87	92	89	85	239	179	128	98
5	82	97	87	84	85	138	88	85	212	172	124	98
6	92	97	87	84	88	128	88	85	192	164	119	98
7	91	97	87	85	88	115	88	84	179	156	119	98
8	92	97	96	85	88	106	86	82	168	150	115	98
9	92	94	106	87	88	103	88	84	154	142	113	100
10	92	91	103	85	91	98	88	369	142	138	111	100
11	89	91	101	84	91	97	88	270	150	134	109	98
12	92	91	97	85	88	97	88	204	237	130	108	100
13	91	91	94	87	88	97	88	190	207	126	106	100
14	92	92	92	87	90	97	87	441	204	124	106	111
15	98	91	92	87	95	95	84	324	183	122	105	105
16	108	91	91	85	142	95	82	264	179	130	300	101
17	115	91	89	85	146	95	84	217	162	126	227	98
18	108	91	86	85	136	95	81	1330	150	122	158	97
19	105	89	85	85	130	94	82	895	1240	122	140	98
20	100	88	82	85	122	94	80	534	951	120	134	98
21	95	87	82	85	117	94	79	354	632	115	124	97
22	92	88	85	85	117	91	81	294	481	117	115	95
23	92	88	85	85	113	91	84	242	445	115	109	95
24	89	88	85	88	106	89	85	344	390	115	109	94
25	92	85	85	87	106	89	85	303	340	115	106	95
26	92	87	85	87	105	89	84	288	264	111	101	95
27	102	88	85	87	101	88	84	217	242	109	105	95
28	146	89	85	87	98	89	84	188	227	253	105	95
29	122	89	85	85	---	91	85	175	212	212	105	92
30	109	91	85	84	---	90	87	162	217	190	103	94
31	106	---	85	87	---	91	---	152	---	185	103	---
TOTAL	3071	2753	2763	2652	2881	3013	2566	8524	9149	4576	3990	2952
MEAN	99.1	91.8	89.1	85.5	103	97.2	85.5	275	305	148	129	98.4
MAX	146	103	106	88	146	138	89	1330	1240	253	300	111
MIN	82	85	82	84	85	88	79	82	142	109	101	92
AC-FT	6090	5460	5480	5260	5710	5980	5090	16910	18150	9080	7910	5860

CAL YR 1980 TOTAL 47386 MEAN 129 MAX 400 MIN 82 AC-FT 93990
WIR YR 1981 TOTAL 48890 MEAN 134 MAX 1330 MIN 79 AC-FT 96970

OSAGE RIVER BASIN

06925500 LAKE OF THE OZARKS NEAR BAGNELL, MO

LOCATION.--Lat 38°12'19", long 92°37'21", in SE¼ sec.19, T.40 N., R.15 W., Miller County, Hydrologic Unit 10290111, at left end of powerhouse section near left end of Bagnell Dam on Osage River, 2 mi (3.2 km) southwest of Bagnell, and at mile 81.7 (131.5 km).

DRAINAGE AREA.--14,000 mi² (36,000 km²), approximately.

PERIOD OF RECORD.--April 1931 to current year. Gage-height records collected at same site since 1932 and are contained in reports of the National Weather Service, published as Osage River at Bagnell Dam, Lakeside.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum, adjustment of 1912. To obtain National Geodetic Vertical Datum of 1929 subtract 0.88 ft (0.286 m).

REMARKS.--Lake is formed by concrete gravity dam. Spillway is equipped with 12 taintor gates 34 ft (10 m) wide by 22 ft (6.7 m) high. Storage began in 1931. Usable capacity 1,218,000 acre-ft (1.50 km³) between elevations 630.00 ft or 192.024 m (maximum draw-down) and 660.00 ft or 201.168 m (top of gates). Dead storage, 708,800 acre-ft (874 hm³). Figures given herein are usable contents. Water is used for generating electricity.

COOPERATION.--Records furnished by Union Electric Company of Missouri.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,527,000 acre-ft (1.88 km³), May 22, 1943, elevation, 665.45 ft (202.829 m); minimum, 322,100 acre-ft (397 hm³) Feb. 13, 1948, elevation, 639.95 ft (195.057 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,189,000 acre-ft (1.47 km³) June 26, elevation, 659.50 ft (201.02 m); minimum, 785,000 acre-ft (0.968 km³) Apr. 14, 15, elevation, 651.66 ft (198.626 m).

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	655.79	986,500	0
Oct. 31	656.54	1,025,000	+38,500
Nov. 30	656.83	1,041,000	+16,000
Dec. 31	656.88	1,044,000	+3,000
CAL YR 1980	-----	-----	+6,000
Jan. 31	655.20	956,000	-88,000
Feb. 28	652.79	837,500	-118,500
Mar. 31	652.06	803,200	-34,300
Apr. 30	652.36	817,100	+13,900
May 31	656.25	1,011,000	+193,900
June 30	659.24	1,174,000	+163,000
July 31	658.12	1,111,000	-63,000
Aug. 31	656.52	1,024,000	-87,000
Sept. 30	655.06	948,800	-75,200
WTR YR 1981	-----	-----	-37,700

OSAGE RIVER BASIN

06926500 OSAGE RIVER NEAR ST. THOMAS, MO

LOCATION.--Lat 38°20'20", long 92°13'34", in SE¼SW¼ sec.35, T.42 N., R.12 W., Cole County, Hydrologic Unit 10290111, on left bank 0.5 mi (0.8 km) downstream from Sugar Creek, 2.5 mi (4.0 km) south of St. Thomas, and at mile 43.1 (69.3 km).

DRAINAGE AREA.--14,500 mi² (37,600 km²), approximately.

PERIOD OF RECORD.--August 1931 to current year.

GAGE.--Water-stage recorder. Datum of gage is 528.06 ft (160.953 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by Lake of the Ozarks.

AVERAGE DISCHARGE.--50 years, 9,798 ft³/s (277.5 m³/s), 7,098,700 acre-ft/yr (8,753 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 216,000 ft³/s (6,120 m³/s) May 20, 1943, gage height, 43.8 ft (13.35 m); minimum, 346 ft³/s (9.80 m³/s) July 12, 1959, Sept. 18, 1960; minimum gage height, 1.28 ft (0.390 m) Sept. 18, 1960; minimum daily discharge, 373 ft³/s (10.6 m³/s) July 12, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1943, about 39.4 ft (12.0 m) in June 1844.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 49,800 ft³/s (1410 m³/s) June 22, gage height, 18.97 ft (5.782 m); minimum daily discharge, 473 ft³/s (13.40 m³/s) Nov. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1510	577	504	2980	1070	2730	1300	858	13000	36500	23700	6490
2	1450	557	511	1410	1310	1640	1000	640	15900	36400	28100	3120
3	1440	543	2120	2590	5060	6840	1530	591	15200	36200	32400	1100
4	1460	522	966	3000	5780	3790	1200	584	17700	36900	32900	2190
5	1440	517	956	3630	1850	9000	878	604	17400	38400	32700	1440
6	1380	517	821	3220	1380	9610	913	545	15600	37000	24400	972
7	1340	517	564	786	708	3590	2470	539	11900	36400	18300	790
8	1360	517	597	1540	620	1550	1060	542	10500	36100	13000	773
9	1350	504	803	3620	611	1050	837	547	11700	35200	11000	761
10	1290	492	768	2410	3350	1010	807	2740	10900	34100	3860	753
11	1270	485	686	768	7500	1200	785	3070	5200	33900	6180	5280
12	1210	678	618	751	8500	1250	781	1560	10300	33900	8000	7550
13	1170	875	597	2970	5730	1030	1220	1060	12900	33800	10700	6350
14	1130	577	611	1320	3890	842	8900	1010	14800	33800	10300	1590
15	1110	517	641	2370	1350	829	3050	1190	16800	33700	8010	1300
16	1080	485	1810	1920	966	843	1230	934	19400	30200	2270	1720
17	1080	473	1320	1970	1520	925	901	4520	31000	29300	1190	1140
18	1070	479	626	693	1030	1240	858	31600	33400	38500	3810	2430
19	1040	473	517	572	1240	874	1440	47000	38900	37800	6480	4520
20	956	570	1360	572	1920	1660	1890	35300	41000	34900	6070	6840
21	875	626	1190	1080	3920	1030	1920	21700	43400	32200	8220	2900
22	824	479	768	1140	1550	881	1830	17600	48200	29600	7980	9950
23	777	485	2560	648	1030	873	1930	24200	41100	34700	1460	10600
24	759	492	1160	2280	2580	860	1310	20900	37100	36500	1820	10300
25	727	537	597	3600	3350	863	1010	21300	37800	34900	8950	9350
26	691	2220	517	4420	6420	880	883	20600	38300	34300	2590	8340
27	663	1480	1980	3020	8460	1670	792	21800	37100	31100	955	1970
28	648	656	1130	830	7100	2920	955	17400	36500	12600	697	1100
29	626	524	786	671	---	1260	928	13800	36100	7120	2520	1000
30	611	492	3250	1500	---	1020	1530	11900	37100	16400	1030	1690
31	591	---	3780	929	---	1490	---	3940	---	17500	1340	---
TOTAL	32928	18866	35114	59210	89795	65250	46138	330574	756200	989920	320932	114309
MEAN	1062	629	1133	1910	3207	2105	1538	10660	25210	31950	10350	3810
MAX	1510	2220	3780	4420	8500	9610	8900	47000	48200	38500	32900	10600
MIN	591	473	504	572	611	829	781	539	5200	7120	697	753
CFSM	.07	.04	.08	.13	.22	.15	.11	.74	1.74	2.20	.71	.26
IN.	.08	.05	.09	.15	.23	.17	.12	.85	1.94	2.54	.82	.29
AC-FT	65310	37420	69650	117400	178100	129400	91510	655700	1500000	1964000	636600	226700
CAL YR 1980 TOTAL	1729934		MEAN 4727	MAX 36300	MIN 473	CFSM .33	IN 4.44	AC-FT 3431000				
WTR YR 1981 TOTAL	2859236		MEAN 7834	MAX 48200	MIN 473	CFSM .54	IN 7.34	AC-FT 5671000				

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 38°25'18", long 92°12'31", Cole County, Hydrologic Unit 10290111, at bridge on State Highway B, 3.8 mi (6.1 km) north of St. Thomas, 8.6 mi (14 km) downstream from gaging station, and at mile 34.5 (55.5 km).

DRAINAGE AREA.--14,500 mi² (37,600 km²) approximately above gage.

PERIOD OF RECORD.--Water year 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to Sept. 1981. (Discontinued)

WATER TEMPERATURES: October 1974 to Sept. 1981. (Discontinued)

REMARKS.--Water temperature and specific conductance samples collected daily by observer. Records of discharge are given for gaging station 06926500 Osage River near St. Thomas.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 398 micromhos Jan. 1, 1981; minimum daily, 140 micromhos Sept. 3, 1981.

WATER TEMPERATURES: Maximum daily, 30.0°C July 29, 1977, July 25, Aug. 11, 1980; minimum daily, 0.0°C Jan. 21, 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 398 micromhos Jan. 1; minimum daily, 140 micromhos Sept. 3.

WATER TEMPERATURES: Maximum daily, 28.5°C Aug. 31; minimum daily, 1.0°C Feb. 12.

DATE	STREAM- FLOW, INSTAN- TANECUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMPS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	ILR- BIT- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	CLLI- FORM, FECAL, 0.7 UM-MF (CCLS./ 100 ML) (31625)	STREP- TOCCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
UCI												
23...	780	291	7.6	17.0	3.0	7.2	74	84	300	140	17	35
NOV												
25...	590	290	8.2	6.0	1.2	12.0	97	7	3	140	14	38
DEC												
16...	2300	340	8.2	8.5	1.9	12.4	106	15	2	160	12	37
JAN												
20...	570	306	8.4	4.5	1.1	13.2	102	120	11	140	18	37
FEB												
24...	2400	310	8.3	7.0	4.4	11.6	96	12	4	150	28	38
MAR												
26...	866	312	8.3	11.0	4.7	12.4	113	1	7	150	27	37
APR												
22...	1770	304	8.6	17.5	9.5	6.2	65	140	410	160	21	35
MAY												
28...	15400	292	8.3	17.5	5.0	8.0	83	52	37	150	35	37
JUN												
24...	37500	296	8.2	22.0	4.6	6.0	68	84	200	160	37	44
JUL												
28...	13500	222	7.6	27.0	22	7.0	88	420	700	110	28	29
AUG												
18...	4340	250	7.6	26.5	9.0	6.8	84	230	130	110	20	31
SEP												
25...	9400	232	7.6	23.5	6.2	9.0	105	22	10	100	10	28

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCU3) (00440)	CAR- BONATE FET-FLD (MG/L AS CC3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLOR- IDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUOR- IDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIC2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 23...	12	5.0	3.2	136	0	23	6.5	.3	5.1	166	350	.17
NOV 25...	12	5.4	3.1	150	0	21	6.5	.2	3.0	180	287	.00
DEC 16...	17	5.0	2.6	170	0	26	6.1	.2	3.5	191	1190	.26
JAN 20...	11	6.8	3.0	130	8	32	6.5	.2	1.6	164	252	.00
FEB 24...	13	6.1	2.8	150	0	32	6.2	.1	1.8	173	1120	.17
MAR 26...	13	7.9	2.8	150	0	30	6.4	.1	1.0	176	412	.00
APR 22...	18	4.1	2.6	170	0	23	4.4	.1	6.2	186	889	.29
MAY 28...	13	7.0	2.8	140	0	29	5.4	.1	2.8	181	7530	.25
JUN 24...	12	5.7	2.8	150	0	11	5.9	.1	3.3	177	17900	.16
JUL 28...	8.2	4.1	3.7	100	0	<5.0	5.2	.1	7.5	144	5250	.46
AUG 18...	8.4	4.7	4.0	110	0	25	14	.1	7.0	152	1780	.30
SEP 25...	8.2	6.2	3.9	110	0	<5.0	4.7	.2	5.3	146	3710	.16

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC DIS- SOLVED TOTAL (MG/L AS C) (00689)	SEDIM- ENT, SUS- PENDED (MG/L) (80154)	SEDIM- ENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 23...	.020	.55	.44	.110	.070	5.7	--	--	58	122	61
NOV 25...	.010	.50	.48	.050	.040	--	5.0	.4	2	3.2	0
DEC 16...	.020	.67	.47	.030	.030	13	--	--	24	149	22
JAN 20...	.050	.67	1.1	.050	.030	8.0	--	--	22	34	57
FEB 24...	.060	.64	.81	.110	.040	--	6.3	2.2	44	285	71
MAR 26...	.030	.73	.76	.040	.010	8.9	--	--	114	267	35
APR 22...	.150	1.20	.85	.090	.050	7.5	--	--	50	239	47
MAY 28...	.060	--	--	.060	.020	--	7.6	--	495	20600	0
JUN 24...	.070	1.00	1.4	.050	.030	11	--	--	1070	108000	45
JUL 28...	.130	.77	.60	.080	.070	4.6	--	--	18	656	45
AUG 18...	.060	.90	.64	.110	.060	--	6.1	.4	11	129	67
SEP 25...	.090	.61	.63	.050	.040	5.5	--	--	--	--	--

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--continued

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
NOV 25...	1	1	100	70	0	<1	10	0	0	<3
FEB 24...	1	1	100	80	1	<1	10	0	0	<3
MAY 28...	1	1	100	100	1	<1	0	0	0	<3
AUG 18...	2	1	200	70	1	<1	0	10	0	<3

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
NOV 25...	6	4	140	20	4	3	60	50	.4
FEB 24...	4	3	240	20	12	4	80	40	2.0
MAY 28...	4	4	590	90	4	5	80	20	.3
AUG 18...	6	2	630	34	7	2	110	51	.2

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 25...	.0	4	0	0	0	0	0	10	20
FEB 24...	2.2	4	2	0	0	0	0	20	20
MAY 28...	.1	1	2	0	0	0	0	0	30
AUG 18...	.0	1	0	0	0	0	0	20	6

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--continued

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	233	289	291	398	295	396	327	332	290	281	224	240
2	233	289	295	343	296	347	321	328	288	270	221	185
3	231	290	299	315	290	335	325	327	280	273	223	140
4	233	290	299	310	297	334	325	327	291	265	225	179
5	280	290	298	297	299	334	327	328	291	253	223	231
6	296	291	295	293	300	332	327	332	291	251	236	244
7	229	293	299	290	303	336	333	333	306	246	228	248
8	229	299	290	300	305	338	328	336	308	243	230	258
9	227	299	290	299	307	345	321	260	306	229	229	254
10	239	299	299	294	298	358	320	250	307	227	231	259
11	229	299	300	293	292	357	322	247	306	227	230	258
12	230	295	317	302	294	358	322	268	311	226	228	238
13	261	293	315	293	299	361	322	273	298	226	225	236
14	239	289	317	297	316	359	316	273	297	231	229	239
15	275	290	319	300	300	358	319	307	298	222	232	242
16	207	290	300	301	304	359	322	311	297	220	229	245
17	203	290	298	298	312	358	325	205	301	206	229	246
18	214	289	298	298	309	360	323	210	260	197	229	247
19	217	290	295	297	320	358	322	261	257	220	227	239
20	251	295	299	298	320	350	308	302	256	218	279	236
21	221	299	295	305	303	353	315	314	256	220	233	236
22	213	295	290	303	299	350	307	319	284	221	233	238
23	221	293	290	297	301	350	307	323	284	225	235	236
24	211	299	291	297	313	354	316	305	278	222	239	236
25	252	293	295	296	300	353	318	301	278	221	229	236
26	218	293	290	298	294	353	317	320	287	225	238	238
27	221	280	291	299	295	355	325	323	288	225	237	239
28	225	281	291	304	300	356	331	324	287	225	237	250
29	225	282	291	314	---	344	336	325	285	226	238	252
30	229	283	283	313	---	345	336	323	281	226	238	252
31	279	---	285	318	---	345	---	326	---	226	237	---
MEAN	235	292	297	305	302	351	322	300	288	232	232	236

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	11.0	8.0	9.0	5.0	8.0	18.0	21.0	18.5	24.5	27.0	26.5
2	18.5	11.0	7.5	7.0	2.0	8.0	17.5	20.5	19.0	24.5	27.0	26.0
3	18.0	11.0	7.0	6.5	3.0	7.0	17.5	21.0	19.0	24.5	27.5	26.0
4	18.0	11.0	8.0	6.0	3.0	6.0	16.5	20.5	19.0	24.0	27.5	25.5
5	17.0	11.0	9.0	5.5	3.0	6.5	16.5	20.0	19.5	24.0	28.0	27.0
6	18.0	12.5	9.5	6.0	3.5	6.0	16.0	20.0	20.0	24.0	27.5	27.0
7	19.0	13.0	10.5	6.0	4.0	6.5	16.0	20.0	20.5	26.0	27.0	24.0
8	18.5	14.5	10.5	6.0	5.0	6.5	16.5	19.0	21.0	26.0	27.0	25.0
9	16.5	15.0	10.0	6.0	2.5	8.0	17.0	17.5	20.5	26.0	27.0	24.5
10	18.0	14.0	10.0	4.0	2.0	9.0	19.0	16.0	19.5	26.0	27.5	26.0
11	18.0	13.0	9.5	5.0	2.0	10.0	21.5	15.0	18.5	26.0	27.5	25.5
12	18.0	13.0	9.0	4.0	1.0	10.0	21.5	16.0	19.5	26.0	27.5	27.0
13	18.0	13.0	8.5	4.0	2.0	9.5	22.5	16.0	19.0	26.0	27.5	27.0
14	17.0	12.0	8.0	4.0	3.5	11.0	15.0	16.5	19.5	26.0	28.0	25.5
15	17.0	11.5	8.0	4.0	5.0	12.5	16.0	16.5	19.5	26.0	28.0	25.5
16	18.0	11.0	7.5	4.0	5.5	12.0	16.5	17.0	18.5	26.0	28.0	23.0
17	17.5	10.0	7.0	3.5	6.5	11.0	18.0	15.0	20.5	26.0	28.0	22.0
18	17.5	10.0	6.5	3.0	7.0	10.5	18.5	15.5	20.5	26.0	28.0	21.0
19	17.5	9.0	5.0	4.0	9.0	10.5	20.0	15.5	20.5	26.0	28.0	23.0
20	17.0	9.0	4.5	4.0	9.0	10.0	18.0	15.5	21.0	26.0	28.0	24.0
21	16.0	8.5	5.0	4.5	10.0	10.0	18.0	17.0	21.0	26.5	27.0	24.0
22	16.0	8.5	5.0	5.0	11.0	10.0	18.0	15.5	22.0	26.0	26.0	23.5
23	16.0	8.0	4.5	5.0	9.0	10.0	18.0	17.0	21.5	26.5	25.0	23.5
24	15.0	9.0	4.0	6.5	9.0	10.5	19.0	18.0	22.0	26.5	28.0	23.5
25	16.0	7.0	3.0	6.5	10.0	11.0	19.5	18.0	22.5	27.0	27.0	23.0
26	16.0	9.0	2.5	6.0	11.5	12.0	19.5	18.0	23.0	27.0	27.5	24.0
27	14.0	8.5	3.5	6.0	12.0	14.0	24.0	17.5	23.0	26.0	26.5	24.0
28	13.5	8.5	4.0	7.0	9.0	14.0	23.5	18.0	23.5	25.5	26.0	23.5
29	12.5	8.0	4.0	4.0	---	15.0	23.0	18.0	24.0	26.0	26.5	24.0
30	11.0	8.0	5.0	4.0	---	15.5	22.5	18.5	24.0	26.5	28.0	23.5
31	11.5	---	6.0	3.0	---	15.0	---	18.5	---	27.0	28.5	---
MEAN	16.5	10.5	7.0	5.0	6.0	10.0	19.0	17.5	20.5	26.0	27.5	24.5

WTR YR 1981 MEAN 16.0 MAX 28.5 MIN 1.0

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 25,80 0930	MAR 26,81 0945	MAY 28,81 1345	JUN 24,81 1030
TOTAL CELLS/ML	220	90	650	4000
DIVERSITY: DIVISION	0.3	0.6	1.0	1.5
..CLASS	0.3	0.6	1.0	1.5
..ORDER	0.3	2.2	1.2	2.2
...FAMILY	0.3	2.2	1.2	2.5
....GENUS	0.3	2.2	1.3	2.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)								
..BACILLARIOPHYCEAE								
...BACILLARIALES								
...NITZSCHIA	--	-	13	14	--	-	150	4
...EUPHODISCALES								
...COSCINOIDISCAEAE								
...CYCLOTELLA	--	-	26#	29	--	-	55	1
...MELOSIRA	--	-	--	-	--	-	--	-
...STEPHANODISCUS	--	-	--	-	90	14	*	0
..FRAGILARIALES								
...FRAGILARIAEAE								
...ASTERIONELLA	--	-	--	-	13	2	--	-
...SYNEDRA	--	-	13	14	13	2	*	0
...NAVICULALES								
...GOMPHONEMACEAE								
...GOMPHONEMA	--	-	26#	29	--	-	--	-
...NAVICULACEAE								
...NAVICULA	13	6	--	-	--	-	41	1
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...DICTYOSPHAERIACEAE								
...DICTYOSPHAERIUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
...MICRACTINIUM	--	-	--	-	--	-	120	3
...DUCYSTACEAE								
...ANKISTRODESMUS	--	-	--	-	--	-	28	1
...FRANCEIA	--	-	--	-	--	-	*	0
...KIRCHNERIELLA	--	-	--	-	--	-	28	1
...DUCYSTIS	--	-	--	-	--	-	*	0
...SELENASTRUM	--	-	--	-	13	2	*	0
...SCENEDESMACEAE								
...COELASTRUM	--	-	--	-	--	-	260	7
...CRUCIGENIA	--	-	--	-	--	-	190	5
...SCENEDESMUS	--	-	--	-	--	-	320	8
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
...CARTERIA	--	-	--	-	--	-	28	1
...CHLAMYDOMONAS	--	-	13	14	13	2	41	1
CHRYSDOPHYTA								
..CHRYSDOPHYCEAE								
...OCHROMONADALES								
...OCHROMONADACEAE								
...OCHROMONAS	--	-	--	-	--	-	55	1
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOMONADACEAE								
...CRYPTOMONAS	--	-	--	-	13	2	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
...AGMENELLUM								
...ANACYSTIS	210#	94	--	-	--	-	1700#	41
...NOSTOCALES								
...HAMMATOIDEACEAE								
...RAPHIIDOPSIS	--	-	--	-	--	-	--	-
...NOSTOCAEAE								
...ANABAEVA	--	-	--	-	--	-	--	-
...APHANIZOMENON	--	-	--	-	490#	76	--	-
...OSCILLATORIALES								
...OSCILLATORIAEAE								
...OSCILLATORIA	--	-	--	-	--	-	840#	21

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 25,80 0930		MAR 26,81 0945		MAY 28,81 1345		JUN 24,81 1030	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
.....EUGLENA	--	-	--	-	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-	55	1
PYRRHOPHYTA (FIRE ALGAE)								
..DINOPHYCEAE								
...DINOKONTAE								
....CERATIACEAE								
.....CERATIUM	--	-	--	-	--	-	28	1
...PERIDINIACEAE								
....PERIDINIUM	--	-	--	-	--	-	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	JUL 28,81 1045	AUG 18,81 1000	SEP 25,81 1100			
TOTAL CELLS/ML	28000	1400	110			
DIVERSITY: DIVISION	0.1	0.6	1.0			
..CLASS	0.1	0.6	1.0			
...ORDER	0.3	0.8	1.0			
...FAMILY	0.3	0.8	1.0			
...GENUS	0.3	0.8	1.0			
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)						
..BACILLARIOPHYCEAE						
...BACILLARIALES						
...VITZSCHIAEAE						
....NITZSCHIA	*	0	27	2	--	-
...EJPDISCALES						
...COSCINODISCACEAE						
....CYCLOTELLA	*	0	--	-	42#	38
....MELOSIRA	*	0	82	6	--	-
...STEPHANODISCUS	--	-	--	-	--	-
...FRAGILARIALES						
...FRAGILARIAEAE						
...ASTERIONELLA	--	-	--	-	--	-
...SYNEDRA	--	-	27	2	--	-
...NAVICULALES						
...GOMPHONEMACEAE						
...GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
...NAVICULA	--	-	55	4	--	-
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...DICTYOSPHAERIAEAE						
....DICTYOSPHAERIUM	*	0	--	-	--	-
...MICRACTINIACEAE						
....MICRACTINIUM	--	-	--	-	--	-
...DCCYSTACEAE						
....ANKISTRJOESMUS	*	0	--	-	--	-
....FRANCEIA	--	-	--	-	--	-
....KIRCHNERIELLA	*	0	--	-	--	-
....DCCYSTIS	--	-	--	-	--	-
...SELENASTRUM	--	-	--	-	--	-
...SCENEDESMACEAE						
....COELASTRUM	--	-	--	-	--	-
....CRUCIGENIA	--	-	--	-	--	-
....SCENEDESMUS	*	0	--	-	--	-
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	--	-	--	-
...CHLAMYDOMONAS	*	0	--	-	--	-
CHRYSOPHYTA						
..CHRYSOPHYCEAE						
...OCHROMONADALES						
...OCHROMONADACEAE						
....OCHROMONAS	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROCOCCALES						
...CHROCOCCACEAE						
....AGMENELLUM	450	2	--	-	--	-
....ANACYSTIS	--	-	--	-	--	-
...NOSTOCALES						
...HAMMATOIDEACEAE						
....RAPHIIDIOPSIS	*	0	--	-	--	-
...NOSTOCACEAE						
....ANABAEVA	--	-	1200#	86	--	-
...APHANIZOMENON	--	-	--	-	--	-
...OSCILLATORIALES						
...OSCILLATORIAEAE						
...OSCILLATORIA	27000#	97	--	-	70#	63

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	JUL 28, 81 1045		AUG 18, 81 1000		SEP 25, 81 1100	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENOIDS)						
.EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	*	0	--	-	--	-
....TRACHELJMONAS	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
.DINOPHYCEAE						
..DINJUNKONTAE						
...CERATIACEAE						
....CERATIUM	--	-	--	-	--	-
...PERIDINIACEAE						
....PERIDINIUM	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

GASCONADE RIVER BASIN

06927800 OSAGE FORK AT DRYNOB, MO

LOCATION.--Lat 37°38'00", long 92°27'12", in NW¼NE¼ sec.27, T.34 N., R.14 W., Laclede County, Hydrologic Unit 10290201, on downstream end of right bridge pier on State Highway 32, 0.1 mi (0.2 km) downstream from Walker Hollow, 0.6 mi (1.0 km) southwest of Drynob, 1.6 mi (2.6 km) upstream from Core Creek, and 12 mi (19.3 km) southeast of Lebanon.

DRAINAGE AREA.--404 mi² (1,046 km²).

PERIOD OF RECORD.--August 1962 to current year. Occasional low-flow measurements 1942, 1944-47, 1952, 1953, 1956.

REVISED RECORDS.--WSP 2119: 1963, 1965(M).

GAGE.--Water-stage recorder. Datum of gage is 927.85 ft (282.809 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for period of no gage-height record, which are fair. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--19 years, 284 ft³/s (8.043 m³/s), 9.55 in/yr (243 mm/yr), 205,800 acre-ft/yr (254 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,300 ft³/s (603 m³/s) Apr. 12, 1979, gage height, 17.96 ft (5.474 m); minimum, 7.2 ft³/s (0.20 m³/s) Sept. 19, 1976, gage height, 1.86 ft (0.567 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known about 31 ft (9.45 m) in 1903, flood in September 1914 reached a stage of 29.3 ft (8.93 m), flood in May 1943 reached a stage of 28.5 ft (8.69 m), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (142 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
May 14	1700	5,640	160	11.98	3.652
June 20	1000	*11,000	312	*14.68	4.474

Minimum discharge, 19 ft³/s (0.54 m³/s) Oct. 11, 12; minimum gage height 2.12 ft (0.646 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	67	43	39	41	76	68	120	192	240	120	35
2	22	60	45	39	40	72	69	111	208	226	110	35
3	20	56	42	38	40	69	67	97	334	200	110	33
4	20	52	42	37	40	77	67	87	556	187	101	32
5	21	48	42	37	40	103	63	81	610	189	98	31
6	21	46	44	36	39	193	60	73	415	183	93	30
7	21	44	44	36	39	217	56	67	348	166	84	30
8	21	42	49	36	39	187	54	62	269	250	76	31
9	20	41	54	36	41	159	53	60	223	183	70	30
10	20	40	63	35	40	137	52	301	194	156	66	29
11	20	39	75	35	40	119	50	526	388	140	61	28
12	19	38	78	36	40	107	48	476	512	128	58	28
13	20	36	78	36	40	99	47	589	415	119	55	69
14	21	36	73	34	40	91	48	4240	277	111	52	241
15	28	38	68	34	117	88	45	1600	214	104	51	100
16	42	38	64	34	101	84	43	886	206	105	449	75
17	50	39	61	35	249	79	43	624	185	102	109	63
18	49	39	58	37	222	76	42	735	167	106	78	55
19	53	39	55	36	192	71	43	1150	2780	104	67	49
20	46	38	51	37	164	67	44	730	6310	102	59	45
21	46	38	48	37	144	65	43	524	1730	109	54	45
22	42	38	47	36	128	66	44	393	1100	110	50	44
23	39	39	46	35	114	63	49	299	2020	104	47	40
24	38	40	45	35	104	60	50	361	1170	150	45	40
25	36	39	45	35	96	58	49	244	852	128	43	35
26	34	38	43	35	89	56	48	205	692	101	42	35
27	49	42	42	34	83	55	46	183	546	127	41	33
28	69	43	41	34	80	54	45	161	443	1300	40	31
29	78	42	41	34	---	58	50	147	343	426	38	30
30	79	42	41	36	---	63	124	144	277	183	37	30
31	74	---	40	37	---	65	---	144	---	142	36	---
TOTAL	1140	1277	1606	1111	2442	2834	1610	15420	23976	5981	2440	1432
MEAN	36.8	42.6	51.8	35.8	87.2	91.4	53.7	497	799	193	78.7	47.7
MAX	79	67	78	39	249	217	124	4240	6310	1300	449	241
MIN	19	36	40	34	39	54	42	60	167	101	36	28
CFSM	.09	.11	.13	.09	.22	.23	.13	1.23	1.98	.48	.20	.12
IN.	.10	.12	.15	.10	.22	.26	.15	1.42	2.21	.55	.22	.13
AC-FT	2260	2530	3190	2200	4840	5620	3190	30590	47560	11860	4840	2840

CAL YR 1980	TOTAL	63139	MEAN	173	MAX	2100	MIN	19	CFSM	.43	IN	5.81	AC-FT	125200
WTR YR 1981	TOTAL	61269	MEAN	168	MAX	6310	MIN	19	CFSM	.42	IN	5.64	AC-FT	121500

GASCONADE RIVER BASIN

06928600 GASCONADE RIVER NEAR HOOKER, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°53'31", long 92°04'53" in SW¼NE¼ sec.36, T.37 N., R.11 W., Pulaski County, Hydrologic Unit 10290201, at bridge on State highway 28 2.5 mi (4.0 km) northwest of Hooker.

PERIOD OF RECORD.--July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACU3) (00900)
OCT 22...	1028	29001	210	368	8.0	15.0	9.0	89	11	12	200
NOV 24...	1028	29001	160	380	8.2	8.0	11.8	99	4	8	--
DEC 15...	1028	29001	312	388	8.3	7.0	11.2	93	1	6	--
JAN 29...	1028	29001	180	380	8.2	5.0	11.8	92	12	7	220
FEB 23...	1028	29001	420	362	8.2	8.0	11.4	96	3	2	--
MAR 24...	1028	29001	245	357	8.3	11.5	11.6	106	<1	<1	--
APR 21...	1028	29001	240	359	8.2	18.5	9.2	97	9	20	190
MAY 26...	1028	29001	2590	226	8.0	18.0	6.8	71	9	600	--
JUN 24...	1028	29001	5590	280	8.1	22.0	5.6	64	16	370	--
JUL 28...	1028	29001	4500	210	7.9	28.5	6.6	85	38	13000	100
AUG 18...	1028	29001	430	340	8.2	24.0	9.2	108	6	28	--
SEP 22...	1028	29001	240	357	8.1	18.5	12.8	135	<1	45	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACU3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCU3) (00440)	CAR- BONATE FET-FLD (MG/L AS CU3) (00445)	ALKA- LINITY FIELD (MG/L AS CACU3) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CU2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 22...	8	37	25	2.4	1.6	228	0	187	3.6	<10	3.7
NOV 24...	--	--	--	--	--	272	0	223	2.7	--	--
DEC 15...	--	--	--	--	--	252	0	207	2.0	--	--
JAN 29...	14	41	28	2.6	1.2	248	0	203	2.5	8.0	8.6
FEB 23...	--	--	--	--	--	220	0	180	2.2	--	--
MAR 24...	--	--	--	--	--	208	0	171	1.7	--	--
APR 21...	20	35	25	2.8	1.5	208	0	171	2.1	7.0	5.7
MAY 26...	--	--	--	--	--	120	0	98	1.9	--	--
JUN 24...	--	--	--	--	--	140	0	115	1.8	--	--
JUL 28...	19	22	12	3.1	2.8	104	0	85	2.1	14	3.1
AUG 18...	--	--	--	--	--	188	0	154	1.9	--	--
SEP 22...	--	--	--	--	--	216	0	177	2.7	--	--

GASCONADE RIVER BASIN

06928600 GASCONADE RIVER NEAR HOOKER, MO--continued

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHURUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT 22...	<.1	205	6	.11	.020	.060	<2	<2	4	3
NOV 24...	--	--	2	<.05	<.010	<.020	--	--	--	--
DEC 15...	--	--	6	.07	<.010	.030	--	--	--	--
JAN 29...	<.1	223	3	.08	<.010	<.020	<2	<2	<5	<5
FEB 23...	--	--	4	.46	<.010	.040	--	--	--	--
MAR 24...	--	--	2	.26	<.010	.050	--	--	--	--
APR 21...	--	187	2	<.05	<.010	.070	<2	<2	<5	<5
MAY 26...	--	--	50	.69	.020	<.020	--	--	--	--
JUN 24...	--	--	45	.80	.030	.190	--	--	--	--
JUL 28...	--	180	404	.27	.030	<.020	<2	<2	8	<5
AUG 18...	--	--	15	.16	.040	<.020	--	--	--	--
SEP 22...	--	--	6	<.05	.010	<.020	--	--	--	--

[illegible]

GASCONADE RIVER BASIN

06928900 BIG PINEY RIVER NEAR HOUSTON, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°19'35", long 92°00'25" in S½ sec. 2, T.30N., R.10W., Texas County, Hydrologic Unit 10290202 at bridge on Highway 17 2½ miles west of Houston, Texas County, Missouri.

PERIOD OF RECORD.--1980 to September 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 21...	1028	29001	25	406	7.7	13.0	8.0	75	8	24	220
NOV 24...	1028	29001	27	407	8.2	8.0	9.8	82	3	7	--
DEC 17...	1026	29001	34	434	8.1	5.0	11.4	89	<1	15	--
JAN 19...	1028	29001	20	435	8.2	3.5	11.0	83	--	<1	--
FEB 23...	1028	29001	40	428	8.2	6.0	10.2	82	<1	8	--
MAR 24...	1028	29001	48	410	8.3	9.5	11.0	96	<1	6	--
APR 20...	1028	29001	82	395	8.0	17.5	7.2	75	6	350	210
MAY 27...	1028	29001	111	341	8.0	18.5	7.4	78	<1	120	--
JUN 23...	1028	29001	465	341	8.3	22.0	8.2	93	9	1100	--
JUL 27...	1028	29001	30	387	8.2	27.0	4.6	58	<5	210	200
AUG 17...	1028	29001	17	360	8.1	25.0	9.0	108	10	56	--
SEP 23...	1028	29001	20	409	7.9	17.0	11.6	120	<1	48	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CO3) (00445)	ALKA- LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 21...	9	42	27	2.1	1.5	252	0	207	8.0	<10	3.5
NOV 24...	--	--	--	--	--	380	0	312	3.8	--	--
DEC 17...	--	--	--	--	--	260	0	213	3.3	--	--
JAN 19...	--	--	--	--	--	272	0	223	2.7	--	--
FEB 23...	--	--	--	--	--	236	0	194	2.4	--	--
MAR 24...	--	--	--	--	--	232	0	190	1.9	--	--
APR 20...	8	41	25	3.4	1.8	240	0	197	3.8	8.0	5.9
MAY 27...	--	--	--	--	--	192	0	157	3.1	--	--
JUN 23...	--	--	--	--	--	192	0	157	1.5	--	--
JUL 27...	42	40	25	3.6	2.0	196	0	161	2.0	10	3.1
AUG 17...	--	--	--	--	--	212	0	174	2.7	--	--
SEP 23...	--	--	--	--	--	248	0	203	5.0	--	--

GASCONADE RIVER BASIN

06928900 BIG PINEY RIVER NEAR HOUSTON, MO--continued

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT 21...	<.1	226	<1	.15	.020	.060	<2	<2	3	2
NOV 24...	--	--	2	.27	<.010	<.020	--	--	--	--
DEC 17...	--	--	2	.44	<.010	.020	--	--	--	--
JAN 19...	--	--	--	--	--	--	--	--	--	--
FEB 23...	--	--	2	.78	<.010	.030	--	--	--	--
MAR 24...	--	--	2	.60	<.010	.040	--	--	--	--
APR 20...	--	206	2	.39	.010	.060	<2	<2	<5	5
MAY 27...	--	--	2	1.2	<.010	.030	--	--	--	--
JUN 23...	--	--	7	.83	.020	.160	--	--	--	--
JUL 27...	--	221	6	.31	.020	<.020	<2	<2	<5	<5
AUG 17...	--	--	<1	.15	.040	.020	--	--	--	--
SEP 23...	--	--	2	.17	.330	<.020	--	--	--	--

[illegible]

GASCONADE RIVER BASIN

06930450 BIG PINEY RIVER AT DEVILS ELBOW, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°50'53", long 93°03'44" in SE¼NE¼ sec.18, T.36 N., R.10 W., Pulaski County, Hydrologic Unit 10290202, at bridge on county highway V at Devils Elbow.

PERIOD OF RECORD.--July 1977 to current year.

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACU3) (00900)
OCT 22...	1028	29001	264	326	7.6	15.5	9.0	90	5	18	170
NOV 24...	1028	29001	186	350	8.2	8.5	12.4	106	13	8	--
DEC 15...	1028	29001	198	354	8.3	8.0	11.8	99	<1	7	--
JAN 29...	1028	29001	191	354	8.2	6.0	10.2	82	1	22	200
FEB 23...	1028	29001	240	350	8.2	10.0	11.2	99	20	<1	--
MAR 24...	1028	29001	205	338	8.3	13.0	11.6	109	<1	<1	--
APR 21...	1028	29001	210	330	8.3	17.0	7.8	80	5	12	190
MAY 27...	1028	29001	852	237	7.9	18.5	8.2	86	5	84	--
JUN 23...	1028	29001	2030	292	8.2	20.0	6.0	65	17	500	--
JUL 27...	1028	29001	278	279	8.2	27.0	7.8	98	<5	29	150
AUG 18...	1028	29001	235	302	8.2	23.0	9.6	110	<5	21	--
SEP 22...	1028	29001	200	331	8.0	18.5	13.2	139	<1	42	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACU3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CO3) (00445)	ALKA- LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 22...	10	34	20	2.7	1.5	192	0	157	7.7	<10	3.8
NOV 24...	--	--	--	--	--	272	0	223	2.7	--	--
DEC 15...	--	--	--	--	--	212	0	174	1.7	--	--
JAN 29...	16	39	24	3.5	1.4	220	0	180	2.2	7.0	4.5
FEB 23...	--	--	--	--	--	212	0	174	2.1	--	--
MAR 24...	--	--	--	--	--	204	0	167	1.6	--	--
APR 21...	27	42	21	3.2	1.2	200	0	164	1.6	5.0	4.6
MAY 27...	--	--	--	--	--	128	0	105	2.6	--	--
JUN 23...	--	--	--	--	--	116	0	95	1.2	--	--
JUL 27...	15	30	17	2.8	1.4	160	0	131	1.6	10	2.6
AUG 18...	--	--	--	--	--	176	0	144	1.8	--	--
SEP 22...	--	--	--	--	--	200	0	164	3.2	--	--

GASCONADE RIVER BASIN

06930800 GASCONADE RIVER ABOVE JEROME, MO
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 37°55'12", long 91°58'33", in NE¼ sec. 24, T.27N, R.10W., Phelps County, Hydrologic Unit 10290203, at bridge on County Highway D at Jerome, 150 ft (46 m) upstream from Little Piney Creek, 0.7 mi (1.1 km) upstream from gaging station.

DRAINAGE AREA.--2570 mi² (6660 km²).

PERIOD OF RECORD.--January 1978 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1978 to September 1981. (Discontinued)

WATER TEMPERATURE: March 1978 to September 1981. (Discontinued)

REMARKS.--Water temperature and specific conductance samples collected daily by observer. Number of missing days of record exceed 20 percent of year.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 588 micromhos Sept. 23, 1981; minimum, 133 micromhos Sept. 1, 1981.

WATER TEMPERATURES: Maximum daily, 34.0°C, Aug. 11, 17, 1980; minimum 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	CLLI- FORM, FECAL, 0.7 UM-NF (CCLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
NOV 25...	420	352	8.3	7.5	.50	13.4	112	20	41	180	3	37
JAN 20...	409	400	8.1	4.5	.50	12.4	95	1	260	190	1	38
MAR 26...	550	356	8.2	12.5	2.0	10.2	95	<1	52	180	16	37
MAY 26...	4250	238	7.9	18.0	23	7.6	79	570	--	120	22	26
JUL 28...	6200	230	8.0	24.0	65	6.6	78	11000	19000	120	22	25
SEP 22...	510	339	8.1	18.5	2.6	12.6	133	9	23	170	0	35

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD AS HCL3 (00440)	CAR- BONATE FET-FLD (MG/L AS CC3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLC- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUC- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
NOV 25...	22	2.6	1.4	240	0	9.3	4.0	.1	4.3	192	218	.14
JAN 20...	23	3.4	1.1	230	0	9.4	4.4	.1	2.7	184	203	.21
MAR 26...	21	4.0	1.4	200	0	3.6	5.5	.1	2.5	182	270	.27
MAY 26...	13	2.6	2.0	120	0	1.6	3.7	.0	9.2	139	1600	--
JUL 28...	14	2.0	2.3	120	0	2.4	3.3	.0	8.6	137	2290	.33
SEP 22...	21	2.7	1.9	210	0	<5.0	3.8	.1	7.4	194	267	.11

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC DIS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, DIS- PENDE TOTAL (MG/L) (80154)	SEDI- MENT, DIS- PENDE TOTAL (MG/L) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 25...	.060	.56	.38	.040	.030	--	8.1	1.3	43	49	61
JAN 20...	.060	.15	.68	.030	.030	--	14	.3	19	21	38
MAR 26...	.030	.96	.60	.030	.020	4.4	--	--	26	39	35
MAY 26...	--	--	.46	.160	.050	--	7.7	--	396	4540	48
JUL 28...	.140	1.20	.52	.150	.070	--	4.8	1.2	218	3650	90
SEP 22...	.070	.36	.29	.230	.170	2.6	--	--	10	14	32

GASCONADE RIVER BASIN

06930800 GASCONADE RIVER ABOVE JEROME, MO--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CU) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
NOV 25...	0	0	100	50	1	<1	0	0	0	<3
JAN 20...	0	0	0	50	0	<1	0	0	0	<3
MAY 26...	1	1	100	100	2	<1	0	0	0	<3
JUL 28...	1	1	100	50	1	<1	10	10	9	<3

DATE	CUPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
NOV 25...	8	4	90	10	8	2	10	6	.2
JAN 20...	5	1	80	10	21	0	10	6	.4
MAY 26...	6	7	1300	140	9	3	100	20	--
JUL 28...	8	3	3400	63	13	1	290	8	.3

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 25...	.2	3	0	0	0	0	0	620	10
JAN 20...	.1	0	0	0	0	0	0	30	7
MAY 26...	.1	2	2	--	0	1	0	20	40
JUL 28...	.1	7	0	0	0	0	0	30	7

GASCONADE RIVER BASIN

06930800 GASCONADE RIVER ABOVE JEROME, MO--continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	332	350	---	353	376	---	---	---	247	---	---	133
2	325	350	349	375	408	403	385	349	---	284	---	262
3	316	341	349	385	387	408	---	353	231	287	---	288
4	338	330	357	---	397	391	395	345	226	---	---	331
5	---	351	357	394	390	393	399	344	---	---	280	---
6	340	333	351	408	364	394	391	340	---	276	284	---
7	310	330	375	396	365	390	370	335	251	289	315	---
8	375	357	370	403	362	396	410	337	252	---	328	---
9	342	407	345	417	374	397	---	---	275	---	---	361
10	353	345	357	424	355	---	368	332	269	308	363	350
11	365	---	365	410	361	389	373	---	268	---	361	---
12	340	---	348	395	373	392	351	320	---	332	397	---
13	362	---	---	402	362	406	390	297	---	---	323	---
14	369	---	350	437	362	393	394	291	270	314	---	341
15	413	---	351	427	341	392	387	205	---	294	---	354
16	359	---	351	415	368	---	---	---	---	293	325	355
17	321	---	---	410	367	407	---	241	---	---	335	359
18	331	---	353	407	373	403	361	206	---	306	319	343
19	329	---	355	---	375	392	319	199	---	---	331	349
20	341	363	350	---	371	391	---	215	---	---	346	---
21	335	349	365	---	364	345	355	230	---	---	---	354
22	345	345	367	---	362	396	367	245	---	309	352	---
23	345	340	360	---	368	393	379	---	230	310	---	588
24	370	351	351	408	364	395	351	---	251	246	357	---
25	---	363	355	400	380	405	352	213	265	---	344	---
26	373	359	---	395	364	395	356	234	---	306	340	---
27	330	---	360	393	---	---	353	245	---	---	330	386
28	332	340	361	396	360	421	357	267	---	---	327	360
29	353	337	350	398	---	---	358	277	280	169	---	---
30	355	355	350	382	---	418	354	278	---	229	---	392
31	362	---	380	400	---	399	---	274	---	---	319	---
MEAN	347	350	357	401	370	398	370	279	255	285	334	347
WTR YR 1981	MEAN	347	MAX	588	MIN	133						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	14.0	---	6.5	4.0	---	---	---	19.5	---	25.0	21.0
2	23.0	13.0	5.0	6.5	3.5	12.5	20.0	26.0	---	22.0	---	22.0
3	20.0	14.0	5.0	4.0	3.0	9.5	---	26.0	19.0	25.0	---	24.0
4	18.0	14.0	5.5	---	2.5	9.0	19.0	21.5	18.0	---	---	25.5
5	---	12.0	14.0	2.5	2.5	8.5	16.5	20.5	---	---	25.0	---
6	20.0	15.0	9.5	2.0	5.0	11.5	17.5	19.0	---	24.0	29.5	---
7	20.0	16.5	14.0	3.0	5.0	8.5	19.0	21.5	25.0	24.0	23.0	---
8	24.0	15.0	10.0	3.5	5.0	8.5	19.0	21.0	26.0	---	24.0	---
9	22.0	17.0	9.0	2.5	5.0	9.5	---	---	26.5	---	---	27.0
10	18.0	18.0	8.0	1.5	2.0	---	22.5	19.5	25.5	26.0	25.0	27.5
11	16.0	---	8.5	1.5	1.0	11.0	21.5	---	22.0	---	24.5	---
12	16.0	---	9.0	2.0	.5	13.5	26.0	18.0	---	26.5	24.0	---
13	17.0	---	---	2.0	2.0	14.0	19.0	17.0	---	---	25.0	---
14	16.0	---	8.0	1.5	6.0	10.5	24.5	17.0	23.5	30.0	---	26.5
15	15.0	---	8.0	2.0	8.5	11.5	20.0	15.0	---	26.0	---	23.0
16	15.5	---	8.5	2.0	9.5	---	---	---	---	30.0	24.5	23.0
17	15.0	---	---	2.5	9.0	13.0	---	16.5	---	---	25.5	19.5
18	14.0	---	8.0	2.5	11.5	11.0	23.0	15.5	---	29.5	22.0	20.5
19	15.0	---	4.0	---	10.0	12.0	18.5	15.5	---	---	24.5	20.5
20	15.5	10.0	3.0	---	10.5	12.0	---	16.5	---	---	24.0	---
21	17.0	8.0	3.0	---	12.5	12.0	19.5	16.5	---	---	---	23.0
22	18.0	8.0	4.0	---	10.0	12.0	20.5	17.0	---	27.5	28.0	---
23	18.0	7.5	3.5	---	11.5	14.0	20.5	---	21.0	23.5	---	18.0
24	14.0	8.0	1.5	6.0	13.5	13.5	22.0	---	22.0	23.0	25.5	---
25	---	7.5	3.0	5.5	13.5	14.0	22.0	19.5	22.5	---	27.0	---
26	13.0	6.5	---	6.0	13.5	13.0	22.5	19.0	---	26.0	27.5	---
27	12.0	---	4.0	6.5	---	---	23.5	21.0	---	---	26.5	25.0
28	10.0	7.0	4.0	6.5	11.5	14.5	24.5	24.0	---	---	27.5	22.5
29	12.0	7.0	4.0	6.5	---	---	26.5	22.0	22.0	23.0	---	---
30	13.0	11.0	5.5	6.5	---	18.0	26.5	19.5	---	23.0	---	20.0
31	12.5	---	5.0	4.5	---	18.0	---	19.5	---	---	28.0	---
MEAN	16.5	11.5	6.5	4.0	7.0	12.0	21.5	19.5	22.5	25.5	25.5	23.0
WTR YR 1981	MEAN	15.0	MAX	30.0	MIN	.5						

GASCONADE RIVER BASIN

06930800 GASCONADE RIVER ABOVE JEROME, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 25,80 1430	MAR 26,81 1130	MAY 26,81 1030	JUL 28,81 1430	SEP 22,81 1150					
TOTAL CELLS/ML	3100	100	670	1500	28					
DIVERSITY: DIVISION	0.3	0.8	1.6	0.8	0.0					
..CLASS	0.3	0.8	1.6	0.8	0.0					
...ORDER	0.3	1.1	2.1	0.8	0.0					
...FAMILY	0.4	1.1	3.1	1.1	1.0					
....GENUS	0.4	1.1	3.2	1.1	1.0					
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLORODUCALES										
...MICRACINIACEAE										
....MICRACINIUM	--	-	--	-	110#	16	--	-	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	--	-	--	-	110#	16	55	4	--	-
...VOLVOCALAE										
...CHLAMYDOMONADACEAE										
....CARTERIA	--	-	--	-	--	-	14	1	--	-
....CHLAMYDOMONAS	--	-	--	-	28	4	--	-	--	-
CHRYSTOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCAEAE										
....CYCLOSTELLA	--	-	--	-	69	10	--	-	--	-
....MELOSIRA	--	-	--	-	14	2	--	-	--	-
...STEPHANODISCUS	--	-	13	13	--	-	--	-	--	-
...PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	50	2	--	-	14	2	14	1	--	-
...COCCONEIS	--	-	--	-	41	6	28	2	--	-
...CYMBELLACEAE										
....AMPHORA	--	-	--	-	--	-	14	1	--	-
....CYMBELLA	--	-	--	-	14	2	--	-	--	-
...FRAGILARIACEAE										
....FRAGILARIA	--	-	--	-	14	2	--	-	--	-
...GOMPHONEMACEAE										
....GOMPHONEMA	25	1	--	-	14	2	41	3	--	-
...NAVICULACEAE										
....NAVICULA	25	1	13	13	41	6	28	2	14#	50
...NITZSCHIAEAE										
....NITZSCHIA	--	-	--	-	28	4	55	4	--	-
...SURIRELLACEAE										
....CYMATOPLEURA	--	-	--	-	14	2	--	-	14#	50
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCOCCALAE										
...CHROOCOCCACEAE										
....ANACYSTIS	3000#	95	--	-	--	-	--	-	--	-
...HORMOGONIAEAE										
...OSCILLATORIACEAE										
....OSCILLATORIA	--	-	--	-	170#	24	1300#	84	--	-
EUGLENOPHYTA (EUGLENCIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENACEAE										
....EUGLENA	50	2	78#	75	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

GASCONADE RIVER BASIN

06932000 LITTLE PINEY CREEK AT NEWBURG, MO

LOCATION.--Lat 37°54'35", long 91°54'12", in SE¼ sec.22, T.37 N., R.9 W., Phelps County, Hydrologic Unit 10290203, on left bank at downstream side of bridge on State Highway P and T at Newburg, and 2 mi (3.2 km) upstream from Mill Creek.

DRAINAGE AREA.--200 mi² (520 km²), approximately.

PERIOD OF RECORD.--October 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 693.40 ft (211.348 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1951, all gages at datum 3.0 ft (0.914 m) higher. Prior to Nov. 21, 1963, nonrecording gage at site 100 ft (30 m) downstream. Nov. 21, 1963, to May 9, 1966, nonrecording gage at present site.

REMARKS.--Records fair except periods of no gage height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--53 years, 148 ft³/s (4.191 m³/s), 10.05 in/yr (255 mm/yr), 107,200 acre-ft/yr (132 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft³/s (920 m³/s) Aug. 14, 1946, gage height, 16.2 ft (4.94 m), present datum from floodmark, from rating curve extended above 21,000 ft³/s (595 m³/s) on basis of slope-area measurements at gage heights 15.0 ft (4.57 m) and 16.2 ft (4.94 m); maximum gage height, 16.26 ft (4.956 m) June 26, 1935, from floodmark, present datum; minimum discharge, 24 ft³/s (0.68 m³/s) Aug. 22-31, 1936, Sept. 19, 20, 1954, Oct. 10-16, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 16.7 ft (5.09 m) Aug. 20, 1915, from floodmark, present datum; discharge, 30,000 ft³/s (850 m³/s), from rating curve based on discharge measurements made in 1935 and extended above 25,000 ft³/s (708 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,900 ft³/s (139 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
June 21	1630	*7,350 208	*10.28 3.133
July 28	0415	5,650 160	9.18 2.798

Minimum discharge, 35 ft³/s (0.99 m³/s) Oct. 1-14; minimum gage height, 1.97 ft (0.600 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	70	49	53	76	62	71	46	1620	147	164	429
2	35	64	49	51	74	60	67	46	777	134	149	172
3	35	61	46	51	70	64	58	44	814	124	400	120
4	35	58	46	49	67	74	61	47	503	531	203	100
5	35	57	47	48	60	88	57	50	368	459	162	89
6	35	57	45	50	58	110	54	50	315	234	214	82
7	35	56	43	49	50	120	56	48	267	187	197	77
8	35	54	52	49	48	110	49	46	231	159	148	76
9	35	54	60	50	49	100	57	49	204	143	127	69
10	35	51	63	48	64	85	53	709	187	128	115	67
11	35	52	65	47	71	75	52	328	359	116	108	65
12	35	48	64	45	73	65	51	214	319	108	100	62
13	35	45	60	44	64	61	49	189	238	97	95	60
14	35	46	58	43	64	57	49	469	200	91	89	60
15	47	47	55	42	84	57	48	287	175	85	89	75
16	90	44	52	40	120	57	46	213	172	108	103	61
17	168	47	49	39	116	53	48	188	153	93	85	58
18	80	46	46	39	114	55	58	1370	138	81	80	55
19	61	43	44	39	91	53	126	1200	296	85	79	55
20	54	43	44	43	88	51	105	516	369	118	77	56
21	53	42	45	45	82	53	101	369	2360	82	72	55
22	50	40	45	47	81	60	98	300	1120	74	70	53
23	51	42	46	54	78	54	97	253	580	1300	68	53
24	61	43	46	59	73	49	84	544	397	520	65	52
25	63	40	47	62	71	47	74	451	312	291	76	51
26	59	39	49	62	68	48	62	337	256	195	92	51
27	127	47	50	63	66	52	55	258	216	164	79	52
28	143	45	51	64	64	52	52	217	190	1960	109	53
29	108	45	52	64	---	65	54	186	167	330	82	50
30	88	47	53	68	---	88	53	287	160	252	75	51
31	78	---	55	64	---	78	---	337	---	196	70	---
TOTAL	1871	1473	1576	1571	2084	2103	1945	9648	13465	8592	3642	2409
MEAN	60.4	49.1	50.8	50.7	74.4	67.8	64.8	311	449	277	117	80.3
MAX	168	70	65	68	120	120	126	1370	2360	1960	400	429
MIN	35	39	43	39	48	47	45	44	138	74	65	50
CFSM	.30	.25	.25	.25	.37	.34	.32	1.56	2.25	1.39	.59	.40
IN.	.35	.27	.29	.29	.39	.39	.36	1.79	2.50	1.60	.68	.45
AC=FT	3710	2920	3130	3120	4130	4170	3860	19140	26710	17040	7220	4780
CAL YR 1980	TOTAL	27871	MEAN	76.2	MAX	458	MIN	33	CFSM	.38	IN	5.18
WTR YR 1981	TOTAL	50380	MEAN	138	MAX	2360	MIN	35	CFSM	.69	IN	9.37
									AC=FT	55280		
									AC=FT	99930		

GASCONADE RIVER BASIN

06933500 GASCONADE RIVER AT JEROME, MO

LOCATION.--Lat 37°55'35", long 91°58'40", in SE¼ sec.13, T.37 N., R.10 W., Phelps County, Hydrologic Unit 10290203, on left bank at Jerome, 0.5 mi (0.8 km) downstream from Little Piney Creek, and at mile 107 (172.2 km).

DRAINAGE AREA.--2,840 mi² (7,360 km²), approximately.

PERIOD OF RECORD.--April 1903 to July 1906 (published as "at Arlington") and January 1923 to current year. October to December 1922 monthly discharge only, published in WSP 1310. Gage-height records collected intermittently in the vicinity 1885-1926 and at same site since 1938 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 172: 1904. WSP 566: Drainage area. WSP 1340: 1903-04, 1928(M).

GAGE.--Water-stage recorder. Datum of gage is 657.64 ft (200.449 m) National Geodetic Vertical Datum of 1929. Prior to July 26, 1904, nonrecording gage at site 0.8 mi (1.3 km) downstream at different datum. July 26, 1904, to July 21, 1906, nonrecording gage at site 0.5 mi (0.8 km) upstream from present site at datum about 0.85 ft (0.259 m) higher than present gage. Jan. 3, 1923, to Sept. 29, 1928, nonrecording gage at site 400 ft (122 m) downstream from present site at datum 0.14 ft (0.043 m) lower than present datum. Sept. 30, 1928, to Jan. 17, 1939, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--61 years (1903-05, 1922-81), 2,468 ft³/s (69.89 m³/s), 11.80 in/yr (300 mm/yr), 1,788,000 acre-ft/yr (2,200 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 101,000 ft³/s (2,860 m³/s) Apr. 15, 1945, gage height, 27.7 ft (8.44 m); minimum, 254 ft³/s (7.19 m³/s) Sept. 21, 22, 1956, gage height, 1.24 ft (0.378 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 6, 1897 reached a stage about 29.0 ft (8.84 m) Jan. 6, 1897, discharge, 120,000 ft³/s (3,400 m³/s). A stage of 28.6 ft (8.72 m) was reached on Aug. 20, 22, 1915, discharge, 114,000 ft³/s (3,230 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29,000 ft³/s (821 m³/s) at 1900 June 21, gage height, 15.97 ft (4.868 m), no other peak above base of 16,000 ft³/s (453 m³/s); minimum, 340 ft³/s (9.629 m³/s) Oct. 12, 13, 14, minimum gage height, 1.56 ft (0.475 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	376	739	523	515	574	965	813	925	4550	2670	1880	7380		
2	367	696	531	507	564	867	856	899	4810	2370	1590	1950		
3	358	654	527	506	566	764	839	907	4740	2100	2000	1160		
4	357	622	532	504	568	807	830	899	6150	2420	2270	955		
5	357	594	532	499	569	981	813	890	6420	3400	1770	847		
6	357	570	532	499	573	1070	797	864	5360	2400	1580	784		
7	352	550	520	495	585	1140	788	822	4220	2030	1470	743		
8	356	531	600	493	636	1170	772	813	3520	1830	1300	714		
9	353	519	680	488	633	1160	755	797	3040	1860	1180	673		
10	355	507	760	483	630	1090	739	1830	2690	2030	1110	650		
11	350	498	820	478	630	1040	747	2060	2870	1750	1050	624		
12	343	488	800	473	638	980	747	2750	3320	1550	982	610		
13	346	488	780	474	661	925	731	2600	3470	1390	937	587		
14	350	490	760	476	676	890	731	3720	2880	1270	893	599		
15	467	499	746	474	715	856	700	11200	2450	1180	882	640		
16	578	493	737	472	856	830	676	12200	2310	1360	995	614		
17	699	494	717	463	989	796	661	7730	2180	1250	858	785		
18	615	495	694	459	1080	772	653	9060	1970	1170	909	787		
19	838	493	669	462	1220	747	708	13700	2300	1120	1050	724		
20	686	488	641	474	1240	739	723	11800	8930	1240	957	664		
21	667	489	619	486	1180	747	715	7170	24300	1090	861	626		
22	605	487	601	483	1140	731	731	5180	23200	1030	805	585		
23	556	501	590	481	1080	715	805	4030	11000	3350	769	561		
24	539	503	581	485	1020	700	822	6170	7830	2420	746	534		
25	521	494	561	486	967	692	830	8020	7750	1870	732	521		
26	499	498	547	491	921	684	943	4700	5610	1470	742	504		
27	722	522	543	487	881	668	989	3250	4340	1360	780	493		
28	947	521	534	491	885	661	998	2830	3540	7250	848	473		
29	958	519	532	487	---	676	980	2440	3010	8410	789	466		
30	864	517	525	509	---	715	961	2390	2790	3730	846	459		
31	776	---	522	514	---	731	---	3490	---	2390	892	---		
TOTAL	16914	15959	19256	15094	22677	26309	23853	136136	171550	70760	34473	27712		
MEAN	546	532	621	487	810	849	795	4391	5718	2283	1112	924		
MAX	958	739	820	515	1240	1170	998	13700	24300	8410	2270	7380		
MIN	343	487	520	459	564	661	653	797	1970	1030	732	459		
CFSM	.19	.19	.22	.17	.29	.30	.28	1.55	2.01	.80	.39	.33		
IN.	.22	.21	.25	.20	.30	.34	.31	1.78	2.25	.93	.45	.36		
AC-FT	33550	31650	38190	29940	44980	52180	47310	270000	340300	140400	68380	54970		
CAL YR 1980	TOTAL	472470	MEAN	1291	MAX	8810	MIN	343	CFSM	.46	IN	6.19	AC-FT	937100
WTR YR 1981	TOTAL	580693	MEAN	1591	MAX	24300	MIN	343	CFSM	.56	IN	7.61	AC-FT	1152000

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO

LOCATION.--Lat 38°42'36", long 91°26'21", in SW¼ sec.25, T.46 N., R.5 W., Montgomery County, Hydrologic Unit 10300200, on downstream side of third pier from right abutment of bridge on State Highway 19 at Hermann. River mile, 97.9 (157.5 km).

DRAINAGE AREA.--524,200 mi² (1,358,000 km²) approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1897 to current year. Prior to August 1928 monthly discharge only published in WSP 1310. Gage-height records 1873-99 collected at site 480 ft (146 m) downstream are contained in reports of Missouri River Commission; since 1900 in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 481.56 ft (146.779 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 26, 1930, nonrecording gage at site 480 ft (146 m) downstream at datum 0.07 ft (0.021 m) lower. Sept. 26, 1930, to Mar. 27, 1932, nonrecording gage, Mar. 28, 1932, to June 12, 1945, water-stage recorder, June 13, 1945, to Apr. 2, 1946, May 13 to Sept. 30, 1978, nonrecording gage at present site and datum.

REMARKS.--Records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs.

AVERAGE DISCHARGE.--84 years, 79,330 ft³/s (2,250 m³/s), 57,470,000 acre-ft/yr (70,860 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 676,000 ft³/s (19,140 m³/s) June 6, 7, 1903, gage height, 21.5 ft (8.99 m), discharge computed by Corps of Engineers; maximum gage height, 33.70 ft (10.272 m) Apr. 25, 1973; minimum, about 4,200 ft³/s (119 m³/s) Jan. 10-12, 1940; minimum gage height observed, -0.80 ft (-0.244 m) Jan. 5, 6, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1844 reached a stage of 35.5 ft (10.82 m), discharge, about 892,000 ft³/s (25,260 m³/s) computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 282,000 ft³/s (7,990 m³/s) May 20, gage height, 26.66 ft (8.126 m); minimum, 22,000 ft³/s (623 m³/s) Feb. 10, gage height, 1.93 ft (0.588 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	42600	48300	46000	27600	28300	38600	42100	42000	70900	140000	212000	54600		
2	42200	47100	42200	26700	28900	33400	42500	41500	81000	164000	174000	56400		
3	42100	45600	41200	24600	29300	32100	42700	41000	78800	153000	157000	60100		
4	42600	44300	40100	25200	32300	35800	43600	40500	79700	150000	137000	59800		
5	43300	43600	39500	26400	33000	34900	45000	40000	83300	152000	134000	58600		
6	43500	43100	37600	28300	30000	41000	44800	39600	87100	155000	136000	55100		
7	43200	43300	35000	30300	26800	41000	43400	39700	83200	155000	118000	52900		
8	42500	44000	33400	29200	24500	35200	43400	41300	74200	150000	109000	55200		
9	42300	44500	42200	28800	23100	33200	43900	46400	69200	139000	116000	53100		
10	42500	43900	66300	28500	22600	31600	44000	61700	67300	126000	107000	57800		
11	42200	43400	91800	26900	22000	29500	43400	69100	64400	113000	92700	57100		
12	42000	43800	79500	24100	27500	29300	43900	60400	68200	103000	86100	59600		
13	41900	44200	62600	23000	27500	28100	44000	56700	72900	96600	83100	60600		
14	42400	45000	49100	24600	27300	27500	47600	51400	78700	93700	81500	56800		
15	44000	45300	41700	25500	26700	26800	61600	52900	84700	90600	78000	51300		
16	45300	46000	38200	24900	24500	26300	72400	74900	88000	94300	72200	49000		
17	46000	47300	36700	25300	23400	26100	71500	94500	113000	96100	67100	48100		
18	47700	48600	35900	25700	23100	25700	64700	177000	140000	104000	65000	47500		
19	49500	50100	34200	24300	22700	25600	59600	259000	134000	126000	64800	47800		
20	50800	50900	33400	23400	22900	25400	62300	271000	151000	150000	65100	50900		
21	53100	50300	34700	23500	25300	25000	62400	250000	172000	171000	64000	53200		
22	52100	50600	34300	23700	31700	24800	61800	196000	239000	142000	65200	50500		
23	49000	49700	33100	24400	38200	24200	71200	151000	214000	174000	61600	57700		
24	46200	49500	32300	24500	40900	24300	62500	125000	170000	231000	54800	59900		
25	45000	48800	31000	25000	43400	24800	52000	119000	143000	197000	54700	59100		
26	44800	49300	27700	28100	46900	25500	49000	118000	186000	173000	59400	58400		
27	45000	50500	25100	30000	45500	27400	47000	110000	195000	179000	53800	56500		
28	45200	50900	24800	30500	42500	32000	44000	102000	172000	191000	51700	51300		
29	46100	50100	24200	27300	---	38700	43000	90400	142000	242000	51700	51900		
30	48400	48900	24000	26100	---	42100	42500	81300	134000	256000	54000	54100		
31	49500	---	25100	26800	---	42400	---	78600	---	246000	55200	---		
TOTAL	1403000	1410900	1263100	813200	840800	958300	1541800	3021900	3536600	4753300	2781700	1644900		
MEAN	45260	47030	40750	26230	30030	30910	51390	97480	117900	153300	89730	54830		
MAX	53100	50900	91800	30500	46900	42400	72400	271000	239000	256000	212000	60600		
MIN	41900	43100	24000	23000	22000	24200	42100	39600	64400	90600	51700	47500		
CFSM	.09	.09	.08	.05	.06	.06	.10	.19	.23	.29	.17	.11		
IN	.10	.10	.09	.06	.06	.07	.11	.21	.25	.34	.20	.12		
AC-FT	2783000	2799000	2505000	1613000	1668000	1901000	3058000	5994000	7015000	9426000	5518000	3263000		
CAL YR 1980	TOTAL	21718200	MEAN	59340	MAX	196000	MIN	21800	CFSM	.11	IN	1.54	AC-FT	43080000
WTR YR 1981	TOTAL	23969500	MEAN	65670	MAX	271000	MIN	22000	CFSM	.13	IN	1.70	AC-FT	47540000

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURE: October 1974 to current year.

REMARKS.--Water temperature and specific conductance samples collected daily by observer.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: (water years 1976-81): Maximum daily, 1250 micromhos Dec. 9, 1978; minimum daily, 205 micromhos April 16, 1979.

WATER TEMPERATURES: (water years 1976-81): Maximum daily 32.0°C July 14, 17, 18, 19, 20, 1980; minimum daily, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 889 micromhos Oct. 4,5; minimum daily, 290 micromhos July 31.

WATER TEMPERATURES: Maximum daily, 30.0°C July 13, 14, 15; minimum daily, 0.0°C Dec. 20, 24, 25, Jan. 18, Feb. 3, 4, 5, 8, 10, 12.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLCN, INSTAN- TANEGUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMFCs) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	COLI- FORM, FECAL, 0.7 UM-MF (CCLS./ 100 ML) (31625)	STREP- TOCOCCL KF AGAR (CCLS. PER 100 ML) (31673)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CAC03) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
UCI												
23...	49200	782	7.8	15.5	4.0	8.0	80	480	100	240	84	58
NOV												
26...	50000	782	8.2	4.5	25	11.6	89	1200	300	250	67	61
DEC												
16...	38500	625	7.9	5.5	90	10.6	84	5100	1000	210	61	55
JAN												
22...	23700	820	8.2	4.0	1.0	12.8	98	100	--	270	67	69
FEB												
25...	45800	722	8.2	10.0	56	7.2	64	240	20	230	66	59
MAR												
25...	24700	738	8.6	10.0	25	11.0	97	40	10	250	76	65
APR												
22...	61700	660	8.1	17.0	97	8.0	82	1600	1800	220	72	56
MAY												
26...	103000	434	8.0	23.0	320	6.4	74	2200	4300	170	47	44
JUN												
25...	140000	360	8.1	22.0	250	6.6	75	2000	--	150	35	40
JUL												
30...	261000	280	7.8	22.0	8000	3.0	34	5800	2900	110	28	31
AUG												
19...	64600	609	8.1	25.5	88	6.6	80	960	160	200	52	53
SEP												
24...	59200	660	8.3	19.0	16	15.0	160	140	100	210	62	53

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CC3) (00445)	SULFATE DIS- SOLVED (MG/L AS SC4) (00945)	CHLC- RICE, DIS- SOLVED (MG/L AS CL) (00940)	FLUC- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiC2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 23...	24	78	5.8	192	0	200	19	.1	7.7	458	60800	.34
NOV 26...	23	74	5.2	210	0	210	18	.4	9.3	516	69700	.37
DEC 16...	18	49	5.4	180	0	130	22	.3	6.1	379	39400	1.4
JAN 22...	23	70	5.4	260	0	190	27	.5	13	510	32600	.79
FEB 25...	19	58	5.5	190	0	160	28	.3	12	449	55500	1.3
MAR 25...	22	64	5.7	180	16	190	35	.4	8.7	495	33000	.00
APR 22...	20	58	5.4	180	0	170	15	.4	7.7	431	71800	.60
MAY 28...	14	28	4.2	150	0	100	11	.2	6.6	270	75100	.98
JUN 25...	12	17	4.2	140	0	64	8.2	.2	6.8	223	84300	.82
JUL 30...	7.6	15	4.5	100	0	50	7.6	.2	7.6	194	137000	.83
AUG 19...	17	49	6.2	180	0	130	19	.3	9.2	377	65800	.44
SEP 24...	20	56	5.8	180	0	160	19	.4	7.1	425	67900	.03

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)	SEDI- MENT, DIS- SOLVED TOTAL (MG/L) (80154)	SEDI- MENT, DIS- SOLVED CHARGE, SUS- PENDED (1/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 23...	.010	.53	.36	.330	.180	12	--	--	221	29400	65
NOV 26...	.070	.76	.43	.180	.100	--	13	1.9	524	70700	20
DEC 16...	.120	1.90	1.2	.270	.090	12	--	--	--	--	--
JAN 22...	.230	1.30	1.3	.120	.110	7.1	--	--	193	12400	.34
FEB 25...	.170	1.30	.80	.280	.140	--	7.2	6.1	478	59100	.36
MAR 25...	.090	2.10	.99	.290	.100	12	--	--	236	15700	.24
APR 22...	.080	1.80	1.0	.410	.090	13	--	--	630	105000	.63
MAY 28...	.100	--	2.4	.450	.170	5.2	7.9	--	2770	770000	.43
JUN 25...	.100	2.40	.86	.450	.070	17	--	--	467	177000	.29
JUL 30...	.190	2.60	1.0	.470	.070	27	--	--	2110	1490000	.91
AUG 19...	.050	1.30	.55	.280	.090	--	5.6	1.7	287	50100	.76
SEP 24...	.060	.79	.56	.150	.070	5.1	--	--	252	40300	.24

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CU) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
NOV 26...	3	2	100	100	1	<1	0	0	0	<3
FEB 25...	3	2	200	100	1	<1	10	0	1	<3
MAY 28...	10	1	400	100	0	1	30	10	6	2
AUG 19...	4	3	100	130	1	<1	0	10	3	<3

DATE	CUPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
NOV 26...	19	5	1200	<10	8	3	130	3	.3
FEB 25...	14	6	2100	20	14	0	110	6	3.4
MAY 28...	57	13	27000	300	12	3	870	10	.4
AUG 19...	12	2	5600	23	10	4	300	5	.2

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL SOLVED (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 26...	.1	9	1	1	1	0	0	20	8
FEB 25...	2.2	5	2	1	1	0	0	30	10
MAY 28...	.1	24	5	1	1	0	0	90	40
AUG 19...	.0	5	2	1	1	0	0	30	8

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--continued

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	825	745	705	592	658	663	763	797	674	462	308	726
2	820	743	710	628	655	678	772	794	645	488	322	665
3	827	750	720	401	659	718	769	793	617	415	368	679
4	889	750	689	631	664	706	778	800	629	418	411	676
5	889	758	690	662	641	728	796	801	639	456	466	666
6	885	762	680	684	665	714	789	804	659	484	501	670
7	885	755	675	696	670	742	761	805	676	402	496	682
8	822	760	685	696	676	781	749	812	659	405	519	695
9	821	765	703	696	759	783	749	824	659	422	518	715
10	829	780	439	671	787	791	732	806	661	455	512	726
11	825	780	410	670	693	800	745	718	680	497	517	677
12	830	765	429	---	743	800	744	714	648	533	526	673
13	825	765	400	---	---	769	777	717	658	535	532	665
14	822	770	407	---	811	792	766	712	676	552	500	658
15	830	780	469	---	830	783	750	---	624	561	520	671
16	819	790	540	---	635	792	707	---	638	567	566	706
17	810	775	609	---	837	752	618	---	592	579	597	722
18	790	770	599	790	833	789	615	427	566	546	617	725
19	800	780	625	834	833	786	636	342	512	487	627	738
20	821	795	651	835	839	777	622	361	537	449	636	734
21	819	780	669	853	841	778	679	352	487	484	654	729
22	815	785	705	832	820	784	700	380	379	413	658	760
23	800	775	711	828	814	785	614	408	363	403	671	729
24	785	770	655	778	770	817	693	433	403	354	688	721
25	809	780	720	807	716	803	674	465	447	374	703	722
26	799	800	770	767	658	809	692	577	411	356	681	712
27	795	790	771	760	623	841	719	529	375	371	702	708
28	779	795	777	773	655	742	752	512	373	354	718	749
29	770	800	760	795	---	768	770	542	354	378	733	773
30	768	710	702	656	---	771	786	571	410	324	741	776
31	762	---	566	677	---	784	---	606	---	290	727	---
MEAN	818	771	634	720	740	769	724	622	555	446	572	708

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.5	12.0	7.5	2.0	1.0	11.0	16.0	21.0	22.0	25.5	24.5	25.5
2	20.0	13.5	5.0	3.0	.5	12.0	17.0	20.5	20.5	26.0	24.5	25.5
3	18.0	14.0	5.0	1.0	.0	11.0	16.5	20.5	23.0	25.5	26.5	26.0
4	17.0	14.0	5.0	2.0	.0	10.0	15.0	20.0	23.0	26.0	28.0	25.0
5	17.5	11.5	14.0	1.0	.0	10.0	14.0	20.0	23.5	26.0	27.5	25.5
6	19.0	11.0	7.0	1.5	.5	10.0	15.0	18.0	25.5	27.0	29.0	25.0
7	18.0	12.5	11.0	1.5	1.0	7.0	15.5	19.0	23.0	26.0	28.0	24.0
8	20.0	13.0	7.0	2.5	.0	9.0	17.0	19.0	26.0	27.0	27.5	24.5
9	21.0	14.0	6.0	1.5	1.0	11.5	17.0	18.5	28.0	27.5	27.0	24.0
10	16.5	12.5	5.0	1.0	.0	10.0	17.5	17.5	26.0	29.0	27.0	24.5
11	19.0	11.5	5.0	1.0	1.0	10.0	18.0	16.5	23.5	29.0	26.5	25.0
12	16.5	11.5	6.0	---	.0	10.5	18.0	17.0	25.0	29.5	27.0	25.0
13	18.0	14.0	5.0	---	---	11.5	20.0	17.0	25.5	30.0	27.0	25.0
14	18.0	11.0	4.0	---	2.0	11.5	18.0	16.0	25.5	30.0	27.0	25.0
15	16.5	10.5	4.0	---	2.0	12.0	18.0	---	24.0	30.0	27.0	24.5
16	18.0	8.5	5.0	---	3.0	11.0	18.0	---	24.0	29.0	27.5	25.0
17	18.0	8.0	3.5	---	3.0	13.0	18.5	---	23.0	29.5	26.5	23.0
18	17.5	9.0	4.0	.0	4.0	11.0	18.0	15.5	24.0	29.5	25.0	21.5
19	15.5	8.5	2.0	1.5	4.0	11.0	19.0	14.5	24.0	28.0	26.0	21.5
20	16.5	8.5	.0	2.5	11.0	11.0	20.0	15.0	25.0	28.0	25.0	20.5
21	15.0	9.0	1.5	2.5	10.0	11.0	17.0	16.0	24.0	28.5	26.0	22.5
22	15.5	8.5	1.0	3.5	8.0	11.0	17.0	17.0	23.0	27.5	26.0	21.0
23	17.5	7.0	3.0	3.0	8.0	12.0	17.5	18.0	24.0	27.0	26.0	20.0
24	13.5	7.0	.0	5.5	10.0	12.0	17.5	18.0	25.0	25.0	26.0	20.5
25	14.0	6.5	.0	4.0	11.0	12.0	16.0	19.0	24.5	26.0	26.0	20.0
26	14.0	5.5	1.0	5.0	10.0	12.0	18.5	22.0	24.0	23.0	25.5	22.0
27	11.5	4.0	1.0	5.0	12.0	13.0	20.0	22.0	24.5	26.0	26.0	20.0
28	11.5	3.5	.5	5.0	11.0	13.0	22.5	22.0	24.0	25.0	25.5	20.0
29	11.5	4.5	.5	4.0	---	14.0	21.0	22.5	25.0	24.5	25.0	22.0
30	12.5	8.5	1.0	4.0	---	14.5	21.0	22.5	26.0	24.0	24.5	23.0
31	12.0	---	2.0	4.0	---	15.0	---	22.0	---	24.0	26.5	---
MEAN	16.5	10.0	4.0	2.5	4.0	11.5	18.0	19.0	24.5	27.0	26.5	23.0

WTR YR 1981 MEAN 16.0 MAX 30.0 MIN .0

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 26,80 1000	MAR 25,81 1200	MAY 28,81 1000	JUN 25,81 1030
TOTAL CELLS/ML	5900	81000	3600	3600
DIVERSITY: DIVISION	1.3	0.4	1.1	1.5
..CLASS	1.3	0.5	1.1	1.5
..ORDER	2.0	0.8	1.7	1.8
...FAMILY	2.4	0.9	2.4	2.5
....GENUS	2.9	1.4	3.4	2.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCEAE								
...CHARACIACEAE								
...SCHROEDERIA	--	-	--	-	--	-	--	-
...CELESTRACEAE								
....CELESTRUM	--	-	--	-	--	-	300	8
...HYDRODICTYACEAE								
...PEDIASTRUM	--	-	--	-	--	-	96	3
...MICRACINIAEAE								
....GLENKINIA	--	-	--	-	--	-	--	-
....MICRACINIUM	--	-	--	-	--	-	--	-
...OCCYSTACEAE								
...ANKISTRODESMUS	50	1	--	-	140	4	--	-
...CHOCATELLA	--	-	--	-	--	-	--	-
...DICTYOSPHAERIUM	100	2	--	-	350	10	--	-
...FRANCEIA	--	-	--	-	--	-	--	-
...KIRCHNERIELLA	--	-	--	-	--	-	--	-
...OCCYSTIS	--	-	--	-	--	-	41	1
...SELENASTRUM	--	-	--	-	--	-	--	-
...TETRAEDRON	*	0	--	-	--	-	--	-
...WESTELLA	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	280	8	--	-
...SCENEDESMUS	100	2	--	-	280	8	280	8
...TETRASTRUM	100	2	--	-	280	8	--	-
...VULVACEAE								
...CHLAMYDOMONADACEAE								
...CARTERIA	--	-	--	-	--	-	*	0
...CHLAMYDOMONAS	50	1	6500	8	--	-	--	-
...VULVACEAE								
...PANDORINA	--	-	--	-	--	-	55	2
CHRYSCOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
...CYCLOTELLA	1300#	22	61000#	76	910#	25	69	2
...MELCSIRA	530	9	--	-	350	10	110	3
...STERHANODISCUS	330	6	6500	8	70	2	55	2
...PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	650	1	70	2	--	-
...CCOCONEIS	--	-	--	-	70	2	--	-
...DIATOMACEAE								
...DIATOMA	--	-	--	-	--	-	--	-
...FRAGILARIACEAE								
...ASTERIONELLA	--	-	1300	2	--	-	--	-
...FRAGILARIA	--	-	2600	3	--	-	330	9
...SYNECRA	--	-	--	-	--	-	--	-
...GOMPHOCNEMACEAE								
...GOMPHOCNEMA	--	-	--	-	70	2	--	-
...NAVICULACEAE								
...NAVICULA	50	1	--	-	70	2	69	2
...NITZSCHIAEAE								
...NITZSCHIA	100	2	1300	2	490	14	150	4
...SURIPELLACEAE								
...CYMATOPLEURA	--	-	--	-	70	2	--	-
...SURIPELLA	--	-	--	-	--	-	28	1
..CHRYSCOPHYCEAE								
...CHRYDOMONADALES								
...CHROMONADACEAE								
...CHROMONAS	--	-	--	-	--	-	--	-
...STENOCALYX	--	-	650	1	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOMONADACEAE								
...CRYPTOMONAS	--	-	--	-	--	-	--	-

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	PHYTOPLANKTON							
	NOV 26,80 1000		MAR 25,81 1200		MAY 28,81 1000		JUN 25,81 1030	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	1100#	18	--	-	--	-	--	-
....GOMPHOSPHERIA	--	-	--	-	--	-	--	-
...PHORMIDIALES								
...NOSTOCACEAE								
....ANABAENA	--	-	--	-	--	-	110	3
....APHANIZOMENON	650	11	--	-	--	-	--	-
...OSCILLATORIACEAE								
....LYNGBYA	--	-	--	-	--	-	--	-
...OSCILLATORIA	1400#	24	--	-	--	-	1900#	52
...PHORMIDIUM	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENAEAE								
....TRACHELOMONAS	--	-	--	-	70	2	28	1

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	JUL 30,81 1100	AUG 19,81 1200	SEP 24,81 1030
TOTAL CELLS/ML	3400	15000	29000
DIVERSITY: DIVISION	0.7	1.8	1.4
...CLASS	0.7	1.8	1.4
...ORDER	0.9	2.2	1.8
...FAMILY	1.0	3.1	2.6
...GENUS	1.0	3.5	3.4

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCEAE						
...CHARACIACEAE						
...SCHROEDERIA	--	-	* 0		* 0	
...COELASTRACEAE						
...COELASTRUM	--	-	1400	10	1000	3
...HYDRODICTYACEAE						
...PEDIASTRUM	--	-	--	-	--	-
...MICRACIINIACEAE						
...GOLENKINIA	--	-	--	-	* 0	
...MICRACTINIUM	--	-	--	-	320	1
...OOCYSTACEAE						
...ANKISTRODESMUS	--	-	350	2	250	1
...CHODATELLA	--	-	--	-	* 0	
...DICTYOSPHAERIUM	--	-	1500	11	2100	7
...FRANCEIA	--	-	* 0		190	1
...KIRCHNERIELLA	--	-	* 0		--	-
...OOCYSTIS	--	-	280	2	1800	6
...SELENASTRUM	--	-	--	-	570	2
...TETRAEDRON	--	-	--	-	--	-
...WESTELLA	--	-	--	-	1600	6
...SCENEDESMACEAE						
...ACTINASTRUM	--	-	--	-	2400	8
...SCENEDESMUS	--	-	1100	7	2100	7
...TETRASTRUM	--	-	280	2	250	1
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
...CARTERIA	--	-	* 0		--	-
...CHLAMYDOMONAS	--	-	180	1	* 0	
...VOLVOCCACEAE						
...PANDORINA	--	-	--	-	--	-
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINOIDISCEAE						
...CYCLOTELLA	140	4	--	-	2300	8
...MELCSIRA	70	2	740	5	--	-
...STEPHANODISCUS	--	-	--	-	--	-
..PENNALES						
...ACHNANTHACEAE						
...ACHNANTHES	--	-	--	-	--	-
...COCCONEIS	--	-	--	-	--	-
...DIATOMACEAE						
...DIATOMA	70	2	--	-	--	-
...FRAGILARIACEAE						
...ASTERIONELLA	--	-	--	-	--	-
...FRAGILARIA	--	-	910	6	--	-
...SYNEDRA	--	-	* 0		--	-
...GOMPHONEMACEAE						
...GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
...NAVICULA	--	-	110	1	--	-
...NITZSCHIIACEAE						
...NITZSCHIA	210	6	700	5	510	2
...SURIPELLACEAE						
...CYMATOPLEURA	--	-	--	-	--	-
...SURIPELLA	--	-	--	-	--	-
..CHRYSTOPHYCEAE						
...CHRYSCOMNADALES						
...OCHROMONADACEAE						
...OCHROMONAS	--	-	* 0		--	-
...STENOCALYX	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOMONADACEAE						
...CRYPTOMONAS	--	-	980	7	--	-

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	JUL 30,81 1100		AUG 19,81 1200		SEP 24,81 1030	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
..CHROCOCCALES						
...CHROCOCCACEAE						
....ANACYSTIS	--	-	140	1	10000#	35
....GOMPHOSPHERIA	--	-	420	3	--	-
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	630	2
....APHANIZOMENON	--	-	350	2	--	-
...OSCILLATORIACEAE						
....LYNGBYA	--	-	--	-	630	2
....OSCILLATORIA	2800#	83	4600#	32	1900	6
....PHORMIDIUM	--	-	210	1	--	-
EUGLENOPHYTA (EUGLENCIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENACEAE						
....TRACHELOMONAS	70	2	*	0	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO

LOCATION.--Lat 38°37'44", long 90°10'47", Hydrologic Unit 07140101, on downstream side of west pier of Eads Bridge at St. Louis, 15 mi (24 km) downstream from Missouri River, 19.2 mi (30.9 km) upstream from Meramec River, and at mile 180.0 (289.6 km) above the Ohio River.

DRAINAGE AREA --697,000 mi² (1,805,000 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: January 1861 to current year. Monthly discharge only for some periods, published in WSP 1311.

Gage heights: March 1933 to current year in reports of Geological Survey. Since January 1861 in reports of Mississippi River Commission. Since January 1890 in reports of National Weather Service.

REVISED RECORDS.--WRD MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 379.94 ft (115.806 m) National Geodetic Vertical Datum of 1929. Prior to May 5, 1934, nonrecording gage 0.4 mi (0.6 km) downstream and May 5, 1934, to Dec. 9, 1952, water-stage recorder at site 20 ft (6 m) downstream at present datum.

REMARKS.--Records excellent. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in Missouri River basin.

AVERAGE DISCHARGE.--120 years, 176,800 ft³/s (5,007 m³/s), 128,100,000 acre-ft/yr (158 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,019,000 ft³/s (28,900 m³/s) June 10, 11, 1903, gage height, 38.00 ft (11.582 m); maximum gage height, 43.23 ft (13.176 m) Apr. 28, 1973; minimum daily discharge, 18,000 ft³/s (510 m³/s) Dec. 21-23, 1863; minimum gage height, -6.11 ft (-1.862 m) Jan. 16, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 27, 1844, reached a stage of 41.32 ft (12.594 m), from flood-marks, discharge, 1,300,000 ft³/s (36,800 m³/s), computed by Corps of Engineers. Flood in April 1785 may have reached a stage of 42.0 ft (12.80 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 511,000 ft³/s (14,500 m³/s) May 21 at 1700, maximum gage height, 30.51 ft (9.299 m) July 31 at 1000; minimum daily, 51,800 ft³/s (1,467 m³/s) Feb. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	JCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	184000	131000	94400	75300	69200	184000	94800	171000	204000	321000	476000	210000		
2	187000	130000	91100	76700	72800	172000	89700	167000	197000	332000	440000	204000		
3	187000	130000	86800	76900	55100	168000	86200	168000	196000	351000	393000	209000		
4	187000	129000	89100	75100	50600	169000	101000	167000	200000	338000	344000	218000		
5	188000	126000	92800	66500	61700	174000	115000	174000	202000	343000	305000	220000		
6	187000	122000	93800	68500	61900	169000	116000	173000	199000	369000	296000	221000		
7	179000	118000	87300	71200	65600	153000	121000	170000	199000	397000	296000	215000		
8	156000	117000	99600	69500	65600	148000	131000	172000	184000	406000	289000	204000		
9	131000	110000	142000	72400	59200	138000	147000	174000	166000	397000	282000	193000		
10	116000	102000	188000	71900	55400	126000	144000	183000	154000	368000	281000	188000		
11	111000	97400	214000	71400	55800	120000	151000	217000	161000	322000	264000	184000		
12	104000	96400	207000	71700	51800	110000	167000	233000	162000	284000	239000	181000		
13	102000	102000	173000	69100	53900	105000	185000	226000	162000	259000	224000	170000		
14	103000	104000	148000	65200	57000	100000	234000	220000	182000	242000	209000	162000		
15	101000	99700	126000	62700	58500	96700	242000	222000	214000	227000	206000	161000		
16	96700	104000	112000	63100	59800	98500	256000	248000	229000	227000	228000	149000		
17	104000	97600	104000	62200	63600	99300	276000	282000	245000	241000	221000	141000		
18	107000	101000	95500	61900	70100	100000	281000	341000	261000	243000	223000	122000		
19	104000	105000	96800	62600	74700	101000	270000	438000	283000	247000	220000	104000		
20	99400	98600	103000	65400	83900	97200	247000	490000	292000	314000	209000	91700		
21	104000	97900	92400	65800	108000	93800	229000	507000	303000	352000	191000	91200		
22	114000	89800	69400	65900	115000	93700	212000	490000	360000	344000	188000	104000		
23	118000	97700	63500	66400	120000	94800	213000	434000	406000	322000	188000	103000		
24	112000	104000	86200	68200	133000	86400	215000	331000	393000	369000	174000	110000		
25	112000	103000	78000	73900	173000	77900	213000	301000	359000	412000	158000	106000		
26	113000	108000	76500	72500	191000	74800	203000	271000	353000	396000	149000	110000		
27	118000	115000	75700	71800	201000	76400	192000	261000	385000	405000	160000	114000		
28	132000	109000	76300	73600	201000	79400	189000	252000	392000	446000	158000	133000		
29	126000	112000	77500	73800	---	89200	184000	244000	374000	476000	155000	140000		
30	121000	94400	72200	71800	---	94500	172000	221000	341000	490000	161000	139000		
31	127000	---	72800	67200	---	98500	---	208000	---	491000	176000	---		
TOTAL	4031100	3251500	3324700	2150200	2498200	3588100	5476700	8156000	7758000	10731000	7503000	4697900		
MEAN	130000	108400	107200	69360	89220	115700	182500	263100	258600	346200	242000	156600		
MAX	188000	131000	214000	76900	201000	184000	291000	507000	406000	491000	476000	221000		
MIN	96700	89800	72200	61900	51800	74800	86200	167000	154000	227000	149000	91200		
CFSM	.19	.16	.15	.10	.13	.17	.26	.38	.37	.50	.35	.23		
IN.	.22	.17	.18	.11	.13	.19	.29	.44	.41	.57	.40	.25		
AC-FT	7996000	6449000	6595000	4265000	4955000	7117000	10860000	16180000	15390000	21280000	14880000	9318000		
CAL YR 1980	TOTAL	54576900	MEAN	149100	MAX	349000	MIN	72200	CFSM	.21	IN	2.91	AC-FT	108300000
WIR YR 1981	TOTAL	63166400	MEAN	173100	MAX	507000	MIN	51800	CFSM	.25	IN	3.37	AC-FT	125300000

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.82	6.64	2.87	.41	-.78	11.03	2.81	11.10	13.54	22.08	29.88	14.10
2	12.01	6.74	2.06	.55	1.65	10.17	2.48	10.57	12.99	22.43	28.16	13.47
3	11.94	6.63	2.17	.61	-1.92	9.83	2.11	10.97	12.84	23.79	25.79	13.62
4	11.95	6.74	1.92	.54	-1.27	9.75	2.99	10.72	13.08	23.20	23.09	14.66
5	12.08	6.47	2.43	-.70	-1.14	10.25	5.49	11.57	13.28	23.07	20.23	14.77
6	12.08	6.03	2.52	-.62	-1.22	10.14	5.11	11.60	13.27	24.46	19.93	14.97
7	11.69	5.70	1.69	.06	-.63	8.69	5.69	11.10	13.13	26.12	20.10	14.52
8	9.99	5.68	2.11	-.45	-.53	8.36	6.08	11.13	12.30	26.69	19.61	13.79
9	7.26	5.01	6.25	.16	-1.16	7.62	7.94	11.19	10.53	26.33	19.20	12.84
10	5.99	4.09	10.66	.03	-1.95	6.76	7.74	11.36	8.96	24.88	19.20	12.35
11	5.13	3.54	13.20	.01	-1.17	5.84	8.20	13.72	9.60	22.22	18.46	11.98
12	5.03	3.65	13.13	.08	-2.35	5.14	9.48	15.68	10.47	20.00	16.62	11.92
13	4.72	4.18	10.29	-.11	-2.00	4.53	10.87	15.06	9.62	18.36	15.65	11.17
14	4.59	4.24	8.18	-.81	-1.41	4.04	14.05	14.41	11.30	17.15	14.23	10.18
15	4.24	3.76	6.55	-1.22	-1.43	3.49	15.78	14.05	13.92	15.91	13.87	10.30
16	3.69	4.37	5.32	-1.04	-1.36	3.63	16.56	15.97	14.94	15.54	16.22	9.45
17	4.39	3.72	4.58	-1.23	-.97	3.66	17.96	17.60	16.17	16.60	15.55	8.89
18	5.21	4.05	3.34	-1.29	-.55	3.55	18.75	20.31	17.20	17.05	15.48	7.42
19	5.08	4.56	3.24	-1.22	.13	3.72	18.21	25.88	18.90	16.35	15.43	6.02
20	4.05	3.56	3.93	-.73	.74	3.27	16.93	28.59	19.62	20.51	14.74	3.68
21	4.89	3.64	3.09	-.67	3.92	2.94	15.73	29.97	19.61	23.03	13.08	3.14
22	5.60	2.67	2.64	-.74	4.55	2.66	14.48	29.55	22.58	22.67	12.35	4.66
23	6.75	3.24	1.52	-.53	5.49	2.88	14.42	27.12	26.01	21.12	12.45	4.22
24	5.74	3.61	1.59	-.63	6.12	1.91	14.48	22.31	25.52	23.21	11.50	5.44
25	5.50	3.63	1.19	.31	9.85	.88	14.56	19.89	23.84	26.49	10.21	5.37
26	5.67	3.64	.49	.19	11.39	.33	13.53	18.10	23.01	25.40	8.31	5.56
27	5.15	5.10	.49	-.10	12.19	.51	12.60	17.39	25.16	25.65	9.94	5.85
28	6.88	4.29	.69	.20	12.55	1.02	12.11	16.92	25.88	27.76	9.77	7.32
29	6.19	4.54	.55	.31	---	1.81	11.91	16.59	25.20	29.41	9.37	8.21
30	6.04	2.92	.24	.21	---	2.47	10.75	15.03	23.58	30.24	9.69	8.27
31	6.38	---	-.01	-.28	---	3.24	---	14.08	---	30.37	10.46	---

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

WATER TEMPERATURES: October 1951 to current year.

SEDIMENT RECORDS: April 1948 to current year.

REMARKS.--Sediment discharge for many days computed from turbidity readings.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 6,420 mg/L June 7, 1951; minimum daily mean, 19 mg/L Jan. 21, 22, 1967.

SEDIMENT LOADS: Maximum daily, 7,010,000 tons (6,359,000 metric tons) May 5, 1951; minimum daily, 2,800 tons (2,540 metric tons) Jan. 21, 1967.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,270 mg/L June 23; minimum daily mean, 41 mg/L Feb. 11.

SEDIMENT LOADS: Maximum daily, 2,570,000 tons (2,330,000 metric tons) May 19; minimum daily, 6,010 tons (5,450 metric tons) Feb. 12.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SIREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
APR 17...	275000	43	51	59	71	85	86	97	99	100
JUN 10...	151000	51	58	66	78	88	91	94	99	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)
OCT 17...	1	3	24	80	93	97	99	100	100
NOV 24...	0	2	26	71	91	96	99	100	100
JAN 13...	0	0	32	81	93	97	99	100	100
MAR 09...	0	1	42	88	93	95	96	98	100
APR 17...	0	1	35	81	90	95	98	100	100
JUN 10...	0	0	14	66	88	95	98	100	100
JUL 14...	0	0	11	60	94	--	97	99	100
AUG 28...	0	1	7	42	74	88	95	98	100
SEP 29...	0	0	7	46	78	90	97	99	100

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	184000	443	220000	131000	251	88800	94400	337	85900
2	187000	459	232000	130000	275	96500	91100	92	22600
3	187000	462	233000	130000	290	102000	86800	81	19000
4	187000	506	255000	129000	318	111000	89100	80	19200
5	188000	502	255000	126000	285	97000	92800	82	20500
6	187000	530	268000	122000	260	85600	93800	83	21000
7	179000	414	200000	118000	259	82500	87300	72	17000
8	156000	526	222000	117000	238	75200	99600	89	23900
9	131000	298	105000	110000	232	68900	142000	79	30300
10	116000	263	82400	102000	237	65300	188000	73	37100
11	111000	306	91700	97400	205	53900	214000	140	80900
12	104000	277	77800	96400	201	52300	207000	996	557000
13	102000	268	73800	102000	174	47900	173000	1240	579000
14	103000	288	80100	104000	152	42700	148000	960	384000
15	101000	306	83400	99700	175	47100	126000	619	211000
16	96700	326	85100	104000	175	49100	112000	446	135000
17	104000	261	73300	97600	198	52200	104000	378	106000
18	107000	203	58600	101000	191	52100	95500	371	95700
19	104000	186	52200	105000	186	52700	96800	297	77600
20	99400	202	54200	98600	163	43400	103000	243	67600
21	104000	164	46100	97900	142	37500	92400	251	62600
22	114000	150	46200	89800	124	30100	89400	173	41800
23	118000	109	34700	97700	114	30100	83500	148	33400
24	112000	128	38700	104000	105	29500	86200	117	27200
25	112000	159	48100	103000	114	31700	78000	115	24200
26	113000	188	57400	108000	129	37600	76500	103	21300
27	118000	241	76800	115000	123	38200	75700	95	19400
28	132000	218	77700	109000	472	139000	76300	79	16300
29	126000	207	70400	112000	178	53800	77500	74	15500
30	121000	225	73500	94400	173	44100	72200	61	11900
31	127000	223	76500	---	---	---	72800	62	12200
TOTAL	4031100	---	3448700	3251500	---	1837800	3324700	---	2876100
JANUARY			FEBRUARY			MARCH			
1	75300	65	13200	69200	56	10500	184000	341	169000
2	76700	62	12800	72800	67	13200	172000	298	138000
3	76900	69	14300	55100	57	8480	168000	311	141000
4	75100	70	14200	60600	52	8510	169000	293	134000
5	66500	68	12200	61700	50	8330	174000	274	129000
6	68500	56	10400	61900	51	8520	169000	230	105000
7	71200	58	11100	65600	50	8860	153000	194	80100
8	69500	51	9570	65600	50	8860	148000	173	69100
9	72400	54	10600	59200	54	8630	138000	149	55500
10	71900	54	10500	55400	48	7180	126000	144	49000
11	71400	64	12300	55800	41	6180	120000	160	51800
12	71700	72	13900	51800	43	6010	110000	161	47800
13	69100	83	15500	53900	46	6690	105000	146	41400
14	65200	76	13400	57000	44	6770	100000	130	35100
15	62700	72	12200	58500	77	12200	96700	136	35500
16	63100	68	11600	59800	125	20200	98500	141	37500
17	62200	65	10900	63600	82	14100	99300	138	37000
18	61900	62	10400	70100	68	12900	100000	150	40500
19	62600	56	9470	74700	59	11900	101000	143	39000
20	63400	57	10100	83900	66	15000	97200	133	34900
21	65800	54	9590	108000	83	24200	93800	130	32900
22	65900	52	9250	115000	113	35100	93700	115	29100
23	66400	48	8610	120000	124	40200	94800	106	27100
24	68200	43	7920	133000	124	44500	86400	91	21200
25	73900	51	10200	173000	155	72400	77900	75	15800
26	72500	51	9980	191000	225	116000	74800	90	18200
27	71800	52	10100	201000	260	141000	76400	99	20400
28	73600	51	10100	201000	302	164000	79400	108	23200
29	73800	53	10600	---	---	---	89200	112	27000
30	71800	51	9890	---	---	---	94500	131	33400
31	67200	54	9800	---	---	---	96500	143	38000
TOTAL	2150200	---	344680	2498200	---	840420	3588100	---	1756500

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	94800	152	38900	171000	217	100000	204000	563	310000
2	89700	175	42400	167000	201	90600	197000	758	403000
3	86200	199	46300	168000	213	96600	196000	774	410000
4	101000	222	60500	167000	318	143000	200000	529	286000
5	115000	247	76700	174000	296	139000	202000	487	266000
6	116000	232	72700	173000	333	156000	199000	414	222000
7	121000	255	83300	170000	327	150000	199000	357	192000
8	131000	252	89100	172000	294	137000	184000	299	149000
9	147000	248	98400	174000	326	153000	166000	322	144000
10	144000	240	93300	183000	425	210000	154000	769	320000
11	151000	375	153000	217000	430	252000	161000	742	323000
12	167000	371	167000	233000	578	364000	162000	967	423000
13	185000	411	205000	226000	520	317000	162000	814	356000
14	234000	677	428000	220000	719	427000	182000	818	402000
15	242000	1340	876000	222000	636	381000	214000	904	522000
16	256000	1250	864000	248000	441	295000	229000	931	576000
17	276000	1160	864000	282000	481	366000	245000	1150	761000
18	291000	1250	948000	341000	768	707000	261000	1600	1130000
19	270000	1770	1290000	438000	2170	2570000	283000	1540	1180000
20	247000	1530	1020000	490000	1860	2460000	292000	1640	1290000
21	229000	1190	736000	507000	1840	2520000	303000	1590	1300000
22	212000	957	548000	490000	1600	2120000	360000	1630	1580000
23	213000	1020	587000	434000	1370	1610000	406000	2270	2490000
24	215000	711	415000	331000	852	761000	393000	1760	1870000
25	213000	546	314000	301000	891	724000	359000	1470	1420000
26	203000	406	223000	271000	746	546000	353000	1070	1020000
27	192000	420	218000	261000	596	420000	385000	852	886000
28	189000	445	227000	252000	480	327000	392000	1170	1240000
29	184000	373	185000	244000	626	412000	374000	932	941000
30	172000	351	163000	221000	782	467000	341000	566	521000
31	---	---	---	208000	611	343000	---	---	---
TOTAL	5476700	---	11130600	8156000	---	19764200	7758000	---	22933000
JULY			AUGUST			SEPTEMBER			
1	321000	389	337000	476000	1710	2200000	210000	214	121000
2	332000	304	273000	440000	1210	1440000	204000	306	169000
3	351000	378	358000	393000	1170	1240000	209000	405	229000
4	338000	459	419000	344000	777	722000	218000	335	197000
5	343000	612	567000	305000	614	506000	220000	281	167000
6	369000	766	763000	296000	496	396000	221000	284	169000
7	397000	677	726000	296000	471	376000	215000	257	149000
8	406000	687	753000	289000	475	371000	204000	236	130000
9	397000	1000	1070000	282000	494	376000	193000	227	118000
10	368000	931	925000	281000	462	351000	188000	259	131000
11	322000	716	622000	264000	560	399000	184000	216	107000
12	284000	566	434000	239000	470	303000	181000	201	98200
13	259000	381	266000	224000	433	262000	170000	224	103000
14	242000	399	261000	209000	372	210000	162000	227	99300
15	227000	329	202000	206000	286	159000	161000	201	87400
16	227000	310	190000	228000	243	150000	149000	211	84900
17	241000	301	196000	221000	214	128000	141000	223	84900
18	243000	411	270000	223000	254	153000	122000	194	63900
19	247000	541	361000	220000	281	167000	104000	153	43000
20	314000	854	724000	209000	316	178000	91700	139	34400
21	352000	1130	1070000	191000	299	154000	91200	115	28300
22	344000	1580	1470000	188000	283	144000	104000	120	33700
23	322000	1110	965000	188000	275	140000	103000	108	30000
24	369000	1660	1650000	174000	263	124000	110000	95	28200
25	412000	1430	1590000	158000	246	105000	106000	96	27500
26	396000	1270	1360000	149000	272	109000	110000	107	31800
27	405000	1440	1570000	160000	174	75200	114000	106	32600
28	446000	1460	1760000	158000	122	52000	135000	113	40600
29	476000	1360	1750000	155000	116	48500	140000	137	51800
30	490000	1540	2040000	161000	141	61300	139000	132	49500
31	491000	1600	2120000	176000	172	81700	---	---	---
TOTAL	10731000	---	27062000	7503000	---	11181700	4697900	---	2740000
YEAR	63166400		105915700						

MERAMEC RIVER BASIN

07010350 MERAMEC RIVER AT COOK STATION, MO

LOCATION.--Lat 37°49'45", long 91°26'15", in NE¼ sec.23, T.36 N., R.5 W., Crawford County, Hydrologic Unit 07140102, on downstream side of right pier of bridge on State Highway M, 50 ft (15 m) downstream from Frisco Railroad bridge (Salem Branch), 1 mi (1.6 km) north of Cook Station, and 4 mi (6.4 km) upstream from Crooked Creek.

DRAINAGE AREA.--199 mi² (515 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 864.51 ft (263.503 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except periods of no gage-height record which are poor. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--16 years, 110 ft³/s (3.115 m³/s), 7.51 in/yr (191 mm/yr), 79,700 acre-ft/yr (98.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,900 ft³/s (988 m³/s) Feb. 10, 1966, gage height, 17.74 ft (5.047 m), from rating curve extended above 4,000 ft³/s (113 m³/s) on basis of slope-area measurement of peak flow; minimum discharge, 5.0 ft³/s (0.14 m³/s) Sept. 14-15, 1980; minimum gage height, 1.93 ft (0.588 m) Sept. 14-15, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 2,000 ft³/s (57 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Mar. 29	2200	2420	68.5	8.60	2.621
May 19	0200	*2460	69.7	8.59	2.618

Minimum discharge, 6.8 ft³/s (0.193 m³/s) Oct. 24, minimum gage height, 2.19 ft (0.668 m) Oct. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	26	30	19	24	25	139	36	145	65	89	48
2	9.5	25	36	19	25	23	100	31	141	59	72	45
3	9.5	24	34	19	26	22	79	29	124	58	77	39
4	9.7	23	30	19	27	28	85	29	127	65	60	33
5	9.3	24	28	19	27	49	91	30	127	66	49	29
6	9.5	21	27	19	25	54	71	30	118	64	48	25
7	9.5	20	26	18	22	50	59	29	104	56	54	24
8	9.5	19	30	18	21	44	51	25	87	54	45	23
9	10	17	34	17	20	39	46	24	74	40	36	22
10	9.5	17	35	17	28	35	40	117	64	33	31	21
11	9.5	15	36	17	33	33	35	241	66	30	29	19
12	11	15	35	17	36	30	31	149	98	27	26	20
13	12	14	32	17	40	29	30	117	90	31	23	19
14	15	13	31	17	38	27	32	801	67	26	20	20
15	27	16	33	17	40	26	28	459	55	22	20	22
16	32	15	27	17	46	26	24	250	50	31	20	23
17	87	16	24	17	53	24	21	174	47	25	30	27
18	47	19	24	17	50	22	31	446	40	23	26	26
19	29	19	23	17	45	20	141	1560	40	22	22	24
20	19	18	23	19	40	18	287	529	51	23	18	22
21	14	17	22	20	37	17	194	299	93	21	15	21
22	11	15	22	20	36	21	142	207	345	15	13	20
23	10	15	22	20	34	22	127	155	251	172	11	19
24	9.5	14	21	17	32	22	102	239	186	184	11	18
25	11	14	21	16	29	21	83	206	138	159	28	18
26	11	14	21	15	27	19	71	155	107	108	295	17
27	27	19	21	14	26	18	60	126	85	78	110	17
28	38	22	20	14	25	18	53	103	70	263	83	16
29	36	21	20	14	---	606	47	87	59	240	74	15
30	32	23	20	17	---	666	41	102	55	159	57	14
31	28	---	20	17	---	226	---	144	---	116	47	---
TOTAL	613.0	550	828	540	912	2280	2341	6929	3104	2335	1539	706
MEAN	19.8	18.3	26.7	17.4	32.6	73.5	78.0	224	103	75.3	49.6	23.5
MAX	87	26	36	20	53	666	287	1560	345	263	295	48
MIN	9.3	13	20	14	20	17	21	24	40	15	11	14
CFSM	.10	.09	.13	.09	.16	.37	.39	1.13	.52	.38	.25	.12
IN.	.11	.10	.15	.10	.17	.43	.44	1.30	.58	.44	.29	.13
AC-FT	1220	1090	1640	1070	1810	4520	4640	13740	6160	4630	3050	1400

CAL YR 1980	TOTAL	15084.1	MEAN	41.2	MAX	334	MIN	6.6	CFSM	.21	IN	2.82	AC-FT	29920
WTR YR 1981	TOTAL	22677.0	MEAN	62.1	MAX	1560	MIN	9.3	CFSM	.31	IN	4.24	AC-FT	44980

MERAMEC RIVER BASIN

07010350 MERAMEC RIVER AT COOK STATION, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	26.00	---	19.00	---		---	36.00	---	---	---	---
2	---	25.00	---	19.00	---		100.00	31.00	---	---	---	---
3	9.50	24.00	---	19.00	---		---	29.00	---	---	---	---
4	9.70	---	---	19.00	---		---	29.00	127.00	---	---	---
5	9.30	---	---	19.00	---		---	30.00	---	---	---	---
6	9.50	---	---	19.00	---		---	30.00	---	---	---	---
7	9.50	---	---	18.00	---		---	29.00	---	---	---	---
8	9.50	---	---	18.00	---		---	25.00	---	---	---	---
9	10.00	---	---	17.00	---		---	24.00	---	---	---	---
10	9.50	---	---	17.00	---		---	117.00	---	---	---	---
11	9.50	---	---	17.00	---		---	241.00	---	---	---	19.00
12	11.00	---	---	17.00	---		---	149.00	---	---	---	20.00
13	12.00	---	---	17.00	---		---	117.00	---	31.00	---	19.00
14	15.00	---	---	17.00	---		---	801.00	---	---	---	20.00
15	27.00	---	---	17.00	---		---	459.00	---	---	---	22.00
16	32.00	---	---	17.00	---		---	250.00	---	---	---	23.00
17	87.00	---	24.00	17.00	---		---	174.00	---	---	---	27.00
18	47.00	---	24.00	17.00	---		---	446.00	---	---	---	26.00
19	29.00	---	23.00	17.00	---		---	1560.00	---	---	---	24.00
20	19.00	---	23.00	19.00	---		---	529.00	---	---	---	22.00
21	14.00	---	22.00	20.00	---		---	299.00	---	---	---	21.00
22	11.00	---	22.00	20.00	---		---	---	---	---	---	20.00
23	10.00	---	22.00	20.00	---		---	---	---	---	---	19.00
24	9.50	---	21.00	---	---		---	---	---	---	---	18.00
25	11.00	---	21.00	---	---		83.00	206.00	---	---	---	18.00
26	11.00	---	21.00	---	---		71.00	155.00	---	---	---	17.00
27	27.00	---	21.00	---	26.00		60.00	---	---	---	110.00	17.00
28	38.00	---	20.00	---	---		53.00	---	---	---	---	16.00
29	36.00	---	20.00	---	---		47.00	---	---	---	---	15.00
30	32.00	---	20.00	---	---		41.00	---	---	---	---	14.00
31	28.00	---	20.00	---	---		---	---	---	---	---	---

MERAMEC RIVER BASIN

07013000 MERAMEC RIVER NEAR STEELVILLE, MO

LOCATION.--Lat 37°59'58", long 91°21'39", in NE¼ sec.21, T.38 N., R.4 W., Crawford County, Hydrologic Unit 07140102, on left bank 20 ft (6 m) downstream from railroad bridge, 400 ft (123 m) upstream from highway bridge, 0.8 mi (1.3 km) upstream from Whittenburg Creek, 1.5 mi (2.4 km) north of Steelville, and at mile 149.4 (235.6 km).

DRAINAGE AREA.--781 mi² (2,023 km²).

PERIOD OF RECORD.--October 1922 to current year. Prior to January 1923 monthly discharges only, published in WSP 1311. Gage-height records for 1916-33 at site 1 mi (1.6 km) upstream in reports of National Weather Service.

REVISED RECORDS.--WSP 897: 1939. WSP 1007: Drainage Area.

GAGE.--Water-stage recorder. Datum of gage is 681.68 ft (207.776 m) National Geodetic Vertical Datum of 1929. Prior to May 24, 1934, July 20, 1966, to July 20, 1967, nonrecording gage, and May 24, 1934 to Oct. 10, 1942, water-stage recorder at site 400 ft (122 m) downstream. July 21, 1967 to Feb. 13, 1973 at site 1,900 ft (579 m) downstream and at datum 2.0 ft (0.61 m) lower.

REMARKS.--Records good. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--59 years, 554 ft³/s (15.69 m³/s), 9.63 in/yr (245 mm/yr), 401,400 acre-ft/yr (495 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,800 ft³/s (1,350 m³/s) June 26, 1935, gage height, 23.39 ft (7.129 m); maximum gage height, 24.30 ft (7.407 m) June 9, 1945; minimum discharge, 74 ft³/s (2.10 m³/s) July 22, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 20, 1915, reached a stage of 26.5 ft (8.08 m), discharge, 60,000 ft³/s (1,700 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,500 ft³/s (184 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 19	1845	7,180 203	9.12 2.780
July 24	0330	*7,420 210	*9.50 2.896

Minimum, 36 ft³/s (2.44 m³/s) Oct. 12, 13; gage height, 1.07 ft (0.326 m) Feb. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	UCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	158	128	125	131	129	583	215	1590	346	715	1220
2	98	148	140	127	136	126	424	190	1710	379	597	803
3	97	140	144	127	142	122	334	173	1540	353	1160	464
4	94	130	145	127	133	126	290	161	1280	321	913	341
5	94	125	145	126	128	140	287	156	1030	723	647	280
6	94	122	145	123	125	229	285	153	882	595	518	245
7	94	120	144	125	124	239	250	148	780	459	465	221
8	94	119	144	127	122	211	223	142	693	367	462	207
9	92	117	152	127	118	187	200	139	598	321	388	194
10	92	115	174	126	125	171	181	1910	524	278	339	187
11	91	111	183	122	118	157	166	2010	502	248	304	178
12	89	109	177	122	118	147	155	1200	844	227	269	171
13	87	112	169	117	127	142	146	827	708	211	249	171
14	88	113	158	125	146	137	140	1380	587	197	231	171
15	99	113	155	125	141	133	131	2230	492	188	226	164
16	122	113	152	124	180	132	126	1350	439	222	345	161
17	139	113	146	122	296	133	121	951	395	357	311	158
18	400	113	143	118	273	130	226	1860	364	340	220	156
19	259	113	137	120	245	125	450	6510	367	437	197	153
20	197	116	130	126	214	121	1170	3760	480	428	177	156
21	166	117	129	130	195	118	1040	1730	493	393	165	158
22	145	115	127	130	184	118	736	1180	2090	268	153	155
23	133	115	127	130	170	118	582	925	1750	2600	144	150
24	127	115	127	130	158	118	511	892	1110	4580	158	150
25	120	115	127	127	150	122	415	1230	857	2380	401	150
26	117	115	125	127	140	122	343	926	689	1310	355	150
27	135	122	127	127	137	122	293	769	573	914	496	148
28	197	125	125	122	134	121	260	655	492	2680	384	150
29	247	125	125	122	---	156	265	571	427	2090	289	148
30	200	125	125	122	---	1410	246	524	376	1240	250	148
31	173	---	125	120	---	963	---	757	---	909	265	---
TOTAL	4278	3609	4400	3868	4410	6525	10579	35624	24662	26361	11793	7308
MEAN	138	120	142	125	158	210	353	1149	822	850	380	244
MAX	400	158	183	130	296	1410	1170	6510	2090	4580	1160	1220
MIN	87	109	125	117	118	118	121	139	364	188	144	148
CFSM	.18	.15	.18	.16	.20	.27	.45	1.47	1.05	1.09	.49	.31
IN.	.20	.17	.21	.18	.21	.31	.50	1.70	1.17	1.26	.56	.35
AC-FT	8490	7160	8730	7670	8750	12940	20980	70660	48920	52290	23390	14500
CAL YR 1980	TOTAL	84856	MEAN 232	MAX 1190	MIN 87	CFSM .30	IN 4.04	AC-FT 168300				
WTR YR 1981	TOTAL	143417	MEAN 393	MAX 6510	MIN 87	CFSM .50	IN 6.83	AC-FT 284500				

MERAMEC RIVER BASIN

07013000 MERAMEC RIVER NEAR STEELVILLE, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.49	1.77	1.64	1.62	1.64	1.71	2.82	1.99	3.04	2.35	3.21	3.40
2	1.49	1.74	1.69	1.62	1.65	1.70	2.50	1.91	4.19	2.42	2.99	3.43
3	1.49	1.71	1.71	1.62	1.68	1.68	2.31	1.86	4.25	2.39	3.29	2.81
4	1.47	1.67	1.72	1.62	1.64	1.69	2.19	1.81	3.79	2.29	3.58	2.53
5	1.47	1.64	1.72	1.62	1.62	1.72	2.15	1.79	3.43	2.36	3.10	2.37
6	1.47	1.63	1.72	1.60	1.60	2.01	2.19	1.78	3.15	2.86	2.86	2.27
7	1.47	1.62	1.72	1.61	1.63	2.07	2.09	1.77	3.02	2.63	2.73	2.19
8	1.47	1.62	1.71	1.61	1.62	1.99	2.01	1.74	2.90	2.45	2.77	2.15
9	1.47	1.61	1.72	1.61	1.60	1.91	1.94	1.73	2.72	2.35	2.63	2.09
10	1.47	1.60	1.79	1.61	1.63	1.86	1.89	2.07	2.59	2.25	2.51	2.06
11	1.47	1.58	1.85	1.59	1.65	1.82	1.83	4.66	2.51	2.17	2.43	2.03
12	1.46	1.57	1.83	1.59	1.46	1.78	1.80	3.82	3.38	2.12	2.36	2.00
13	1.44	1.58	1.81	1.55	2.30	1.76	1.77	3.18	2.93	2.07	2.30	1.99
14	1.45	1.59	1.77	1.59	1.74	1.74	1.75	3.37	2.74	2.04	2.25	1.98
15	1.48	1.59	1.76	1.59	1.70	1.72	1.71	5.31	2.56	2.01	2.23	1.96
16	1.61	1.59	1.75	1.59	1.78	1.72	1.69	4.01	2.46	2.07	2.23	1.94
17	1.67	1.59	1.73	1.58	2.19	1.71	1.67	3.36	2.37	2.40	2.49	1.92
18	2.56	1.59	1.72	1.55	2.12	1.70	1.87	3.30	2.32	2.27	2.24	1.90
19	2.08	1.59	1.69	1.57	2.05	1.68	2.27	8.56	2.29	2.63	2.17	1.89
20	1.89	1.59	1.66	1.58	1.97	1.66	3.57	6.84	2.49	2.42	2.12	1.89
21	1.80	1.61	1.65	1.60	1.92	1.65	3.57	4.48	2.54	2.59	2.08	1.89
22	1.71	1.60	1.64	1.60	1.89	1.65	3.06	3.71	5.39	2.28	2.05	1.87
23	1.67	1.60	1.64	1.60	1.85	1.65	2.77	3.31	4.71	2.56	2.02	1.85
24	1.64	1.60	1.64	1.60	1.81	1.65	2.66	3.12	3.68	7.61	2.00	1.84
25	1.61	1.60	1.64	1.60	1.78	1.66	2.46	3.96	3.27	5.68	2.51	1.83
26	1.60	1.60	1.63	1.60	1.76	1.67	2.31	3.30	2.99	4.14	2.62	1.83
27	1.66	1.63	1.63	1.60	1.74	1.67	2.19	3.03	2.78	3.53	2.94	1.81
28	1.78	1.64	1.62	1.59	1.74	1.67	2.09	2.83	2.64	3.74	2.69	1.81
29	2.05	1.64	1.62	1.59	---	1.72	2.14	2.68	2.51	5.12	2.42	1.79
30	1.91	1.64	1.62	1.59	---	3.49	2.08	2.56	2.42	4.04	2.34	---
31	1.83	---	1.62	1.59	---	3.49	---	2.63	---	3.53	2.24	---

MERAMEC RIVER BASIN

07014500 MERAMEC RIVER NEAR SULLIVAN, MO

LOCATION.--Lat 38°09'30", long 91°06'30", in SE¼NE¼ sec.35, T.40 N., R.2 W., Crawford County, Hydrologic Unit 07140102, on right bank at upstream side of Sappington Bridge, 3.8 mi (6.1 km) downstream from Brazil Creek, 4.0 mi (6.4 km) southeast of Sullivan, and at mile 117.0 (188.3 km).

DRAINAGE AREA.--1,475 mi² (3,820 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1921 to September 1933, October 1943 to current year. Monthly discharge only for October 1943, published in WSP 1311.

REVISED RECORDS.--WSP 1007: 1922, 1923(M), 1924-30, 1933, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 581.82 ft (177.339 m) above mean sea level (levels by Corps of Engineers). Prior to Oct. 21, 1952, nonrecording gage at present site and datum.

REMARKS.--Records good except for periods of missing record which are fair. Water diverted from river 0.5 mi (0.8 km) above gage by mining company. Several observations of water temperature and specific conductance made during the year. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--50 years, 1,141 ft³/s (32.31 m³/s), 10.51 in/yr (267 mm/yr), 826,700 acre-ft/yr (1,019 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,300 ft³/s (2,190 m³/s) June 9, 1945, gage height, 32.0 ft (9.75 m); minimum discharge, 131 ft³/s (3.71 m³/s) Sept. 20, 22, 1956; minimum gage height, 1.00 ft (0.305 m) June 12, 13, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1915 reached a stage of 33.5 ft (10.21 m) from information by local residents, discharge 90,000 ft³/s (2,550 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,500 ft³/s (241 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 20	0245	*16,500 467	*15.82 4.822
July 24	1430	9,140 259	11.81 3.600

Minimum daily discharge, 185 ft³/s (5.24 m³/s), Oct. 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	205	332	296	254	261	321	1820	634	1860	788	1640	5440
2	204	308	312	253	271	314	1360	559	3720	1000	1380	3020
3	196	293	327	250	274	308	1100	512	3660	820	2410	1710
4	194	279	330	248	283	326	966	472	2640	742	2040	1260
5	194	270	328	247	280	438	945	456	2090	687	1460	1010
6	194	263	325	247	280	466	886	448	1730	1160	1190	858
7	194	260	326	247	265	545	788	429	1570	882	1310	742
8	192	259	330	246	260	500	687	406	1400	723	1280	669
9	190	256	334	245	260	456	608	421	1240	616	1060	604
10	189	253	333	243	270	414	555	1740	1110	551	910	555
11	187	249	330	240	260	382	512	3360	1050	492	816	524
12	187	246	328	240	240	359	476	2290	1140	452	733	492
13	185	245	320	243	300	340	402	1680	1310	421	674	472
14	185	249	315	243	295	325	385	2170	1130	388	621	456
15	202	251	310	240	290	320	392	3670	981	371	806	484
16	219	250	305	233	360	320	374	2960	877	417	656	464
17	295	253	300	228	420	310	360	2150	788	543	742	429
18	361	260	295	243	520	303	687	3860	728	705	625	402
19	543	260	290	243	470	295	2520	11600	1200	797	543	388
20	412	264	285	250	430	287	4210	12700	1180	820	508	381
21	339	265	280	250	410	279	3220	4760	1140	1040	476	371
22	300	265	274	250	400	286	2280	2800	1730	925	448	364
23	275	265	263	250	380	285	1850	2140	2410	3320	429	357
24	266	267	262	250	360	281	1520	2070	1950	8480	417	346
25	253	262	259	250	350	287	1300	2180	1540	6020	539	343
26	246	262	254	248	343	293	1100	1980	1280	3220	1670	336
27	289	276	254	245	336	287	940	1640	1090	2170	1130	333
28	335	280	254	240	329	283	811	1440	930	2780	1270	320
29	390	279	254	238	---	1150	756	1260	797	5310	872	314
30	421	281	253	240	---	3900	701	1140	710	2840	733	308
31	368	---	255	241	---	3100	---	1320	---	2060	696	---
TOTAL	8210	8002	9181	7585	9197	17760	34511	75247	44981	51540	30084	23752
MEAN	265	267	296	245	328	573	1150	2427	1499	1663	970	792
MAX	543	332	334	254	520	3900	4210	12700	3720	8480	2410	5440
MIN	185	245	253	228	240	279	360	406	710	371	417	308
CFSM	.18	.18	.20	.17	.22	.39	.78	1.65	1.02	1.13	.66	.54
IN.	.21	.20	.23	.19	.23	.45	.87	1.90	1.13	1.30	.76	.60
AC-FT	16280	15870	18210	15040	18240	35230	68450	149300	89220	102200	59670	47110

CAL YR 1980	TOTAL	172167	MEAN 470	MAX 2670	MIN 185	CFSM .32	IN 4.34	AC-FT 341500
WIR YR 1981	TOTAL	320050	MEAN 877	MAX 12700	MIN 185	CFSM .60	IN 8.07	AC-FT 634800

MERAMEC RIVER BASIN

07014500 MERAMEC RIVER NEAR SULLIVAN, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.28	1.69	1.51	1.39	1.38	1.54	4.77	2.37	4.59	2.49	4.45	10.46
2	1.28	1.61	1.58	1.39	1.43	1.52	3.92	2.17	7.23	3.20	3.98	7.12
3	1.23	1.56	1.63	1.38	1.31	1.50	3.40	2.05	7.48	2.85	7.51	4.62
4	1.22	1.50	---	1.37	---	1.54	3.09	1.92	6.02	2.60	5.59	3.79
5	1.21	1.47	---	1.37	---	1.86	3.05	1.86	5.19	2.53	4.13	3.28
6	1.22	1.43	---	1.36	---	1.92	2.94	1.86	4.52	3.67	3.66	2.95
7	1.21	1.43	---	1.36	---	2.18	2.73	1.80	4.27	2.98	3.47	2.69
8	1.20	1.42	---	1.36	---	2.13	2.49	1.75	3.94	2.66	3.79	2.51
9	1.19	1.40	---	1.36	---	2.00	2.30	1.71	3.66	2.42	3.38	2.36
10	1.19	1.39	---	1.35	---	1.89	2.15	4.30	3.37	2.26	3.08	2.24
11	1.18	1.37	---	1.34	---	1.80	2.04	7.56	3.20	2.12	2.84	2.14
12	1.17	1.36	---	---	---	1.73	1.96	5.53	3.24	2.02	2.66	2.06
13	1.16	1.36	---	---	---	1.68	1.84	4.49	3.79	1.94	2.52	2.00
14	1.16	1.37	---	---	---	1.63	1.80	4.98	3.47	1.86	2.40	1.98
15	1.17	1.38	---	---	---	1.59	1.72	7.24	3.14	1.81	2.58	1.93
16	1.29	1.37	---	---	---	1.61	1.64	6.55	2.93	1.94	2.50	1.99
17	1.54	1.36	---	---	---	1.57	1.60	5.21	2.71	2.14	2.70	1.89
18	1.75	1.41	---	---	---	1.56	1.96	6.00	2.57	2.52	2.43	1.83
19	2.37	1.41	---	---	---	1.53	4.17	12.52	4.52	2.49	2.22	1.79
20	1.96	1.41	---	---	---	1.50	7.79	15.17	3.89	2.73	2.11	1.76
21	1.74	1.43	---	---	---	1.48	7.07	8.66	3.39	3.21	2.02	1.73
22	1.61	1.42	---	---	---	1.50	5.42	6.30	3.49	3.09	1.95	1.71
23	1.52	1.42	1.43	---	---	1.49	4.77	5.25	5.62	2.84	1.89	1.68
24	1.48	1.42	1.43	---	---	1.48	4.17	5.11	4.95	11.48	1.85	1.65
25	1.43	1.41	1.42	---	---	1.50	3.79	5.11	4.21	9.87	2.00	1.63
26	1.39	1.40	1.39	---	---	1.52	3.40	4.97	3.74	6.95	4.00	1.62
27	1.44	1.46	1.40	---	1.59	1.50	3.06	4.38	3.37	5.34	3.34	1.61
28	1.69	1.48	1.40	---	1.57	1.49	2.78	4.03	3.06	5.40	4.00	1.58
29	1.76	1.47	1.39	1.30	---	1.64	2.63	3.69	2.80	9.89	3.02	1.55
30	1.97	1.48	1.39	1.30	---	8.22	2.50	3.43	2.62	6.43	2.69	1.53
31	1.81	---	1.39	1.30	---	7.19	---	3.54	---	5.17	2.45	---

MERAMEC RIVER BASIN

07014500 MERAMEC RIVER NEAR SULLIVAN, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1963 to July 1975, July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CAC03) (00900)
OCT 09...	1028	29001	198	366	8.0	19.0	9.8	104	11	5	190
NOV 06...	1028	29001	268	361	8.2	13.0	12.0	113	2	2	--
DEC 04...	1028	29001	336	388	8.2	6.0	13.4	108	<1	3	--
JAN 08...	1028	29001	248	380	8.3	2.5	14.5	107	<1	<1	210
FEB 12...	1028	29001	406	390	8.2	5.0	13.2	92	9	<1	--
MAR 05...	1028	29001	450	380	8.1	7.5	10.4	87	8	110	--
APR 09...	1028	29001	520	325	8.2	14.0	10.2	98	4	3	170
MAY 07...	1028	29001	400	318	8.5	17.0	11.6	120	<1	3	--
JUN 05...	1028	29001	2000	287	8.0	21.0	7.4	82	8	120	--
JUL 09...	1028	29001	630	298	8.3	28.0	8.0	101	<5	16	150
AUG 06...	1028	29001	1220	269	8.2	24.5	6.4	76	15	190	--
SEP 04...	1028	29001	1260	278	8.0	22.0	11.2	127	6	130	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CA03) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HC03) (00440)	CAR- BONATE FET-FLD (MG/L AS C03) (00445)	ALKA- LITY FIELD (MG/L AS CAC03) (00410)	CARBON DIOXIDE, DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 09...	0	36	24	3.2	1.1	232	0	190	3.7	<10	4.5
NOV 06...	--	--	--	--	--	212	0	174	2.1	--	--
DEC 04...	--	--	--	--	--	228	0	187	2.3	--	--
JAN 08...	23	41	27	3.7	1.0	232	0	190	1.9	11	4.4
FEB 12...	--	--	--	--	--	232	0	190	2.3	--	--
MAR 05...	--	--	--	--	--	212	0	174	2.7	--	--
APR 09...	16	35	20	4.0	1.6	188	0	154	1.9	13	4.5
MAY 07...	--	--	--	--	--	176	4	151	.9	--	--
JUN 05...	--	--	--	--	--	132	0	108	2.1	--	--
JUL 09...	11	30	18	2.9	1.7	168	0	138	1.3	8.0	3.1
AUG 06...	--	--	--	--	--	148	0	121	1.5	--	--
SEP 04...	--	--	--	--	--	148	0	121	2.4	--	--

[illegible]

MERAMEC RIVER BASIN

07015000 BOURBEUSE RIVER NEAR ST. JAMES, MO.

LOCATION.--Lat 38°02'00", long 91°38'53", in NW¼NW¼ sec.12, T.38 N., R.7 W., Phelps County, Hydrologic Unit 07140103, on left bank 650 ft (198 m) upstream from bridge on State Highway 68, 3 mi (4.8 km) northwest of St. James, and at mile 138.8 (223.3 km).

DRAINAGE AREA.--21.3 mi² (55.2 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 899.46 ft (274.155 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except during periods of no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--33 years, 15.8 ft³/s (0.447 m³/s), 10.07 in/yr (256 mm/yr), 11,450 acre-ft/yr (14.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,390 ft³/s (238 m³/s) Apr. 11, 1979, gage height, 11.17 ft (3.405 m); no flow at times in 1953-57, 59-64, 66-75, 77, 78, 79.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 14.0 ft (4.267 m) June 8, 1945; flood of June 8, 1947, reached a stage of 12.04 ft (3.670 m), from floodmark and information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42 m³/s) and maximum (*):

Date	Time	Discharge		Gage height	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)
May 10	0530	*5,800	164	*9.82	2.993
May 18	1200	4,120	117	8.87	2.704
July 19	2130	2,350	66.6	7.56	2.304

No flow several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	.55	1.8	.72	3.0	1.5	5.2	2.1	50	3.5	16	185		
2	.00	.49	1.8	.63	1.9	1.4	3.9	1.7	100	2.0	6.4	26		
3	.00	.49	1.3	.58	.75	1.3	2.9	1.4	66	1.4	3.0	11		
4	.00	.55	1.2	.49	.62	8.3	2.5	1.2	33	43	2.4	5.4		
5	.00	.55	1.2	.35	.47	39	1.7	6.1	29	30	2.2	3.3		
6	.00	.49	1.2	.39	.52	16	1.3	4.6	22	10	2.1	2.2		
7	.00	.49	1.2	.41	.70	9.7	1.2	2.4	14	5.8	2.0	1.6		
8	.00	.49	3.4	.37	.58	6.2	1.1	1.6	7.6	3.6	1.8	1.6		
9	.00	.49	6.7	.36	.52	4.6	.92	6.8	4.5	2.0	1.6	1.0		
10	.00	.45	5.5	.30	1.2	3.7	.88	907	3.0	1.3	1.4	.75		
11	.00	.44	3.9	.29	1.0	2.9	.88	102	135	1.0	1.2	.61		
12	.00	.40	2.9	.19	.80	2.3	.80	38	57	.74	1.1	.48		
13	.00	.38	2.2	.24	.50	2.0	.63	84	22	.55	1.0	.42		
14	.00	.38	1.9	.26	.50	1.5	.59	158	12	.38	.90	.43		
15	.01	.46	1.8	.25	10	2.1	.45	51	6.5	18	.80	.53		
16	.01	.45	1.6	.24	30	2.3	.36	24	8.3	135	130	.54		
17	.69	.50	1.3	.19	20	1.4	.34	58	4.4	21	74	.40		
18	1.1	.51	1.2	.18	10	1.3	39	708	2.4	177	41	.34		
19	.21	.49	.94	.19	7.0	.89	65	186	12	236	22	.25		
20	.09	.41	.73	.33	5.0	.81	50	51	11	168	12	.22		
21	.07	.38	.57	.49	4.0	.96	27	24	108	13	6.6	.20		
22	.05	.34	.69	.45	7.0	1.8	21	14	100	8.2	3.8	.16		
23	.04	.37	.89	.38	5.0	2.2	22	9.8	56	78	2.0	.14		
24	.06	.46	.95	.35	4.0	1.6	12	182	22	60	1.5	.10		
25	.05	.39	.73	.33	3.0	1.4	8.7	50	14	56	2.9	.09		
26	.04	.37	.70	.29	2.5	1.4	5.8	30	7.9	30	1.8	.08		
27	.22	.59	.73	.25	2.0	1.3	3.9	15	4.5	22	3.4	.07		
28	.16	.73	.76	.22	2.0	1.1	2.4	8.0	2.7	13	4.1	.07		
29	2.6	.78	.76	.21	---	21	4.4	5.0	1.7	82	1.1	.05		
30	1.2	.92	.77	.21	---	16	4.9	10	5.8	170	.71	.05		
31	.77	---	.77	.22	---	8.7	---	20	---	47	34	---		
TOTAL	113.30	14.79	52.09	10.36	124.56	166.66	291.75	2762.7	922.3	1439.47	384.81	243.08		
MEAN	3.65	.49	1.68	.33	4.45	5.38	9.73	89.1	30.7	46.4	12.4	8.10		
MAX	69	.92	6.7	.72	.30	39	65	907	135	236	130	185		
MIN	.00	.34	.57	.18	.47	.81	.34	1.2	1.7	.38	.71	.05		
CFSM	.17	.02	.08	.02	.21	.25	.46	4.18	1.44	2.18	.58	.38		
IN.	.20	.03	.09	.02	.22	.29	.51	4.82	1.61	2.51	.67	.42		
AC-FT	225	29	103	21	247	331	579	5480	1830	2860	763	482		
CAL YR 1980	TOTAL	2327.66	MEAN	6.36	MAX	261	MIN	.00	CFSM	.30	IN	4.07	AC-FT	4620
WTR YR 1981	TOTAL	6525.87	MEAN	17.9	MAX	907	MIN	.00	CFSM	.84	IN	11.40	AC-FT	12940

MERAMEC RIVER BASIN

07015720 BOURBEUSE RIVER NEAR HIGH GATE, MO

LOCATION.--Lat 38°04'49", long 91°34'50", in SE&NE¼ sec.4, T.39 N., R.6 W., Phelps County, Hydrologic Unit 07140103, on downstream side of right bridge pier on State Highway B, 1.8 mi (2.9 k) downstream from Lanes Fork, 5 mi (8.0 km) east of High Gate, and 11 mi (17.7 km) north of St. James.

DRAINAGE AREA.--135 mi² (350 km²).

PERIOD OF RECORD.--July 1965 to current year. Occasional low-flow measurements 1963, 1964.

GAGE.--Water-stage recorder. Datum of gage is 804.1 ft (245.09 m) National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission). Prior to Aug. 17, 1966, nonrecording gage at present site and datum.

REMARKS.--Records fair except those for periods of no gage-height record, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years, 109 ft³/s (3.087 m³/s), 10.96 in/yr (278 mm/yr), 78,970 acre-ft/yr (97.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,500 ft³/s (949 m³/s) Apr. 11, 1979, gage height, 21.15 ft (6.447 m) from highwater mark; no flow Aug. 27 to Sept. 15, 1971, July 28 to Aug. 24, 1975, Aug. 18-22, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1957 reached a stage of about 23 ft (7.0 m), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s (99 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
May 10	1100	8,630	244	13.73	4.185
May 18	1600	8,170	231	13.40	4.084
July 23	1500	*22,000	623	*19.61	5.977

No flow several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.03	15	14	6.0	10	21	60	29	600	112	340	966		
2	.00	11	16	6.0	7.0	19	42	20	700	59	210	263		
3	.00	10	15	6.0	5.0	17	32	16	1340	40	140	134		
4	.00	8.9	13	6.0	4.0	82	30	14	554	34	90	86		
5	.00	7.1	11	6.0	3.5	473	23	26	297	133	60	63		
6	.00	6.5	9.7	5.0	3.0	182	18	35	283	63	40	46		
7	.00	6.4	8.3	5.0	3.0	110	16	23	205	39	27	35		
8	.00	6.0	13	5.0	3.0	76	14	17	159	27	17	31		
9	.00	5.9	31	5.0	3.0	56	12	17	122	20	11	24		
10	.00	5.5	38	5.0	3.0	46	11	4520	100	15	7.2	19		
11	.00	4.9	29	5.0	3.0	39	12	542	361	11	4.8	16		
12	.00	4.5	23	5.0	3.0	34	12	222	348	8.6	3.5	14		
13	.00	4.4	19	5.0	3.0	31	10	207	181	6.0	13	12		
14	.00	4.1	15	5.0	3.0	26	14	1010	133	5.0	56	10		
15	1.3	4.7	13	5.0	30	23	16	303	103	25	250	8.6		
16	12	4.4	12	5.0	244	27	12	167	131	511	880	7.2		
17	363	4.5	11	5.0	188	25	12	728	101	296	400	6.2		
18	56	4.4	10	5.0	125	22	512	5150	75	662	220	5.3		
19	17	4.4	9.0	5.0	89	19	677	989	279	445	120	4.5		
20	8.9	4.4	8.0	5.0	64	16	378	312	232	972	60	3.4		
21	6.0	4.0	7.0	5.0	50	15	211	185	443	361	32	2.9		
22	14	3.8	7.0	5.1	49	17	236	132	328	156	19	2.4		
23	18	4.7	7.0	5.1	45	23	349	105	289	5340	10	2.5		
24	21	4.8	7.0	5.1	34	23	145	580	151	550	4.8	2.4		
25	24	4.4	7.0	4.7	29	20	89	340	108	300	53	2.4		
26	26	4.3	6.0	4.7	25	19	60	180	83	190	20	2.4		
27	176	6.4	6.0	4.4	22	18	42	120	62	110	20	2.4		
28	205	7.9	6.0	4.3	23	16	37	90	49	80	190	2.4		
29	72	8.4	6.0	4.0	---	104	49	70	38	300	47	2.7		
30	36	9.4	6.0	4.0	---	193	40	110	151	800	24	2.4		
31	22	---	6.0	4.0	---	100	---	200	---	440	88	---		
TOTAL	1078.23	185.1	389.0	155.4	1073.5	1892	3171	16459	8006	12110.6	3457.3	1779.1		
MEAN	34.8	6.17	12.5	5.01	38.5	61.0	106	531	267	391	112	59.3		
MAX	363	15	38	6.0	244	473	677	5150	1340	5340	880	966		
MIN	.00	3.8	6.0	4.0	3.0	15	10	14	38	5.0	3.5	2.4		
CFSM	.26	.05	.09	.04	.28	.45	.79	3.93	1.98	2.90	.83	.44		
IN.	.30	.05	.11	.04	.30	.52	.87	4.54	2.21	3.34	.95	.49		
AC-FT	2140	367	772	308	2130	3750	6290	32650	15880	24020	6660	3530		
CAL YR 1980	TOTAL	14248.00	MEAN	38.9	MAX	1320	MIN	.00	CFSM	.29	IN	3.93	AC-FT	28260
WTR YR 1981	TOTAL	49756.23	MEAN	136	MAX	5340	MIN	.00	CFSM	1.01	IN	13.71	AC-FT	98690

MERAMEC RIVER BASIN

07015720 BOURBEUSE RIVER NEAR HIGH GATE, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	6.00	10.00	---	---	29.00	600.00	---	340.00	---
2	---	---	---	6.00	7.00	---	42.00	20.00	700.00	---	210.00	---
3	---	---	---	6.00	5.00	---	---	16.00	1340.00	---	140.00	---
4	---	8.90	---	6.00	4.00	---	---	14.00	554.00	---	90.00	---
5	---	7.10	---	6.00	3.50	---	---	26.00	---	---	60.00	---
6	---	6.50	---	5.00	3.00	---	---	35.00	---	---	40.00	---
7	---	---	---	5.00	3.00	---	16.00	23.00	---	---	27.00	---
8	---	---	---	5.00	3.00	---	---	17.00	---	---	17.00	---
9	---	---	---	5.00	3.00	---	---	17.00	---	---	11.00	---
10	---	---	---	5.00	3.00	46.00	---	4520.00	---	---	7.20	---
11	---	---	---	5.00	3.00	---	---	542.00	---	---	4.80	16.00
12	---	---	---	5.00	3.00	---	12.00	222.00	---	---	3.50	14.00
13	---	4.40	---	5.00	3.00	---	---	207.00	---	---	13.00	12.00
14	---	---	---	5.00	3.00	---	14.00	1010.00	---	---	56.00	10.00
15	1.30	---	---	5.00	30.00	---	16.00	303.00	---	---	250.00	8.60
16	12.00	---	---	5.00	244.00	---	12.00	167.00	---	---	880.00	7.20
17	363.00	---	---	5.00	188.00	---	12.00	728.00	---	---	400.00	6.20
18	56.00	4.40	---	5.00	---	---	512.00	5150.00	---	---	220.00	---
19	17.00	4.40	9.00	5.00	---	---	677.00	989.00	---	---	120.00	---
20	8.90	---	8.00	5.00	---	---	378.00	312.00	---	---	60.00	---
21	6.00	---	7.00	5.00	---	---	211.00	185.00	---	---	32.00	---
22	14.00	---	7.00	5.10	---	---	236.00	132.00	---	---	19.00	---
23	18.00	---	7.00	---	---	---	349.00	105.00	---	140.00	10.00	---
24	21.00	---	7.00	---	---	---	145.00	580.00	---	550.00	4.80	---
25	24.00	---	7.00	---	---	---	89.00	340.00	---	300.00	---	---
26	26.00	---	6.00	---	---	---	60.00	180.00	---	190.00	---	---
27	176.00	---	6.00	---	---	---	---	120.00	---	110.00	---	---
28	205.00	---	6.00	---	---	---	37.00	90.00	---	80.00	---	---
29	72.00	---	6.00	---	---	---	49.00	70.00	---	300.00	---	---
30	36.00	---	6.00	---	---	---	40.00	110.00	---	800.00	---	---
31	22.00	---	6.00	4.00	---	---	---	200.00	---	440.00	---	---

MERAMEC RIVER BASIN

07016000 BOURBEUSE RIVER NEAR SPRING BLUFF, MO

LOCATION.--Lat 38°18'40", long 91°16'45", in NE¼ sec.8, T.41 N., R.3 W., Franklin County, Hydrologic Unit 07140103, on downstream side of highway bridge, 1.0 mi (1.6 km) downstream from Boone Creek, 3.5 mi (5.6 km) northwest of Spring Bluff, 9.5 mi (15.3 km) northwest of Sullivan, and at mile 75.3 (121.2 km).

DRAINAGE AREA.--608 mi² (1,575 km²).

PERIOD OF RECORD.--November 1943 to current year (discharge above 1,000 ft³/s or 28.3 m³/s only).

GAGE.--Water-stage recorder, and crest-stage gage. Datum of gage is 626.34 ft (190.908 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 11, 1976, nonrecording gage at present site and datum.

REMARKS.--Records fair. Discharge below 1,000 ft³/s (28.3 m³/s) not computed.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,700 ft³/s (1,440 m³/s) June 30, 1957, gage height, 34.71 ft (10.580 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1915 reached a stage of 35.7 ft (10.88 m) from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,000 ft³/s (226 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
May 19	Unknown	*23,000	651	*28.41	8.659
July 25	0015	15,400	436	24.79	7.556
July 28	0900	9,120	258	19.69	6.002

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	---	---	5000	---		4200
2						---	---	---	7900	---		2770
3						---	---	---	5000	---		---
4						---	---	---	3000	---		---
5						---	---	---	1200	---		---
6						1230	---	---	---	---		---
7						---	---	---	---	---		---
8						---	---	---	---	---		---
9						---	---	---	---	---		---
10						---	---	2930	---	---		---
11						---	---	7750	---	---		---
12						---	---	2910	1400	---		---
13						---	---	---	---	---		---
14						---	---	1600	---	---		---
15						---	---	2090	---	---		---
16						---	---	---	---	---		---
17						---	---	1040	---	---		---
18						---	---	6880	---	---		---
19						---	2600	15100	4400	1470		---
20						---	2910	6800	3590	2630		---
21						---	1350	2000	3400	1440		---
22						---	---	---	4150	---		---
23						---	1490	---	1140	5090		---
24						---	1070	---	---	12200		---
25						---	---	---	---	8470		---
26						---	---	---	---	1200		---
27						---	---	---	---	1030		---
28						---	---	---	---	7030		---
29						---	---	---	---	2030		---
30						---	---	---	---	---		---
31						---	---	2000	---	---		---
TOTAL						---	---	---	---	---		---
MEAN						---	---	---	---	---		---
MAX						---	---	---	---	---		---
MIN						---	---	---	---	---		---
CFSM						---	---	---	---	---		---
IN.						---	---	---	---	---		---
AC-FT						---	---	---	---	---		---

MERAMEC RIVER BASIN

07016500 BOURBEUSE RIVER AT UNION, MO

LOCATION.--Lat 38°26'45", long 90°59'30", in SE¼ sec.26, T.43 N., R.1 W., Franklin County, Hydrologic Unit 07140103, on right bank downstream side of pier of bridge on U.S. Highway 50, 800 ft (244 m) upstream from Flat Creek, 0.5 mi (0.8 km) east of Union, 7.0 mi (11.3 km) upstream from Birch Creek, and at mile 13.4 (21.6 km). Records include flow of Flat Creek.

DRAINAGE AREA.--808 mi² (2,093 km²), includes that of Flat Creek.

PERIOD OF RECORD.--June 1921 to current year. Gage-height record collected at same site since 1916 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 957: 1941. WSP 1147: Drainage area. WSP 1281: 1924.

GAGE.--Water-stage recorder. Datum of gage is 488.58 ft (148.919 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1948, datum of all gages 3.00 ft (0.914 m) higher. Prior to Oct. 21, 1933, nonrecording gage, at site 30 ft (9 m) upstream. Oct. 21, 1933, to June 11, 1944, nonrecording gage, at present site.

REMARKS.--Records good except those for periods of ice effect and no gage-height record, which are fair. Several observations of water temperature and specific conductance made during the year. National Weather Service gage height telemeter at station.

AVERAGE DISCHARGE.--60 years, 622 ft³/s (17.62 m³/s), 10.45 in/yr (265 mm/yr), 450,600 acre-ft/yr (556 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,100 ft³/s (937 m³/s) July 1, 1957, gage height, 24.44 ft (7.449 m); minimum, 11 ft³/s (0.31 m³/s) Oct. 10, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 22, 1915, reached a stage of 28.5 ft (8.69 m), present datum, from floodmarks, discharge, about 50,000 ft³/s (1,420 m³/s), determined from extension of rating curve for main channel based on measurements made since 1921 and study of overflow areas in vicinity of gaging station.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,500 ft³/s (212 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
May 13	0230	10,500	297	14.23	4.337	July 26	1545	14,400	408	16.89	5.148
May 20	2400	*20,100	569	*19.65	5.989	July 29	1800	8,410	238	12.52	3.816
June 3	1445	10,800	306	14.45	4.404						

Minimum discharge, 23 ft³/s (.651 m³/s) Oct. 8, gage height, .26 ft (.079 m) but may have been less during period of no gage-height record Oct. 1-7, 9-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	245	66	47	52	117	704	238	1840	442	690	1740
2	24	171	65	47	52	107	471	207	7540	596	537	5060
3	24	128	66	46	50	103	345	186	10200	429	439	2330
4	23	103	62	46	48	105	274	171	7400	360	372	819
5	23	85	61	47	49	108	222	168	4470	282	402	529
6	23	75	61	47	50	230	181	157	2030	248	413	397
7	23	66	61	48	50	1320	154	142	1310	238	345	312
8	23	60	67	47	51	698	138	139	848	233	316	259
9	23	55	70	47	55	468	132	139	646	210	264	222
10	23	64	70	47	70	348	115	612	517	182	225	195
11	23	81	69	47	71	279	107	4680	443	163	199	177
12	23	79	67	46	80	227	103	8500	516	147	180	162
13	23	78	67	46	82	190	97	4850	1350	133	166	150
14	23	76	69	46	85	164	96	922	909	122	157	139
15	35	75	72	46	92	143	89	2060	587	123	255	132
16	40	75	88	46	104	132	85	1740	464	123	242	124
17	41	75	88	46	114	120	96	1340	453	117	537	116
18	41	72	84	46	114	111	148	7680	531	498	375	106
19	45	70	78	46	427	103	546	12800	572	485	245	101
20	110	67	73	47	406	97	3000	18300	4650	1580	201	95
21	248	61	69	48	318	94	2970	14500	4520	2540	175	90
22	159	53	66	48	262	97	1520	1380	4890	1430	151	85
23	112	51	61	50	217	93	1080	860	4460	2270	134	82
24	87	50	59	50	175	86	1470	735	1310	6330	125	78
25	70	52	55	50	156	83	1180	1580	877	10300	118	75
26	57	60	53	50	152	82	682	1700	631	13400	118	76
27	67	70	52	50	134	82	492	884	515	2610	171	92
28	61	73	50	46	127	83	380	631	407	2570	160	79
29	57	70	50	46	---	118	336	502	323	7430	141	73
30	61	68	48	46	---	154	276	453	284	2780	164	69
31	237	---	48	46	---	730	---	417	---	1000	512	---
TOTAL	1853	2408	2015	1461	3643	6872	17489	88673	65493	59371	8529	13964
MEAN	59.8	80.3	65.0	47.1	130	222	583	2860	2183	1915	275	465
MAX	248	245	88	50	427	1320	3000	18300	10200	13400	690	5060
MIN	23	50	48	46	48	82	85	139	284	117	118	69
CFSM	.07	.10	.08	.06	.16	.28	.72	3.54	2.70	2.37	.34	.58
IN.	.09	.11	.09	.07	.17	.32	.81	4.08	3.02	2.73	.39	.64
AC-FT	3680	4780	4000	2900	7230	13630	34690	175900	129900	117800	16920	27700

CAL YR 1980 TOTAL 72229 MEAN 197 MAX 3450 MIN 23 CFSM .24 IN 3.33 AC-FT 143300
WTR YR 1981 TOTAL 271771 MEAN 745 MAX 18300 MIN 23 CFSM .92 IN 12.51 AC-FT 539100

MERAMEC RIVER BASIN

07016500 BOURBEUSE RIVER AT UNION, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	1.56	.74	.60	.61	1.05	3.03	1.51	3.06	1.59	2.93	4.44
2	---	1.30	.74	.60	.61	1.00	2.31	1.34	11.44	2.66	2.47	9.44
3	---	1.11	.73	.60	.57	.96	1.90	1.29	14.07	2.18	2.19	6.49
4	---	.98	.72	.59	.58	.96	1.66	1.23	11.87	2.07	1.97	3.33
5	---	.88	.70	.59	.59	1.02	1.47	1.18	10.21	1.68	2.11	2.48
6	---	.80	.70	.59	.60	.99	1.33	1.15	5.65	1.54	2.10	2.04
7	---	.74	.70	.60	.60	4.64	1.22	1.09	4.39	1.52	1.90	1.76
8	---	.70	.74	.59	.61	3.00	1.13	1.05	3.36	1.47	1.80	1.57
9	---	.66	.76	.59	.61	2.29	1.12	1.06	2.80	1.41	1.62	1.42
10	---	.67	.76	.59	.75	1.90	1.02	1.55	2.41	1.28	1.46	1.31
11	---	.83	.75	.59	.69	1.66	.99	8.08	2.19	1.19	1.35	1.22
12	---	.82	.74	.59	.83	1.48	.94	12.06	2.27	1.11	1.27	1.15
13	---	.81	.74	.58	.83	1.35	.93	11.16	4.36	1.04	1.20	1.09
14	---	.81	.75	.58	.85	1.25	.93	3.50	3.55	.98	1.10	1.04
15	---	.79	.75	.58	.87	1.16	.89	4.66	2.64	.96	1.42	.99
16	.48	.79	.88	.58	.95	1.11	.86	5.31	2.26	.95	1.58	.96
17	.49	.79	.89	.58	1.01	1.05	.88	3.63	2.09	.94	2.62	.91
18	.49	.77	.85	.57	1.10	1.00	1.13	11.24	2.50	1.80	2.04	.87
19	.49	.76	.81	.57	2.35	.96	1.22	15.15	2.15	2.19	1.56	.83
20	.60	.75	.78	.57	2.09	.93	6.73	16.50	8.46	4.81	1.35	.80
21	1.59	.71	.74	.59	1.80	.92	7.51	18.97	10.71	5.79	1.25	.78
22	1.25	.65	.74	.59	1.60	.93	4.79	4.48	8.30	4.36	1.13	.75
23	1.04	.62	.71	.60	1.45	.91	3.74	5.38	10.17	4.07	1.04	.72
24	.90	.59	.70	.60	1.32	.87	4.40	2.96	4.36	9.63	.99	.69
25	.77	.58	.65	.60	1.23	.85	4.23	4.00	3.47	13.63	.97	.68
26	.68	.69	.65	.60	1.18	.85	2.92	5.34	2.75	16.29	.95	.66
27	.70	.75	.64	.60	1.13	.84	2.36	3.46	2.42	5.12	.96	.77
28	.71	.77	.62	.57	1.10	.85	2.01	2.75	2.12	4.53	1.12	.69
29	.66	.76	.62	.57	---	.96	1.90	2.37	1.81	11.45	1.08	.66
30	.71	.75	.61	.57	---	1.09	1.64	2.26	1.67	6.74	1.11	.63
31	1.44	---	.61	.57	---	3.07	---	1.98	---	3.75	1.27	---

MERAMEC RIVER BASIN

07017200 BIG RIVER AT IRONDALE, MO

LOCATION.--Lat 37°49'48", long 90°41'27", in SE¼SW¼ sec.15, T.36 N., R.3 E., Washington County, Hydrologic Unit 07140104, on right bank 50 ft (15 m) upstream from bridge on State Highway U,, 0.2 mi (0.3 km) upstream from Mill Creek, and 0.8 mi (1.3 km) west of Irondale.

DRAINAGE AREA.--175 mi² (453 km²).

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 753.28 ft (229.600 m) National Geodetic Vertical Datum of 1929 (Missouri State Highway Commission benchmark). July 1-15, 1965, nonrecording gage at present site and datum.

REMARKS.--Records good. Several observations of water temperature and specific conductance made during the year.

AVERAGE DISCHARGE.--16 years, 164 ft³/s (4.644 m³/s), 12.74 in/yr (324 mm/yr), 118,800 acre-ft/yr (146 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,200 ft³/s (1,220 m³/s) Nov. 1, 1972, gage height, 27.92 ft (8.510 m), from floodmarks, from rating curve extended above 13,000 ft³/s (368 m³/s) on basis of step-back-water computations and indirect measurement of peak flow of February 1966 flood; minimum, 2.2 ft³/s (0.062 m³/s) Sept. 16, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Apr. 12	1845	3,240	91.8	8.30	2.530	July 20	0300	6,190	175	11.03	3.362
May 18	2300	*8,600	244	*12.80	3.901	July 23	1600	4,160	118	9.26	2.822

Minimum daily discharge, 3.1 ft³/s (0.09 m³/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	4.2	8.2	22	12	14	35	56	30	155	222	94	232		
2	3.3	7.6	26	13	18	33	41	26	122	75	77	84		
3	3.1	7.2	24	12	16	30	32	23	131	49	68	42		
4	3.5	8.3	23	11	15	34	36	20	199	41	57	28		
5	3.9	7.7	20	9.5	14	54	37	21	134	57	50	22		
6	3.9	7.5	19	10	14	64	33	26	94	49	56	12		
7	3.9	13	19	10	15	61	30	21	98	40	105	9.1		
8	3.8	8.6	18	9.9	15	54	28	20	81	32	56	14		
9	3.8	6.5	26	9.9	15	48	26	18	65	26	43	13		
10	4.0	9.6	32	9.9	20	43	24	23	56	23	37	12		
11	4.0	8.2	29	9.9	27	39	23	94	54	23	34	11		
12	3.8	7.1	28	9.1	29	35	406	90	63	20	30	11		
13	3.7	6.8	25	9.4	24	32	454	56	51	19	28	9.9		
14	4.5	6.4	22	9.8	32	28	168	704	45	17	26	9.9		
15	4.6	7.6	21	9.9	36	27	101	363	37	16	26	11		
16	5.5	8.0	19	9.9	56	29	73	189	40	116	36	11		
17	27	9.7	18	9.9	53	26	59	120	42	107	30	10		
18	17	13	16	10	49	26	51	3700	35	150	26	9.5		
19	11	13	16	10	44	24	131	2710	494	322	23	9.1		
20	7.5	12	15	11	40	22	406	736	334	1880	21	8.0		
21	6.5	12	14	13	36	21	224	363	194	526	20	7.7		
22	5.9	12	13	13	40	22	155	211	196	199	20	7.4		
23	6.0	12	13	13	55	24	129	158	170	1160	18	7.4		
24	5.9	12	13	13	55	24	96	131	125	808	16	7.4		
25	5.4	12	12	13	47	22	77	116	94	498	18	7.4		
26	5.3	12	11	12	42	22	62	103	75	222	50	7.7		
27	7.7	14	11	12	38	21	50	98	63	148	32	8.0		
28	15	17	11	12	35	20	42	84	53	633	25	6.6		
29	13	17	12	12	---	50	40	72	43	350	22	6.6		
30	10	18	12	12	---	145	38	448	38	178	20	6.6		
31	8.9	---	12	12	---	90	---	425	---	125	20	---		
TOTAL	215.6	314.0	572	343.1	894	1205	3128	11199	3381	8131	1184	641.3		
MEAN	6.95	10.5	18.5	11.1	31.9	38.9	104	361	113	262	38.2	21.4		
MAX	27	18	32	13	56	145	454	3700	494	1880	105	232		
MIN	3.1	6.4	11	9.1	14	20	23	18	35	16	16	6.6		
CFSM	.04	.06	.11	.06	.18	.22	.59	2.06	.65	1.50	.22	.12		
IN.	.05	.07	.12	.07	.19	.26	.66	2.38	.72	1.73	.25	.14		
AC-FT	428	623	1130	681	1770	2390	6200	22210	6710	16130	2350	1270		
CAL YR 1980	TOTAL	17941.8	MEAN	49.0	MAX	789	MIN	2.9	CFSM	.28	IN	3.81	AC-FT	35590
WTR YR 1981	TOTAL	31208.0	MEAN	65.5	MAX	3700	MIN	3.1	CFSM	.49	IN	6.63	AC-FT	61900

MERAMEC RIVER BASIN

07017200 BIG RIVER AT IRONDALE, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.23	1.34	1.51	1.35	1.37	1.62	1.82	1.57	2.28	2.84	1.89	3.29
2	1.20	1.31	1.56	1.38	1.44	1.62	1.66	1.52	2.04	2.74	1.72	1.93
3	1.15	1.30	1.55	1.36	1.40	1.59	1.58	1.50	2.09	1.56	1.70	1.57
4	1.18	1.32	1.53	1.35	1.39	1.58	1.59	1.45	2.58	1.48	1.61	1.40
5	1.20	1.31	1.50	1.29	1.38	1.74	1.62	1.44	2.16	1.63	1.51	1.31
6	1.21	1.30	1.48	1.30	1.38	1.82	1.59	1.53	1.95	1.55	1.49	1.24
7	1.20	1.28	1.48	1.31	1.38	1.81	1.56	1.48	1.92	1.48	2.02	1.19
8	1.20	1.32	1.46	1.30	1.39	1.77	1.54	1.44	1.78	1.42	1.60	1.17
9	1.20	1.26	1.55	1.30	1.39	1.72	1.52	1.41	1.67	1.36	1.46	1.13
10	1.20	1.24	1.62	1.30	1.42	1.68	1.50	1.41	1.58	1.32	1.38	1.11
11	1.20	1.31	1.60	1.30	1.55	1.66	1.49	2.18	1.55	1.29	1.34	1.08
12	1.19	1.27	1.58	1.28	1.55	1.61	1.45	1.87	1.64	1.29	1.29	1.07
13	1.18	1.27	1.55	1.28	1.59	1.60	3.46	1.70	1.55	1.27	1.26	1.06
14	1.22	1.24	1.51	1.29	1.60	1.55	2.43	4.64	1.52	1.24	1.23	1.04
15	1.21	1.26	1.50	1.30	1.62	1.53	2.06	3.19	1.46	1.22	1.20	1.09
16	1.27	1.29	1.47	1.30	1.77	1.56	1.88	2.51	1.44	2.60	1.29	1.09
17	1.80	1.30	1.46	1.30	1.76	1.53	1.79	2.21	1.49	1.57	1.29	1.08
18	1.55	1.40	1.44	1.30	1.73	1.52	1.73	6.08	1.43	2.17	1.23	1.05
19	1.43	1.39	1.42	1.30	1.69	1.50	1.86	6.37	3.50	2.65	1.19	1.02
20	1.34	1.39	1.41	1.30	1.67	1.48	3.29	4.36	2.90	5.88	1.16	.96
21	1.30	1.37	1.40	1.35	1.64	1.47	2.65	3.16	2.40	2.71	1.13	.98
22	1.28	1.37	1.38	1.35	1.65	1.45	2.33	2.61	2.50	2.56	1.12	.96
23	1.27	1.37	1.38	1.36	1.76	1.50	2.22	2.28	2.40	2.16	1.10	.96
24	1.27	1.38	1.38	1.36	1.78	1.50	2.05	2.11	2.06	4.13	1.07	.96
25	1.24	1.38	1.35	1.36	1.73	1.47	1.91	2.03	1.87	3.63	1.06	.96
26	1.24	1.37	1.34	1.34	1.68	1.47	1.81	1.93	1.75	2.65	1.65	.98
27	1.25	1.42	1.34	1.34	1.65	1.46	1.73	1.91	1.64	2.23	1.30	.99
28	1.48	1.45	1.34	1.34	1.62	1.45	1.68	1.80	1.57	4.99	1.24	.93
29	1.46	1.45	1.34	1.34	---	1.45	1.63	1.70	1.51	3.15	1.15	.93
30	1.40	1.46	1.34	1.34	---	2.32	1.65	1.63	1.46	2.45	1.14	.93
31	1.36	---	1.34	1.34	---	2.02	---	3.39	---	2.10	1.10	---

MERAMEC RIVER BASIN

07018000 BIG RIVER NEAR DESOTO, MO

LOCATION.--Lat 38°07'20", long 90°40'33", in SW¼NW¼ sec.11, T.39 N., R.3 E., Jefferson County, Hydrologic Unit 07140104, near right bank on downstream side of pier of Mammoth Bridge, 300 ft (91 m) upstream from Mammoth Creek, 1.5 mi (2.4 km) downstream from Mineral Fork, 6.5 mi (10.5 km) west of De Soto, and at mile 59.2 (95.3 km). Records include flow from Mammoth Creek.

DRAINAGE AREA.--718 mi² (1,860 km²), includes that of Mammoth Creek.

PERIOD OF RECORD.--October 1948 to current year. Prior to May 1949 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 538.79 ft (164.223 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for periods of no gage-height record, which are fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--33 years, 638 ft³/s (18.07 m³/s), 12.07 in/yr (307 mm/yr), 462,200 acre-ft/yr (570 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,800 ft³/s (1,580 m³/s) June 30, 1957, gage height, 27.15 ft (8.275 m); minimum discharge, 20 ft³/s (0.57 m³/s) Sept. 19, 1954; minimum gage height, 1.89 ft (0.576 m) Sept. 15, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1915 reached a stage of about 29.4 ft (8.96 m), from flood-mark, 1.0 mi (1.6 km) downstream adjusted to gage site by comparison with recorded flood 5.5 ft (1.68 m) lower; discharge, 70,500 ft³/s (2,000 m³/s) from rating curve extended above 37,000 ft³/s (1,050 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge 16,600 ft³/s (470 m³/s) May 19 at 1945 hours, gage height, 17.81 ft (5.428 m), no other peak above base of 8,000 ft³/s (277 m³/s), minimum daily discharge, 57 ft³/s (1.614 m³/s) Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	106	137	101	104	164	331	149	1920	237	529	1770
2	61	100	148	102	113	159	270	144	1210	291	414	933
3	58	96	156	98	113	154	221	139	1680	297	393	624
4	58	88	140	96	113	164	263	130	1210	244	349	379
5	59	84	130	97	113	214	250	130	855	241	290	269
6	61	83	125	95	110	221	206	142	707	216	249	220
7	60	83	132	99	104	206	185	137	586	205	239	190
8	59	83	134	101	106	191	168	127	467	188	240	172
9	59	84	142	101	107	174	157	125	378	170	252	157
10	59	84	148	103	118	159	147	137	314	159	208	146
11	57	81	150	106	122	146	142	268	294	155	186	140
12	58	83	151	106	122	137	140	403	287	153	174	135
13	58	82	143	103	122	130	216	297	278	142	161	132
14	58	79	137	99	131	127	650	654	259	142	153	129
15	58	84	131	98	163	126	341	1340	231	132	250	125
16	58	86	123	98	215	127	238	784	215	139	305	122
17	83	90	119	98	225	124	193	540	212	140	209	119
18	193	96	115	98	216	120	182	5560	198	163	174	118
19	180	99	111	98	199	116	295	14000	1990	215	159	115
20	140	97	109	103	178	110	465	8590	3350	716	149	113
21	113	96	111	105	167	109	569	2050	2060	1750	142	112
22	100	96	113	109	173	114	518	1150	2150	782	135	108
23	91	100	108	109	188	114	414	822	1110	1300	130	105
24	88	101	109	105	191	110	325	675	816	4530	127	105
25	86	97	109	102	185	109	274	586	617	3820	124	103
26	85	93	109	102	179	109	238	529	477	1340	190	102
27	103	106	109	100	170	107	213	605	380	827	206	103
28	137	117	110	96	169	105	187	485	317	1430	215	103
29	132	118	110	93	---	1170	172	392	268	1800	182	101
30	126	123	108	93	---	780	161	345	239	1040	155	98
31	116	---	103	94	---	386	---	3310	---	713	223	---
TOTAL	2719	2815	3880	3108	4216	6282	8131	44745	25075	23677	6912	7148
MEAN	87.7	93.8	125	100	151	203	271	1443	836	764	223	238
MAX	193	123	156	109	225	1170	650	14000	3350	4530	529	1770
MIN	57	79	103	93	104	105	140	125	198	132	124	98
CFSM	.12	.13	.17	.14	.21	.28	.38	2.01	1.16	1.06	.31	.33
IN.	.14	.15	.20	.16	.22	.33	.42	2.32	1.30	1.23	.36	.37
AC-FT	5390	5580	7700	6160	8360	12460	16130	88750	49740	46960	13710	14180
CAL YR 1980 TOTAL	86143			235	2510	55	CFSM .33	IN 4.46	AC-FT 170900			
WTR YR 1981 TOTAL	138708			380	14000	57	CFSM .53	IN 7.19	AC-FT 275100			

MERAMEC RIVER BASIN

07018000 BIG RIVER NEAR DESOTO, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.48	2.82	3.01	2.77	2.78	3.09	3.78	3.03	5.34	3.44	4.17	5.65
2	2.46	2.78	3.05	2.79	2.87	3.06	3.56	2.98	4.94	3.37	3.94	4.79
3	2.42	2.74	3.14	2.76	2.87	3.04	3.41	2.95	5.62	3.67	3.85	4.36
4	2.42	2.70	3.05	2.74	2.87	3.05	3.50	2.91	5.42	3.44	3.79	3.88
5	2.43	2.65	2.99	2.75	2.87	3.35	3.52	2.88	4.72	3.45	3.64	3.58
6	2.45	2.64	2.94	2.75	2.87	3.43	3.35	2.96	4.37	3.36	3.49	3.39
7	2.45	2.65	3.00	2.76	2.79	3.43	3.27	2.95	4.26	3.30	3.42	3.25
8	2.43	2.63	2.99	2.78	2.82	3.38	3.19	2.88	4.04	3.24	3.40	3.17
9	2.43	2.65	3.03	2.78	2.82	3.30	3.15	2.86	3.86	3.15	3.52	3.07
10	2.44	2.65	3.08	2.78	2.88	3.22	3.09	2.92	3.70	3.08	3.34	3.00
11	2.42	2.63	3.09	2.82	2.93	3.15	3.04	3.15	3.64	3.03	3.22	2.96
12	2.42	2.64	3.10	2.82	2.93	3.10	3.04	3.91	3.61	3.04	3.15	2.92
13	2.41	2.64	3.06	2.82	2.93	3.06	3.02	3.66	3.56	2.97	3.09	2.91
14	2.42	2.60	3.02	2.75	2.93	3.04	4.41	3.91	3.53	2.99	3.04	2.69
15	2.41	2.64	2.99	2.76	3.12	3.03	3.80	5.57	3.43	2.91	3.09	2.86
16	2.42	2.68	2.94	2.76	3.34	3.04	3.48	4.62	3.35	2.95	3.73	2.85
17	2.56	2.68	2.91	2.76	3.41	3.03	3.31	4.18	3.34	2.95	3.35	2.83
18	2.99	2.74	2.88	2.76	3.37	3.00	3.27	7.30	3.28	2.92	3.17	2.60
19	3.27	2.76	2.86	2.75	3.31	2.98	3.30	16.18	5.25	3.19	3.10	2.79
20	3.07	2.75	2.84	2.79	3.22	2.93	4.03	15.74	8.27	3.48	3.02	2.79
21	2.88	2.74	2.84	2.81	3.14	2.92	4.24	6.44	5.51	5.97	2.97	2.77
22	2.78	2.74	2.87	2.84	3.15	2.95	4.14	5.14	6.70	4.65	2.93	2.74
23	2.71	2.78	2.85	2.85	3.22	2.96	3.95	4.65	5.06	4.08	2.91	2.73
24	2.68	2.79	2.84	2.82	3.23	2.92	3.73	4.39	4.65	8.04	2.87	2.72
25	2.67	2.76	2.84	2.78	3.00	2.91	3.58	4.26	4.32	9.25	2.85	2.71
26	2.66	2.71	2.84	2.79	3.16	2.92	3.46	4.13	4.07	5.42	3.22	2.71
27	2.71	2.80	2.84	2.78	3.11	2.91	3.34	4.34	3.86	4.67	3.33	2.72
28	2.98	2.88	2.84	2.75	3.11	2.89	3.24	4.08	3.71	5.03	3.39	2.72
29	2.99	2.90	2.83	2.72	---	3.09	3.15	3.89	3.56	6.21	3.22	2.69
30	2.95	2.92	2.86	2.72	---	4.63	3.09	3.76	3.45	5.00	3.08	2.67
31	2.90	---	2.80	2.72	---	3.90	---	9.94	---	4.49	2.99	---

MERAMEC RIVER BASIN

07018500 BIG RIVER AT BYRNESVILLE, MO

LOCATION.--Lat 38°21'45", long 90°39'05", in SE¼ sec.12, T.42 N., R.3 E., Jefferson County, Hydrologic Unit 07140104, on right bank on downstream side of pier of highway bridge at Byrnesville, 4.0 mi (6.4 km) upstream from Heads Creek, and at mile 14.1 (22.7 km).

DRAINAGE AREA.--917 mi² (2,375 km²).

PERIOD OF RECORD.--October 1921 to current year. Prior to June 1922 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 667: 1927. WSP 877: 1938. WSP 1007: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 433.69 ft (132.189 m) National Geodetic Vertical Datum of 1929.

Prior to Mar. 9, 1940, nonrecording gage at present site and datum.

Auxiliary water-stage recorder 4.0 mi (6.4 km) downstream at datum 433.83 ft (132.231 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 9, 1969, nonrecording gage and Dec. 9, 1969, to Aug. 1, 1976, water stage recorder at present site and datum (discontinued as auxiliary gage, Sept. 30, 1976).

REMARKS.--Records good above 400 ft³/s (11.33 m³/s), fair below. Several observations of water temperature and specific conductance made during the year. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--60 years, 821 ft³/s (23.25 m³/s), 12.16 in/yr (309 mm/yr), 594,800 acre-ft/yr (733 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,100 ft³/s (1,190 m³/s) July 1, 1957, gage height, 26.41 ft (8.050 m); minimum discharge, 25 ft³/s (0.708 m³/s) Aug. 30, 1936, minimum gage height, 1.50 ft (0.457 m) Aug. 14, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 21, 1915, reached a stage of 30.2 ft (9.20 m) from floodmarks, discharge, 80,000 ft³/s (2,270 m³/s), by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,000 ft³/s (198 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
May 21	0045	*15,600	442	*19.57	5.965
June 21	1145	7,350	208	14.65	4.465
Sept. 1	0015	10,400	295	17.03	5.191

Minimum daily discharge, 66 ft³/s (1.869 m³/s) Oct. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	151	149	122	114	185	542	214	4250	385	828	5140
2	82	138	161	118	114	181	431	189	2440	363	679	2510
3	80	128	171	118	110	175	368	175	3060	363	590	1160
4	77	121	183	119	114	182	350	166	2610	430	550	850
5	75	115	182	111	116	235	339	168	1540	413	494	637
6	73	108	170	112	120	307	331	166	1100	383	432	497
7	72	102	161	112	125	303	283	163	928	316	405	405
8	73	99	162	110	120	288	251	163	778	288	370	344
9	75	97	169	108	125	269	232	157	657	266	330	300
10	74	97	172	102	136	248	206	168	564	239	344	264
11	70	98	178	106	124	226	193	187	508	214	316	233
12	68	100	182	94	125	206	203	220	479	200	264	225
13	67	99	186	102	144	192	195	422	438	199	233	205
14	66	97	182	111	168	180	211	426	410	192	212	194
15	70	98	174	106	204	176	586	815	383	196	356	189
16	73	94	167	106	244	176	399	1260	352	212	405	179
17	95	99	165	96	288	170	301	868	317	183	435	170
18	86	104	153	101	293	167	262	6120	299	179	323	164
19	107	105	145	103	272	159	903	10100	313	204	248	160
20	211	110	141	109	254	153	2250	13700	3960	358	216	154
21	178	112	135	117	231	149	846	9730	4790	1040	196	151
22	155	111	128	118	216	150	787	2110	3180	1240	181	148
23	133	115	130	118	208	147	788	1440	1950	2410	170	143
24	119	116	130	119	210	146	597	1130	1290	2560	183	138
25	112	117	120	118	216	144	469	943	981	4920	186	135
26	107	119	127	115	213	140	390	833	785	2670	400	179
27	142	128	122	115	202	139	335	765	651	1340	390	373
28	144	126	118	114	192	137	290	780	556	1330	413	157
29	153	131	126	113	---	911	256	673	484	1740	321	145
30	165	142	126	108	---	1860	230	596	425	1640	274	137
31	158	---	124	106	---	910	---	953	---	1080	1000	---
TOTAL	3242	3377	4739	3427	4998	9011	13824	55800	40478	27553	11744	15686
MEAN	105	113	153	111	179	291	461	1800	1349	889	379	523
MAX	211	151	186	122	293	1860	2250	13700	4790	4920	1000	5140
MIN	66	94	118	94	110	137	193	157	299	179	170	135
CFSM	.12	.12	.17	.12	.20	.32	.50	1.96	1.47	.97	.41	.57
IN.	.13	.14	.19	.14	.20	.37	.56	2.26	1.64	1.12	.48	.64
AC-FT	6430	6700	9400	6800	9910	17870	27420	110700	80290	54650	23290	31110

CAL YR 1980 TOTAL 106357 MEAN 291 MAX 2740 MIN 60 CFSM .32 IN 4.31 AC-FT 211000
WIR YR 1981 TOTAL 193879 MEAN 531 MAX 13700 MIN 66 CFSM .58 IN 7.87 AC-FT 384600

MERAMEC RIVER BASIN

07018500 BIG RIVER AT BYRNESVILLE, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.88	2.48	2.48	2.25	2.23	2.69	4.33	2.84	10.65	3.66	5.17	11.52
2	1.88	2.40	2.55	2.22	2.23	2.67	3.86	2.73	8.79	3.61	4.72	9.03
3	1.86	2.33	2.63	2.22	2.26	2.63	3.64	2.63	9.44	3.49	4.43	5.98
4	1.84	2.27	2.69	2.23	2.26	2.67	3.56	2.57	9.25	3.87	4.28	5.27
5	1.82	2.23	2.71	2.19	2.28	2.88	3.43	2.55	7.04	3.82	4.11	4.62
6	1.80	2.18	2.63	2.17	2.25	3.33	3.49	2.57	5.91	3.72	3.89	4.14
7	1.79	2.13	2.56	2.18	2.31	3.33	3.26	2.54	5.35	3.45	3.69	3.79
8	1.80	2.11	2.53	2.14	2.27	3.26	3.07	2.55	5.01	3.31	3.63	3.55
9	1.81	2.10	2.61	2.16	2.31	3.16	2.98	2.51	4.64	3.23	3.49	3.37
10	1.81	2.09	2.61	2.12	2.38	3.06	2.83	2.59	4.37	3.11	3.55	3.22
11	1.79	2.10	2.64	2.09	2.40	2.94	2.74	2.70	4.04	2.99	3.47	3.08
12	1.76	2.12	2.68	2.10	2.31	2.84	2.67	2.75	4.04	2.90	3.22	2.99
13	1.76	2.11	2.69	2.07	2.41	2.74	2.75	3.88	3.87	2.89	3.09	2.94
14	1.75	2.10	2.66	2.19	2.56	2.67	2.68	3.75	3.77	2.85	2.98	2.86
15	1.79	2.11	2.63	2.12	2.72	2.61	4.57	4.14	3.67	2.77	3.07	2.84
16	1.83	2.09	2.58	2.14	2.97	2.64	3.80	6.42	3.56	3.01	3.62	2.77
17	2.11	2.11	2.52	2.12	3.23	2.59	3.35	5.20	3.39	2.80	3.93	2.72
18	1.93	2.18	2.47	2.10	3.28	2.58	3.15	13.10	3.30	2.73	3.50	2.68
19	2.00	2.18	2.42	2.10	3.18	2.52	3.09	16.53	3.28	2.78	3.16	2.64
20	2.90	2.22	2.37	2.16	3.09	2.48	8.77	18.48	11.51	3.44	3.00	2.61
21	2.65	2.24	2.34	2.24	2.97	2.45	5.27	18.89	10.17	3.53	2.89	2.59
22	2.51	2.24	2.28	2.25	2.90	2.44	4.94	8.13	9.35	6.17	2.79	2.57
23	2.35	2.27	2.27	2.25	2.83	2.43	5.07	6.66	7.80	5.71	2.72	2.54
24	2.23	2.26	2.29	2.27	2.83	2.43	4.49	5.92	6.35	7.28	2.67	2.50
25	2.18	2.27	2.25	2.27	2.81	2.42	4.03	5.45	5.58	11.77	2.69	2.47
26	2.13	2.28	2.27	2.24	2.87	2.39	3.73	5.14	5.03	9.18	2.97	2.46
27	2.22	2.36	2.27	2.24	2.80	2.38	3.50	4.94	4.63	6.51	3.67	3.73
28	2.40	2.33	2.21	2.23	2.75	2.37	3.28	5.04	4.31	6.83	3.59	2.64
29	2.45	2.35	2.26	2.22	---	2.68	3.10	4.70	4.06	7.11	3.41	2.51
30	2.58	2.43	2.27	2.19	---	8.04	2.96	4.42	3.84	7.26	3.29	2.49
31	2.52	---	2.26	2.16	---	5.50	---	4.37	---	5.87	3.03	---

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO

LOCATION.--Lat 38°30'20", long 90°35'27", in SE¼ sec.32, T.44 N., R.4 E., St. Louis County, Hydrologic Unit 07140102, on right bank, 44 ft (13 m) upstream from bridge on north access roadway of I-44, 2.0 mi (3.2 km) east of Eureka, 3.0 mi (4.8 km) downstream from Big River, and at mile 34.1 (54.9 km).

DRAINAGE AREA.--3,788 mi² (9,811 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1903 to July 1906, October 1921 to current year. Monthly discharge only for January, February, and March 1904, published in WSP 1311.

REVISED RECORDS.--WSP 877: 1938(M). WSP 977: 1942. WSP 1007: Drainage area. WSP 1281: 1924-25.

GAGE.--Water-stage recorder. Datum of gage is 404.18 ft (123.194 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 17, 1933, nonrecording gage at site 200 ft (61 m) upstream at different datum. Jan. 17, 1933, to Sept. 22, 1937, nonrecording gage, and Sept. 23, 1937, to Sept. 30, 1971, water-stage recorder at present site at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records good. Several observations of water temperature and specific conductance made during the year. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--62 years, 3,001 ft³/s (84.99 m³/s), 10.76 in/yr (273 mm/yr), 2,174,000 acre-ft/yr (2.68 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120,000 ft³/s (3,400 m³/s) June 11, 1945, gage height, 38.94 ft (11.869 m), present datum; minimum, 196 ft³/s (5.55 m³/s) Aug. 27, 31, Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 22, 1915, reached a stage of 42.2 ft (12.86 m), from flood-marks, present datum, discharge, 175,000 ft³/s (4,960 m³/s), by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 17,000 ft³/s (481 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
May 21	1915	*40,200 1138	*22.95 6.995	July 26	0330	22,200 629	15.11 4.606
June 4	1145	18,700 530	13.34 4.066	Sept. 1	0945	17,300 490	12.67 3.862
June 21	1900	20,800 589	14.42 4.395				

Minimum daily discharge, 326 ft³/s (9.23 m³/s) Oct. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	374	720	574	502	497	769	5730	1440	6310	1850	5010	14900		
2	372	784	584	494	504	745	4020	1310	6790	1780	3710	13500		
3	363	697	605	491	512	719	2840	1210	13000	1790	3060	12400		
4	360	627	620	492	587	727	2290	1130	18200	1950	3480	6190		
5	356	582	639	494	586	769	1930	1100	16100	2100	3450	3530		
6	353	544	635	494	544	895	1740	1080	11000	1900	2850	2580		
7	344	521	622	495	565	1170	1600	1020	6440	1700	2370	2040		
8	344	502	623	491	550	2380	1460	973	4890	1500	2070	1710		
9	349	489	639	494	540	1690	1370	943	3720	1350	2080	1490		
10	349	486	647	458	562	1260	1240	1070	3030	1250	1860	1340		
11	347	480	661	500	497	1080	1160	2560	2590	1120	1660	1220		
12	338	491	675	524	622	964	1100	8270	2410	1050	1470	1130		
13	335	504	693	455	582	876	1070	11400	2430	1020	1330	1070		
14	326	500	698	501	637	810	1020	7580	3420	979	1240	1010		
15	336	504	682	491	716	766	1190	4260	2740	1020	1920	1090		
16	354	508	661	497	828	744	1170	7360	2240	1280	2230	983		
17	416	509	644	513	873	716	1050	7080	1900	947	1820	939		
18	435	516	642	502	940	695	993	15200	1770	924	1720	895		
19	442	512	617	470	962	670	1180	26800	1740	1420	1500	852		
20	535	519	594	476	1180	648	7580	33200	8030	2900	1250	818		
21	660	522	571	486	1230	633	10000	38700	16600	3690	1140	792		
22	758	515	581	485	1130	631	8670	36200	14400	5240	1040	772		
23	679	522	549	485	1040	628	6710	17100	11000	8150	961	754		
24	611	512	547	491	960	619	4960	6260	8460	12100	925	736		
25	556	504	534	494	908	613	4530	5210	5370	18800	916	718		
26	525	499	563	492	869	608	3550	5580	3810	21400	1060	750		
27	561	529	551	488	829	608	2650	5750	2970	19300	1780	1810		
28	633	543	521	488	799	669	2150	4260	2610	10900	2700	905		
29	639	542	506	482	---	1580	1810	3410	2300	9570	1970	762		
30	646	555	502	479	---	4670	1600	2950	2000	14400	1640	726		
31	654	---	505	474	---	5350	---	2790	---	8990	1440	---		
TOTAL	14350	16238	18685	15178	21049	35702	88363	263196	188270	162370	61652	78412		
MEAN	463	541	603	490	752	1152	2945	8490	6276	5238	1989	2614		
MAX	758	784	698	524	1230	5350	10000	38700	18200	21400	5010	14900		
MIN	326	480	502	455	497	608	993	943	1740	924	916	718		
CFSM	.12	.14	.16	.13	.20	.30	.78	2.24	1.66	1.38	.53	.69		
IN.	.14	.16	.18	.15	.21	.35	.87	2.58	1.85	1.59	.61	.77		
AC-FT	28460	32210	37060	30110	41750	70810	175300	522000	373400	322100	122300	155500		
CAL YR 1980	TOTAL	418932	MEAN	1145	MAX	11100	MIN	326	CFSM	.30	IN	4.11	AC-FT	831000
WIR YR 1981	TOTAL	963465	MEAN	2640	MAX	38700	MIN	326	CFSM	.70	IN	9.46	AC-FT	1911000

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.29	2.82	2.78	2.64	2.55	2.81	6.54	3.33	6.57	---	6.13	12.41
2	2.29	2.98	2.79	2.63	2.56	2.78	5.47	3.22	6.64	---	5.18	10.65
3	2.27	2.87	2.81	2.63	2.56	2.78	4.57	3.12	10.04	---	4.72	10.79
4	2.27	2.79	2.83	2.62	2.79	2.75	4.09	3.04	13.24	---	4.68	7.03
5	2.26	2.72	2.86	2.51	2.79	2.79	3.79	2.98	12.63	---	4.91	5.11
6	2.26	2.68	2.86	2.63	2.69	2.91	3.62	2.98	10.06	---	4.55	4.35
7	2.25	2.64	2.84	2.62	2.65	3.10	3.48	2.92	6.97	---	4.16	3.90
8	2.25	2.61	2.84	2.57	2.64	4.26	3.36	2.87	6.03	---	3.90	3.60
9	2.26	2.60	2.86	2.55	2.64	3.71	3.28	2.83	5.20	---	3.94	3.40
10	2.26	2.59	2.87	2.51	2.64	3.39	3.15	2.88	4.64	---	3.72	3.25
11	2.26	2.60	2.89	2.71	2.28	3.21	3.06	3.33	4.30	---	3.55	3.13
12	2.25	2.61	2.91	2.75	2.83	3.08	3.00	7.45	4.16	---	3.37	3.04
13	2.25	2.64	2.92	2.58	2.70	2.98	2.99	9.53	4.11	---	3.24	2.99
14	2.24	2.64	2.93	2.73	2.82	2.90	2.92	8.48	5.01	2.88	3.14	2.91
15	2.24	2.64	2.91	2.59	2.79	2.84	2.98	5.28	4.48	2.83	3.30	2.92
16	2.28	2.65	2.88	2.61	2.94	2.82	3.08	7.18	4.06	3.28	4.02	2.89
17	2.40	2.66	2.86	2.69	2.96	2.78	2.95	7.49	3.77	2.83	3.73	2.83
18	2.42	2.67	2.87	2.74	3.04	2.75	2.88	9.48	3.60	2.81	3.63	2.79
19	2.43	2.68	2.83	2.53	3.05	2.72	2.89	16.59	3.63	3.16	3.42	2.74
20	2.54	2.69	2.80	2.55	3.21	2.69	7.19	19.90	7.42	4.61	3.16	2.69
21	2.75	2.69	2.75	2.56	3.33	2.69	8.92	22.23	10.71	4.87	3.04	2.67
22	2.92	2.69	2.89	2.56	3.22	2.67	8.42	21.86	11.85	6.40	2.96	2.64
23	2.81	2.70	2.74	2.56	3.11	2.67	7.29	14.41	9.48	5.66	2.85	2.62
24	2.71	2.70	2.72	2.56	3.03	2.66	6.00	6.65	8.49	9.10	2.81	2.60
25	2.45	2.68	2.75	2.55	2.97	2.65	5.71	6.11	6.35	12.74	2.81	2.58
26	2.60	2.68	2.83	2.56	2.92	2.64	5.12	6.06	5.28	14.94	2.83	2.56
27	2.60	2.72	2.75	2.55	2.88	2.64	4.40	6.66	4.64	13.99	3.23	3.96
28	2.73	2.74	2.72	2.54	2.83	2.65	3.98	5.57	---	9.74	4.38	2.82
29	2.75	2.74	2.66	2.53	---	2.78	3.69	4.96	---	8.03	3.78	2.64
30	2.78	2.75	2.65	2.53	---	5.16	3.49	4.54	---	11.22	3.55	2.59
31	2.78	---	2.65	2.52	---	5.85	---	4.50	---	8.87	3.27	---

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--(continued)
(National stream-quality accounting network station)

WATER QUALITY RECORDS

PERIOD OF RECORD.--January 1978 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1978 to September 1981. (Discontinued)

WATER TEMPERATURE: January 1978 to September 1981. (Discontinued)

SUSPENDED-SEDIMENT: February 1960 to September 1970, October 1980 to May 1981.

REMARKS.--Water temperature and specific conductance samples collected daily by observer. Number of missing days of water temperature, specific conductance, and suspended sediment exceeded 20 percent of year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 660 micromhos June 11, 1980; minimum, 136 micromhos March 27, 1978.

WATER TEMPERATURES: Maximum daily, 32.0°C July 1, 9, 1978; minimum, 0.0°C many days during winter periods.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,430 mg/L June 29, 1970; minimum daily mean, 2 mg/L December 10, 13, 16, 17, and 20, 1980.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 175,000 tons (159,000 metric tons) February 1, 1969; minimum daily, 3.2 tons (2.9 metric tons) December 20, 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (000011)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (000095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	COLI- FORM, FECAL, JM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS./ PER 100 ML) (31673)	HARD- NESS, NONCAR- BONATE (MG/L CAC03) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CAC03) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
NOV 06...	540	388	8.1	12.5	2.2	11.4	107	5	--	210	15	41
JAN 08...	495	427	8.3	1.5	1.5	14.0	100	4	13	220	20	45
MAR 05...	850	416	8.0	8.0	2.9	11.0	92	16	34	200	29	40
MAY 07...	1010	319	8.2	18.0	6.5	8.2	85	150	660	150	11	32
JUL 09...	1290	330	8.3	26.5	7.5	6.4	79	96	26	180	41	37
SEP 04...	5660	234	8.0	23.0	33	8.6	99	1000	780	110	20	24

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS) HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CU3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS) SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L DAY) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
NOV 06...	25	6.0	1.8	208	0	25	7.9	.2	4.3	224	327	.00
JAN 08...	26	8.5	1.7	240	0	30	12	.2	2.2	242	323	.10
MAR 05...	24	8.5	1.8	220	0	33	10	.1	1.3	220	505	.00
MAY 07...	18	5.1	1.6	170	0	23	5.4	.1	5.6	184	502	.16
JUL 09...	20	4.4	2.2	170	0	24	11	.1	8.4	207	721	.37
SEP 04...	12	3.1	2.9	110	0	<5.0	4.6	.1	9.0	151	2310	.29

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)	SEDI- MENT, DIS- SOLVED TOTAL (MG/L AS C) (80154)	SEDI- MENT, DIS- SOLVED TOTAL (MG/L AS C) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 06...	.030	.43	.71	.070	.050	--	11	.8	1	1.5	0
JAN 08...	.070	.41	.38	.040	.030	--	40	.3	209	279	23
MAR 05...	.050	1.40	1.3	.060	.020	6.5	--	--	68	156	39
MAY 07...	.080	.53	.50	.070	.040	--	8.8	.7	94	256	12
JUL 09...	.060	.75	.78	.050	.030	--	2.7	.5	1530	5330	47
SEP 04...	.140	<.20	<.20	.130	.070	6.9	--	--	104	1590	82

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
NOV										
06...	1	1	100	200	1	<1	0	0	1	<3
JAN										
08...	0	0	100	200	1	3	10	0	0	<3
MAY										
07...	2	1	200	100	0	<1	30	10	0	<3
JUL										
09...	1	1	200	300	2	3	10	10	0	<3

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
NOV									
06...	5	4	200	20	8	1	30	20	.2
JAN									
08...	5	8	130	80	9	8	20	20	.3
MAY									
07...	6	3	530	50	9	2	80	30	1.3
JUL									
09...	6	28	380	40	8	4	70	130	.2

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV									
06...	.2	5	3	0	0	0	0	10	5
JAN									
08...	.7	2	3	0	0	0	0	30	40
MAY									
07...	.1	3	0	0	0	0	0	20	30
JUL									
09...	.2	2	7	0	1	0	0	70	80

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--continued

SPECIFIC CONDUCTANCE (MICROMHUS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	UCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	389	377	420	428	424	399	381	339				
2	389	380	425	440	436	389	384	338				
3	403	381	427	451	440	392	382	341				
4	401	387	425	452	452	391	376	341				
5	401	383	421	457	441	390	374	364				
6	400	383	421	464	437	391	371	365				
7	399	383	420	457	441	392	378	364				
8	399	387	420	456	450	391	365	365				
9	393	383	420	451	445	391	365	364				
10	391	383	420	460	444	391	392	339				
11	390	400	420	458	447	394	390	260				
12	370	400	420	454	427	391	391	209				
13	370	399	421	461	423	393	389	224				
14	370	400	421	465	416	392	389	211				
15	371	401	421	459	417	394	388	212				
16	370	401	423	456	421	391	390	240				
17	381	400	425	455	421	419	392	253				
18	380	400	421	446	419	425	391	275				
19	380	400	421	457	420	424	392	275				
20	381	405	422	450	425	425	248	277				
21	381	401	423	452	425	423	247	278				
22	389	401	421	461	419	434	248	277				
23	389	400	421	455	419	433	248	276				
24	389	403	422	452	424	399	248	---				
25	389	410	421	448	424	426	247	---				
26	389	410	421	450	422	420	246	---				
27	389	407	425	446	421	424	341	---				
28	389	423	427	450	425	424	340	---				
29	390	421	429	454	---	460	340	---				
30	390	423	429	450	---	430	339	---				
31	390	---	430	446	---	426	---	---				
MEAN	387	398	423	453	429	409	346	295				

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	UCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	10.0	11.0	2.5	1.0	14.0	18.0	19.0				
2	20.5	11.5	11.0	1.5	1.0	14.0	18.0	19.0				
3	20.0	12.5	10.5	2.0	2.0	15.0	18.0	19.0				
4	19.5	13.0	10.5	1.5	2.5	15.0	18.0	20.0				
5	17.0	13.0	10.5	1.0	2.5	15.0	18.0	20.0				
6	15.0	14.0	10.0	1.0	---	15.0	18.5	20.0				
7	19.0	14.5	10.0	1.5	3.0	15.0	19.0	21.0				
8	21.0	14.5	10.0	2.0	4.0	15.0	18.0	21.0				
9	21.0	14.5	10.0	2.0	4.0	16.0	19.0	16.0				
10	21.0	14.5	10.0	1.5	4.0	16.0	18.0	16.0				
11	20.0	14.5	10.0	2.0	3.5	15.0	18.0	15.0				
12	16.0	14.0	10.5	2.0	3.0	16.0	17.0	15.0				
13	16.5	14.0	10.5	2.0	3.0	15.0	18.0	15.0				
14	18.0	13.5	10.0	2.0	3.5	15.5	18.5	14.0				
15	16.0	13.5	10.0	2.0	3.5	16.0	19.0	15.0				
16	17.0	14.0	10.0	2.0	3.0	16.0	19.0	14.0				
17	17.5	14.0	10.0	2.0	3.0	16.0	19.0	15.0				
18	17.0	14.0	10.0	2.0	3.5	17.0	18.0	15.0				
19	17.0	13.5	10.0	2.0	4.0	17.0	18.0	16.0				
20	16.5	13.0	9.5	2.0	4.0	17.0	16.0	16.0				
21	17.0	13.0	6.5	2.0	4.5	17.0	16.0	17.0				
22	17.0	12.5	3.5	2.5	5.0	17.0	16.0	18.0				
23	13.0	12.0	2.0	2.0	5.5	17.0	16.0	18.0				
24	13.0	12.0	2.0	2.0	6.0	17.0	17.0	---				
25	13.0	11.5	1.5	2.0	6.0	17.0	17.0	---				
26	12.0	11.0	1.5	2.0	---	18.0	17.0	---				
27	11.5	11.0	1.0	2.0	6.5	18.0	19.0	---				
28	11.5	11.0	1.5	2.0	6.5	18.0	18.0	---				
29	10.5	10.5	1.5	2.0	---	17.0	18.0	---				
30	9.5	10.5	2.0	2.5	---	17.0	18.0	---				
31	10.0	---	2.0	2.5	---	18.0	---	---				
MEAN	16.0	13.0	7.5	2.0	4.0	16.0	18.0	17.0				

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 6,80 1300	MAR 5,81 1200	MAY 7,81 1315	JUL 9,81 1300	SEP 4,81 1330					
TOTAL CELLS/ML	1300	11000	1000	3000	4300					
DIVERSITY: DIVISION	0.4	1.3	1.4	0.9	0.5					
..CLASS	0.4	1.3	1.4	1.0	0.5					
...ORDER	1.3	1.4	1.8	1.3	0.8					
....FAMILY	1.8	1.4	2.2	1.9	1.3					
.....GENUS	1.8	1.4	2.3	2.0	1.4					
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCCCALES										
....CHARACIACEAE										
....SCHROEDERIA	--	-	--	-	--	-	--	-	*	0
...MICRACIINIACEAE										
....MICRACIINIUM	--	-	7000#	62	--	-	*	0	--	-
...OCCYSTACEAE										
....ANKISTRODESMUS	--	-	--	-	65	6	--	-	--	-
....SELENASTRUM	--	-	--	-	26	2	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-	*	0
...SCENEDESMACEAE										
....SCENEDESMUS	--	-	--	-	500#	49	--	-	28	1
....TETRASTRUM	--	-	--	-	--	-	--	-	56	1
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	--	-	26	2	120	4	--	-
CHRYSTOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...CCSCINCDISCACEAE										
....CYCLOTELLA	--	-	2800#	25	13	1	100	3	85	2
....MELOSIRA	77	6	--	-	26	2	310	10	42	1
..PENNALES										
...ACHNANTHACEAE										
....COCOCNEIS	--	-	--	-	--	-	--	-	*	0
...CYMBELLACEAE										
....CYMBELLA	--	-	--	-	--	-	--	-	*	0
...DIATOMACEAE										
....DIATOMA	--	-	--	-	--	-	--	-	28	1
...NAVICULACEAE										
....NAVICULA	--	-	--	-	13	1	39	1	28	1
...NITZSCHACEAE										
....NITZSCHIA	--	-	300	3	26	2	52	2	70	2
..XANTHOPHYCEAE										
...HETEROCOCCALES										
...CHLOROTHECIACEAE										
....OPHICCYTIUM	--	-	--	-	--	-	*	0	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
....CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	*	0	26	2	*	0	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCCCALES										
....CHROOCCCAEAE										
....AGMENELLUM	--	-	--	-	--	-	--	-	110	3
....ANACYSTIS	400#	31	1200	10	77	7	91	3	85	2
...HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	230#	18	--	-	--	-	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-	580#	19	--	-
...OSCILLATORIA										
....OSCILLATORIA	580#	45	--	-	230#	22	1700#	56	3500#	80
...RIVULARIACEAE										
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-	280	7
EUGLENOPHYTA (EUGLENCIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
....EUGLENACEAE										
....EUGLENA	13	1	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	374	32	32	720	32	62	574	10	15
2	372	40	40	784	33	70	584	8	13
3	363	38	37	697	30	56	605	8	13
4	360	39	38	627	38	64	620	10	17
5	356	34	33	582	36	57	639	9	16
6	353	44	42	544	30	44	635	10	17
7	344	43	40	521	31	44	622	5	8.4
8	344	37	34	502	30	41	623	4	6.7
9	349	36	34	489	31	41	639	4	6.9
10	349	38	36	486	29	38	647	2	3.5
11	347	44	41	480	21	27	661	3	5.4
12	338	47	43	491	18	24	675	4	7.3
13	335	42	38	504	20	27	693	2	3.7
14	326	64	56	500	23	31	698	3	5.7
15	336	57	52	504	25	34	682	3	5.5
16	354	38	36	508	26	36	661	2	3.6
17	416	45	51	509	24	33	644	2	3.5
18	435	59	46	516	12	17	642	3	5.2
19	442	37	44	512	10	14	617	4	6.7
20	535	44	64	519	9	13	594	2	3.2
21	660	45	80	522	9	13	571	3	4.6
22	758	46	94	515	9	13	581	3	4.7
23	679	40	73	522	10	14	549	4	5.9
24	611	32	53	512	9	12	547	4	5.9
25	556	32	48	504	7	9.5	534	3	4.3
26	525	27	38	499	6	8.1	563	3	4.6
27	561	39	59	529	7	10	551	6	8.9
28	633	46	79	543	7	10	521	7	9.8
29	639	30	52	542	7	10	506	6	8.2
30	646	23	40	555	10	15	502	5	6.8
31	654	29	51	---	---	---	505	8	11
TOTAL	14350	---	1504	16238	---	887.6	18685	---	241.0
JANUARY			FEBRUARY			MARCH			
1	502	7	9.5	497	15	20	769	7	15
2	494	6	8.0	504	31	42	745	56	113
3	491	6	8.0	512	23	32	719	44	85
4	492	7	9.3	587	18	29	727	50	98
5	494	8	11	586	17	27	769	47	98
6	494	9	12	544	17	25	895	46	111
7	495	7	9.4	565	17	26	1170	47	148
8	491	5	6.6	550	12	18	2380	46	296
9	494	5	6.7	540	14	20	1690	43	196
10	458	5	6.2	562	15	23	1260	43	146
11	500	6	8.1	497	10	13	1080	43	125
12	524	8	11	622	12	20	964	44	115
13	455	7	8.6	582	25	39	876	53	125
14	501	11	15	637	16	28	810	54	118
15	491	12	16	716	11	21	766	54	112
16	497	10	13	828	11	25	744	60	121
17	513	11	15	873	6	14	716	52	101
18	502	12	16	940	8	20	695	60	113
19	470	14	18	962	5	13	670	48	87
20	476	14	18	1180	6	19	648	53	93
21	486	16	21	1230	9	30	633	41	70
22	485	17	22	1130	8	24	631	47	80
23	485	13	17	1040	7	20	628	42	71
24	491	14	19	960	7	18	619	36	60
25	494	18	24	908	12	29	613	34	56
26	492	14	19	869	12	28	608	33	54
27	488	19	25	829	7	16	608	39	64
28	488	17	22	799	7	15	669	37	67
29	482	9	12	---	---	---	1580	36	154
30	479	8	10	---	---	---	4670	94	1190
31	474	9	12	---	---	---	5350	129	1860
TOTAL	15178	---	428.4	21049	---	654	35702	---	6142

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
APRIL			MAY			JUNE			
1	5730	107	1660	1440	46	179	5710		
2	4020	188	2040	1310	45	159	6180		
3	2840	177	1360	1210	62	203	11600		
4	2290	103	637	1130	63	192	17100		
5	1930	89	464	1100	29	86	14900		
6	1740	130	611	1080	12	35	9860		
7	1600	132	570	1020	15	41	5820		
8	1460	67	264	973	20	53	4450		
9	1370	42	155	943	25	64	3420		
10	1240	20	67	1070	45	130	2820		
11	1160	11	34	2560	188	1300	2420		
12	1100	11	33	8270	373	8330	2200		
13	1070	12	35	11400	336	10300	2280		
14	1020	14	39	7580	376	7700	3160		
15	1190	13	42	4260	391	4500	2550		
16	1170	14	44	7360	318	6320	2120		
17	1050	16	45	7080	250	4780	1820		
18	993	28	75	15200	200	8210	1700		
19	1180	52	166	26800	314	22700	1670		
20	7580	326	6670	33200	156	14000	7540		
21	10000	368	9940	38700	170	17800	15400		
22	8710	412	9690	36200	172	16800	12900		
23	6750	411	7490	15900	190	8160	9960		
24	5010	396	5360	5680	---	---	7420		
25	4570	450	5550	4760	---	---	4740		
26	3590	461	4470	4920	---	---	3520		
27	2680	318	2300	5230	---	---	2750		
28	2190	104	615	3900	---	---	2450		
29	1850	42	210	3140	---	---	2300		
30	1630	50	220	2750	---	---	2000		
31	---	---	---	2600	---	---	---		
TOTAL	88713	---	60856	258766	---	132042	172760		

MISSISSIPPI RIVER BASIN

07020270 SALINE CREEK NEAR MINNITH, MO

LOCATION.--Lat 37°49'16", long 90°01'13", in SE¼, sec.355, T.36 N., R.9 E., Ste. Genevieve County, Hydrologic Unit 07140105, on left downstream end of bridge N849, State Highway N, 2.5 mi (4.02 km) northeast of Minnith, and 5.5 mi (8.85 km) southwest of St. Marys.

DRAINAGE AREA.--82.6 mi² (214 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Apr. 1968 to current year. Prior to July 10, 1980 partial record station, miscellaneous measurements published in reports of the U.S. Geological Survey. Station discontinued as continuous record station Sept. 1981.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 380.00 ft (115.824 m) National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission). Prior to July 1980 no gage, miscellaneous discharge measurements made in the immediate vicinity of State Highway N crossing.

REMARKS.--Records good below a discharge of 1200 ft³/s (34 m³/s), fair above.

EXTREMES FOR CURRENT PERIOD.--July to September 1980: Maximum discharge, 147 ft³/s (4.163 m³/s) at 1830 July 2, gage height 7.68 ft (2.341 m); minimum daily, 3.9 ft³/s (0.11 m³/s) Aug. 27-28, Sept. 14, 15. Water year 1981: Maximum discharge, 6,700 ft³/s (190 m³/s), from rating extended above 550 ft³/s (15.6 m³/s) at 2400 hours May 18, gage height, 13.43 ft (4.093 m); minimum daily 4.8 ft³/s (0.14 m³/s) Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.3	11	21	11	14	20	16	12	102	30	37	12
2	6.7	10	23	11	25	18	15	11	92	25	31	19
3	6.1	9.3	20	11	22	20	15	11	1020	22	28	15
4	6.1	8.8	17	11	20	20	15	10	162	23	25	12
5	6.4	8.6	16	11	17	31	17	11	111	46	23	11
6	6.9	8.6	15	10	16	33	16	12	83	28	20	9.8
7	7.0	8.6	14	10	17	29	15	13	111	23	19	9.4
8	6.9	8.6	14	10	17	25	15	12	62	20	17	8.6
9	6.7	8.6	21	10	15	22	15	11	53	17	16	8.2
10	6.6	8.6	29	10	47	21	14	14	42	15	15	7.6
11	6.3	8.6	24	10	107	19	14	110	38	14	14	7.3
12	6.1	9.0	21	9.8	64	18	14	56	36	13	13	7.0
13	5.8	9.0	18	9.0	40	17	15	43	38	13	12	6.4
14	6.1	8.6	17	9.4	32	17	17	409	29	12	11	6.4
15	6.1	8.6	15	9.4	31	16	17	148	24	23	11	6.7
16	6.4	8.6	14	9.4	32	16	15	77	22	18	12	7.0
17	11	10	14	9.4	31	16	15	54	22	15	12	7.0
18	13	18	13	9.4	28	15	14	883	20	14	11	7.0
19	12	18	13	9.8	26	15	15	1260	288	14	10	6.7
20	10	15	12	11	24	14	22	211	233	15	9.7	6.4
21	9.0	13	11	12	22	14	23	115	157	20	9.1	6.7
22	8.6	13	11	12	24	14	21	75	144	20	8.5	6.4
23	8.6	12	11	13	38	16	20	58	103	87	8.2	6.4
24	8.6	12	11	13	34	15	17	48	66	285	8.0	6.1
25	9.0	11	11	13	27	15	16	47	51	150	7.6	5.8
26	9.4	11	11	13	24	15	14	61	39	66	13	5.3
27	9.8	13	11	12	22	15	14	123	35	46	53	5.3
28	15	13	11	12	20	14	13	73	32	94	25	4.8
29	15	14	13	11	---	15	13	54	27	104	16	5.0
30	13	16	12	11	---	16	12	93	27	60	13	5.0
31	11	---	11	11	---	17	---	248	---	47	11	---
TOTAL	266.5	332.1	475	334.6	836	568	474	4363	3269	1379	519.1	237.3
MEAN	8.60	11.1	15.3	10.8	29.9	18.3	15.8	141	109	44.5	16.7	7.91
MAX	15	18	29	13	107	33	23	1260	1020	285	53	19
MIN	5.8	8.6	11	9.0	14	14	12	10	20	12	7.6	4.8
CFSM	.10	.13	.19	.13	.36	.22	.19	1.71	1.32	.54	.20	.10
IN.	.12	.15	.21	.15	.38	.26	.21	1.97	1.47	.62	.23	.11
AC-FT	529	659	942	664	1660	1130	940	8650	6480	2740	1030	471
WTR YR 1981 TOTAL	13053.6		MEAN 35.8		MAX 1260	MIN 4.8	CFSM .43	IN 5.88	AC-FT 25890			

SALINE CREEK BASIN
07020270 SALINE CREEK NEAR MINNITH
WATER-QUALITY RECORDS

PERIOD OF RECORD.--

SUSPENDED SEDIMENT DISCHARGE: July 1980 to September 1981 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 421 mg/L July 24, 1981; minimum daily mean, 1 mg/L on many days.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 772 tons (700 metric tons) May 18, 1981; minimum daily, 0.03 tons (0.03 metric tons) November 1 and 2 and December 19 and 25, 1980.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 421 mg/L July 24; minimum daily mean, 1 mg/L on many days.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 772 tons (700 metric tons) May 18; minimum daily, 0.03 tons (0.03 metric tons) November 1 and 2 and December 19 and 25, 1980.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	13	---	---	6.7	64	1.2	4.4	49	.58
2	28	---	---	6.1	53	.87	4.8	56	.73
3	45	99	12	5.5	53	.79	4.4	60	.71
4	32	76	6.6	5.5	62	.92	7.3	57	1.1
5	21	42	2.4	8.2	54	1.2	9.4	44	1.1
6	16	46	2.0	8.6	53	1.2	7.9	54	1.2
7	13	60	2.1	7.0	56	1.1	6.4	47	.81
8	11	59	1.8	6.1	73	1.2	6.1	54	.89
9	9.9	28	.75	5.3	74	1.1	5.8	49	.77
10	9.4	38	.96	4.8	80	1.0	5.5	42	.62
11	9.0	60	1.5	4.6	78	.97	5.3	44	.63
12	8.2	60	1.3	4.4	64	.76	5.0	35	.47
13	7.6	59	1.2	4.6	56	.70	4.4	35	.42
14	7.6	63	1.3	4.8	66	.86	3.9	34	.36
15	7.0	74	1.4	6.4	69	1.2	3.9	39	.41
16	6.7	115	2.1	10	56	1.5	5.3	33	.47
17	6.1	121	2.0	8.9	66	1.6	11	50	1.5
18	5.8	112	1.8	7.7	56	1.2	13	41	1.4
19	5.8	110	1.7	7.1	42	.81	9.8	35	.93
20	5.5	104	1.5	6.4	41	.71	7.3	44	.87
21	6.1	110	1.8	5.4	41	.60	6.1	38	.63
22	7.9	74	1.6	5.1	43	.59	6.1	36	.59
23	7.6	72	1.5	4.6	37	.46	10	42	1.1
24	7.3	77	1.5	4.2	39	.44	14	32	1.2
25	6.1	79	1.3	4.2	46	.52	10	30	.81
26	5.8	67	1.0	4.2	52	.59	9.0	31	.75
27	7.9	65	1.4	3.9	55	.58	8.2	24	.53
28	10	80	2.2	3.9	63	.66	7.9	26	.55
29	11	73	2.2	4.2	49	.56	7.9	19	.41
30	8.2	54	1.2	4.4	48	.57	7.3	23	.45
31	7.0	65	1.2	4.2	47	.53	---	---	---
TOTAL	352.5	---	61.31	177.0	---	26.99	217.4	---	22.99

SALINE CREEK BASIN

07020270 SALINE CREEK NEAR MINNITH, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)
OCTOBER				NOVEMBER			DECEMBER		
1	7.3	20	.39	11	1	.03	21	8	.45
2	6.7	17	.31	10	1	.03	23	5	.31
3	6.1	16	.26	9.3	3	.08	20	3	.16
4	6.1	16	.26	8.8	3	.07	17	5	.23
5	6.4	18	.31	8.6	2	.05	16	6	.26
6	6.9	24	.45	8.6	2	.05	15	4	.16
7	7.0	19	.36	8.6	2	.05	14	5	.19
8	6.9	32	.60	8.6	4	.09	14	3	.11
9	6.7	39	.71	8.6	4	.09	21	2	.11
10	6.6	33	.59	8.6	6	.14	29	1	.08
11	6.3	14	.24	8.6	7	.16	24	1	.06
12	6.1	15	.25	9.0	5	.12	21	2	.11
13	5.8	16	.25	9.0	3	.07	18	3	.15
14	6.1	12	.20	8.6	2	.05	17	1	.05
15	6.1	13	.21	8.6	3	.07	15	1	.04
16	6.4	46	.79	8.6	7	.16	14	2	.08
17	11	63	1.9	10	8	.22	14	4	.15
18	13	25	.88	18	16	.78	13	4	.14
19	12	6	.19	18	8	.39	13	1	.04
20	10	10	.27	15	5	.20	12	2	.06
21	9.0	7	.17	13	4	.14	11	2	.06
22	8.6	3	.07	13	3	.11	11	3	.09
23	8.6	13	.30	12	4	.13	11	3	.09
24	8.6	8	.19	12	6	.19	11	2	.06
25	9.0	6	.15	11	4	.12	11	1	.03
26	9.4	11	.28	11	6	.18	11	3	.09
27	9.8	16	.42	13	3	.11	11	3	.09
28	15	6	.24	13	6	.21	11	3	.09
29	15	9	.36	14	12	.45	13	5	.18
30	13	11	.39	16	9	.39	12	6	.19
31	11	3	.09	---	---	---	11	6	.18
TOTAL	266.5	---	12.08	332.1	---	4.93	475	---	4.09
JANUARY				FEBRUARY			MARCH		
1	11	5	.15	14	38	1.4	20	6	.32
2	11	6	.18	25	44	3.0	18	8	.39
3	11	6	.18	22	38	2.3	20	10	.54
4	11	7	.21	20	33	1.8	20	7	.38
5	11	5	.15	17	32	1.5	31	8	.67
6	10	6	.16	16	31	1.3	33	7	.62
7	10	3	.08	17	25	1.1	29	4	.31
8	10	2	.05	17	26	1.2	25	5	.34
9	10	3	.08	15	21	.85	22	6	.36
10	10	5	.14	47	29	3.7	21	25	1.4
11	10	8	.22	107	67	19	19	29	1.5
12	9.8	18	.48	64	64	11	18	19	.92
13	9.0	27	.66	40	45	4.9	17	26	1.2
14	9.4	14	.36	32	28	2.4	17	16	.73
15	9.4	12	.30	31	14	1.2	16	26	1.1
16	9.4	14	.36	32	20	1.7	16	31	1.3
17	9.4	22	.56	31	10	.84	16	40	1.7
18	9.4	14	.36	28	28	2.1	15	26	1.1
19	9.8	17	.45	26	15	1.1	15	24	.97
20	11	10	.30	24	7	.45	14	27	1.0
21	12	9	.29	22	10	.59	14	24	.91
22	12	14	.45	24	12	.78	14	27	1.0
23	13	19	.67	38	4	.41	16	31	1.3
24	13	27	.95	34	8	.73	15	46	1.9
25	13	33	1.2	27	6	.44	15	27	1.1
26	13	35	1.2	24	6	.39	15	32	1.3
27	12	33	1.1	22	7	.42	15	28	1.1
28	12	36	1.2	20	13	.70	14	31	1.2
29	11	38	1.1	---	---	---	15	31	1.3
30	11	38	1.1	---	---	---	16	26	1.1
31	11	35	1.0	---	---	---	17	23	1.1
TOTAL	334.6	---	15.69	836	---	67.30	568	---	30.16

SALINE CREEK BASIN

07020270 SALINE CREEK NEAR MINNITH, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	16	20	.86	12	26	.84	102	61	17
2	15	25	1.0	11	12	.36	92	73	18
3	15	25	1.0	11	16	.48	1020	222	611
4	15	32	1.3	10	27	.73	162	49	21
5	17	28	1.3	11	30	.89	111	64	19
6	16	33	1.4	12	19	.62	83	53	12
7	15	22	.89	13	18	.63	111	59	18
8	15	24	.97	12	20	.65	62	50	8.4
9	15	17	.69	11	42	1.2	53	36	5.2
10	14	19	.72	14	91	3.4	42	31	3.5
11	14	32	1.2	110	69	20	38	24	2.5
12	14	26	.98	56	36	5.4	36	27	2.6
13	15	21	.85	43	59	6.8	38	34	3.5
14	17	42	1.9	409	178	197	29	33	2.6
15	17	36	1.7	148	46	18	24	30	1.9
16	15	27	1.1	77	44	9.1	22	29	1.7
17	15	42	1.7	54	30	4.4	22	33	2.0
18	14	44	1.7	883	324	772	20	38	2.1
19	15	49	2.0	1260	93	316	288	411	320
20	22	29	1.7	211	59	34	233	271	170
21	23	20	1.2	115	37	11	157	96	41
22	21	9	.51	75	40	8.1	144	80	31
23	20	16	.86	58	33	5.2	103	70	19
24	17	14	.64	48	48	6.2	66	59	11
25	16	15	.65	47	47	6.0	51	43	5.9
26	14	15	.57	61	20	3.3	39	43	4.5
27	14	18	.68	123	36	12	35	35	3.3
28	13	21	.74	73	17	3.4	32	34	2.9
29	13	18	.63	54	24	3.5	27	33	2.4
30	12	23	.75	93	54	14	27	31	2.3
31	---	---	---	248	49	33	---	---	---
TOTAL	474	---	32.19	4363	---	1498.20	3269	---	1365.3
JULY			AUGUST			SEPTEMBER			
1	30	30	2.4	37	28	2.8	12	15	.49
2	25	26	1.8	31	22	1.8	19	21	1.1
3	22	24	1.4	28	22	1.7	15	23	.93
4	23	31	1.9	25	23	1.6	12	13	.42
5	46	38	4.7	23	32	2.0	11	5	.15
6	28	33	2.5	20	35	1.9	9.8	5	.13
7	23	26	1.6	19	35	1.8	9.4	3	.08
8	20	31	1.7	17	22	1.0	8.6	8	.19
9	17	18	.83	16	18	.78	8.2	12	.27
10	15	19	.77	15	21	.85	7.6	22	.45
11	14	16	.60	14	28	1.1	7.3	7	.14
12	13	19	.67	13	25	.88	7.0	8	.15
13	13	15	.53	12	31	1.0	6.4	14	.24
14	12	13	.42	11	20	.59	6.4	29	.50
15	23	21	1.3	11	11	.33	6.7	29	.52
16	18	20	.97	12	14	.45	7.0	12	.23
17	15	29	1.2	12	11	.36	7.0	11	.21
18	14	41	1.5	11	13	.39	7.0	13	.25
19	14	34	1.3	10	12	.32	6.7	25	.45
20	15	39	1.6	9.7	10	.26	6.4	18	.31
21	20	40	2.2	9.1	11	.27	6.7	19	.34
22	20	51	2.8	8.5	5	.11	6.4	16	.28
23	87	98	23	8.2	5	.11	6.4	8	.14
24	285	421	324	8.0	10	.22	6.1	24	.40
25	150	130	53	7.6	24	.49	5.8	12	.19
26	66	63	11	13	30	1.1	5.3	20	.29
27	46	62	7.7	53	26	3.7	5.3	31	.44
28	94	55	14	25	25	1.7	4.8	22	.29
29	104	65	18	16	18	.78	5.0	14	.19
30	60	53	8.6	13	22	.77	5.0	20	.27
31	47	46	5.8	11	14	.42	---	---	---
TOTAL	1379	---	499.79	519.1	---	31.58	237.3	---	10.04
YEAR	13053.6		3571.35						

MISSISSIPPI RIVER MAIN STEM

07020500 MISSISSIPPI RIVER AT CHESTER, IL

LOCATION.--Lat 37°54'10", long 89°51'10", in SW¼ sec.24, T.7 S., R.7 W., third principal meridian, Randolph County, Hydrologic Unit 07140105, on downstream side of left pier of main truss of highway bridge at Chester, 8.1 mi (13.0 km) downstream from Kaskaskia River, and at mile 109.9 (176.8 km) above Ohio River.

DRAINAGE AREA.--708,600 mi² (1,835,000 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: October 1927 to current year in reports of Geological Survey. Monthly discharge only for some periods, published in WSP 1311. Since August 1873, results of discharge measurements in reports of Mississippi River Commission.

Gage heights: July 1942 to current year in reports of Geological Survey. Since May 1891, in reports of Mississippi River Commission and National Weather Service.

REVISED RECORDS.--WRD MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 341.05 ft (103.952 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 1, 1962, nonrecording gage 0.4 mi (0.6 km) downstream at present datum.

REMARKS.--Records excellent. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in Missouri River basin.

AVERAGE DISCHARGE.--54 years, 183,200 ft³/s (5,188 m³/s), 132,700,000 acre-ft/yr (164 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge determined, 886,000 ft³/s (25,100 m³/s) July 3, 1947, Apr. 30, 1973, (discharge including unmeasured overflow, was greater May 24, 1943; maximum gage height, 43.32 ft (13.204 m) Apr. 30, 1973; minimum daily discharge, 30,000 ft³/s (850 m³/s) Dec. 12, 1937; minimum gage height, -4.10 ft (-1.250 m) Jan. 2, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 30, 1844, reached a stage of 39.8 ft (12.13 m) and a discharge of 1,350,000 ft³/s (38,200 m³/s) computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 524,000 ft³/s (14,800 m³/s) May 22 at 1200; maximum gage height, 31.24 ft (9.522 m) May 22; minimum daily discharge, 52,200 ft³/s (1,478 m³/s) Feb. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	185000	128000	97400	73800	68800	200000	101000	176000	215000	349000	494000	205000		
2	186000	130000	94600	76000	74300	183000	99400	174000	216000	340000	471000	232000		
3	188000	129000	93500	77100	70200	169000	94800	174000	218000	354000	429000	223000		
4	188000	129000	91000	77400	69500	169000	92800	174000	217000	362000	372000	228000		
5	188000	127000	93800	74700	60200	174000	104000	178000	220000	358000	327000	228000		
6	189000	124000	97400	67300	61300	179000	111000	184000	220000	372000	296000	226000		
7	185000	121000	97000	68700	62900	172000	115000	180000	212000	396000	291000	222000		
8	173000	118000	94700	70800	66600	161000	118000	178000	204000	418000	289000	213000		
9	147000	116000	108000	70400	66800	157000	128000	178000	182000	421000	286000	198000		
10	128000	110000	153000	72700	62700	146000	138000	180000	164000	407000	284000	190000		
11	116000	104000	194000	71900	58000	134000	138000	198000	155000	373000	282000	187000		
12	112000	101000	219000	72000	54900	126000	149000	237000	160000	327000	261000	184000		
13	105000	99900	198000	72000	52200	118000	164000	244000	155000	289000	241000	180000		
14	102000	103000	165000	69000	55100	111000	188000	242000	161000	263000	227000	171000		
15	102000	103000	141000	65500	59700	106000	228000	231000	184000	244000	215000	170000		
16	101000	102000	124000	63200	63700	103000	246000	240000	212000	236000	226000	165000		
17	100000	104000	113000	63200	67100	102000	268000	266000	232000	241000	238000	153000		
18	106000	101000	106000	63000	71200	102000	297000	528000	250000	251000	236000	143000		
19	106000	103000	99300	63300	74800	102000	286000	418000	274000	250000	236000	126000		
20	104000	103000	97600	65300	80400	101000	274000	482000	308000	280000	229000	112000		
21	104000	101000	96700	68000	93100	97900	253000	511000	319000	343000	213000	103000		
22	109000	98200	93700	68000	111000	94200	238000	520000	352000	364000	198000	103000		
23	118000	94000	89600	67400	119000	93100	226000	496000	401000	354000	195000	109000		
24	121000	99600	85200	66900	124000	91500	227000	432000	425000	364000	190000	113000		
25	117000	105000	85800	69200	145000	85500	230000	356000	404000	407000	174000	116000		
26	117000	104000	79400	73000	182000	78600	223000	303000	375000	423000	159000	115000		
27	116000	109000	77600	72100	201000	75900	210000	276000	381000	416000	161000	126000		
28	124000	111000	79000	71000	210000	78200	199000	267000	402000	431000	166000	136000		
29	130000	108000	79300	72300	---	82100	194000	259000	402000	462000	164000	144000		
30	127000	107000	80500	73700	---	92300	184000	244000	380000	486000	163000	145000		
31	124000	---	73400	72500	---	98600	---	228000	---	501000	172000	---		
TOTAL	4118000	3292700	3397500	2171400	2485500	3782900	5514000	8554000	8000000	11082000	7885000	4966000		
MEAN	132800	109800	109600	70050	88770	122000	183800	275900	266700	357500	254400	165500		
MAX	189000	130000	219000	77400	210000	200000	287000	520000	425000	501000	494000	232000		
MIN	100000	94000	73400	63000	52200	75900	92800	174000	155000	236000	159000	103000		
CFSM	.19	.16	.16	.10	.13	.17	.26	.39	.38	.51	.36	.23		
IN.	.22	.17	.16	.11	.13	.20	.29	.45	.42	.58	.41	.26		
AC-FT	8168000	6531000	6739000	4307000	4930000	7503000	10940000	16970000	15870000	21980000	15640000	9850000		
CAL YR 1980	TOTAL	56617700	MEAN	154700	MAX	359000	MIN	73400	CFSM	.22	IN	2.97	AC-FI	112300000
WTR YR 1981	TOTAL	65249000	MEAN	178800	MAX	520000	MIN	52200	CFSM	.25	IN	3.43	AC-FT	129400000

MISSISSIPPI RIVER MAIN STEM

07020500 MISSISSIPPI RIVER AT CHESTER, IL--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.18	7.73	4.31	1.19	.80	13.92	4.71	12.46	15.79	24.31	30.77	13.64
2	13.13	8.05	3.98	1.57	.57	12.58	4.58	12.41	15.87	23.52	30.33	16.52
3	13.36	8.02	3.65	1.72	2.30	11.68	4.10	12.33	15.96	24.17	28.86	15.85
4	13.33	8.11	3.36	1.77	-.80	11.54	3.68	12.41	15.90	24.80	26.65	16.29
5	13.31	8.05	3.54	1.62	-.47	11.63	4.94	12.55	16.08	24.35	24.09	16.51
6	13.40	7.71	4.01	.57	-.37	12.05	6.25	13.13	16.12	24.92	22.02	16.43
7	13.22	7.38	4.09	.64	-.30	11.65	6.60	12.90	15.73	26.01	21.43	16.40
8	12.49	6.98	3.48	.99	.23	10.37	7.09	12.67	15.25	27.17	21.26	15.83
9	10.60	6.84	4.49	.79	.38	10.00	8.00	12.63	13.79	27.45	20.85	15.04
10	8.67	6.16	8.90	1.20	-.09	9.21	9.30	12.67	12.54	26.93	20.49	14.27
11	7.23	5.34	12.22	1.08	-.81	8.15	9.24	13.60	11.51	25.45	20.35	13.95
12	6.61	4.84	14.76	1.12	-1.12	7.60	10.06	16.47	11.97	23.12	19.11	13.66
13	5.83	4.75	13.80	1.14	-1.64	6.67	11.47	17.10	11.68	20.98	17.81	13.25
14	5.51	5.14	11.33	.85	-1.39	5.93	12.87	17.07	11.96	19.26	16.88	12.48
15	5.55	5.22	9.40	.26	-.75	5.49	16.08	16.36	13.53	18.21	15.91	12.24
16	5.35	5.03	7.79	-.15	-.31	4.99	17.39	16.44	15.88	17.50	16.19	11.90
17	5.16	5.42	6.53	-.17	.11	5.05	18.68	18.20	17.18	17.50	17.35	10.90
18	5.79	4.88	5.74	-.36	.59	5.12	19.92	20.88	18.28	18.21	17.14	10.09
19	6.01	5.08	4.76	-.40	1.00	5.06	19.99	25.57	19.45	18.08	17.09	8.60
20	5.84	5.38	4.60	-.31	1.68	5.03	19.50	26.80	21.38	19.04	16.70	7.03
21	5.58	5.00	4.40	.19	2.87	4.70	18.07	30.29	21.76	22.79	15.72	5.70
22	6.05	4.75	4.05	.23	5.37	4.29	17.19	31.10	23.28	24.19	14.49	5.42
23	6.95	4.00	3.52	.23	6.28	4.04	16.14	30.49	25.69	23.63	14.27	6.24
24	7.53	4.58	2.89	.19	6.89	4.12	16.16	28.08	27.02	23.74	14.00	6.37
25	6.81	5.36	3.00	.46	8.23	3.27	16.29	24.31	26.42	26.03	12.86	6.94
26	6.63	5.34	2.25	1.04	11.72	2.29	16.00	21.58	24.99	27.20	11.64	6.68
27	6.48	5.67	1.61	1.01	13.44	1.70	15.11	19.99	24.97	26.72	11.48	7.51
28	7.04	6.08	1.78	.88	14.38	1.94	14.17	19.49	26.30	27.23	11.67	8.71
29	7.82	5.60	1.77	1.07	---	2.24	13.86	18.88	26.54	28.65	11.64	9.53
30	7.59	5.69	1.92	1.29	---	3.44	13.26	18.06	25.85	29.92	11.42	9.63
31	7.29	---	1.42	1.21	---	4.17	---	16.94	---	30.67	11.88	---

MISSISSIPPI RIVER MAIN STEM

07020500 MISSISSIPPI RIVER AT CHESTER, IL--continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT: August 1980 to current year.

REMARKS.--The number of missing days of suspended sediment concentration data exceeds 20 percent of year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT CONCENTRATIONS: Maximum daily mean, 2510 mg/L May 25, 1981; minimum daily mean, 13 mg/L March 18, 1981.

SUSPENDED SEDIMENT LOADS: Maximum daily, 2,410,000 tons (2,190,000 metric tons) May 25, 1981; minimum daily, 3,580 tons (3,250 metric tons) March 18, 1981.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	STREAM- FLOW, INSTANTANEOUS (CFS) (00061)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
SEP , 1980										
04...	204000	48	49	57	69	91	93	99	100	100
APR , 1981										
17...	279000	42	48	58	69	80	82	95	99	100
MAY										
22...	526000	45	48	52	60	83	85	95	99	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
SEP , 1980										
04...	0	0	11	47	87	94	97	99	100	100
OCT										
14...	1	4	33	70	94	97	99	99	100	100
NOV										
25...	0	0	20	56	86	96	99	100	100	100
APR , 1981										
17...	0	0	9	47	89	94	97	99	100	100
MAY										
22...	0	0	7	46	81	89	93	94	95	100
JUL										
15...	0	3	17	50	79	89	93	96	100	100
AUG										
25...	0	0	18	63	92	98	100	100	100	100
SEP										
29...	0	0	12	51	86	95	98	98	100	100

MISSISSIPPI RIVER MAIN STEM

07020500 MISSISSIPPI RIVER AT CHESTER, IL--continued

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1979 TJ SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
JULY			AUGUST			SEPTEMBER			
1	159000		92200	---	---	119000	41	13200	
2	157000		95200	---	---	140000	46	17400	
3	157000		83800	---	---	180000	59	28700	
4	172000		80300	---	---	205000	78	43200	
5	164000		79600	---	---	213000	267	154000	
6	147000		83800	---	---	221000	488	291000	
7	140000		87600	---	---	233000	613	386000	
8	141000		98500	---	---	226000	581	355000	
9	133000		99200	---	---	203000	476	261000	
10	122000		102000	---	---	184000	368	183000	
11	116000		104000	---	---	168000	299	136000	
12	107000		100000	---	---	163000	229	101000	
13	104000		114000	---	---	164000	178	78800	
14	98800		124000	---	---	166000	161	72200	
15	102000		131000	---	---	170000	154	70700	
16	105000		147000	80	31800	170000	150	68900	
17	102000		161000	110	47800	179000	159	76800	
18	96600		176000	135	64200	198000	267	143000	
19	90400		192000	167	86600	207000	354	198000	
20	88300		211000	285	162000	200000	448	242000	
21	86100		210000	301	171000	189000	434	221000	
22	87600		193000	246	128000	181000	374	183000	
23	83100		181000	228	111000	177000	302	144000	
24	90700		173000	207	96700	175000	242	114000	
25	99300		157000	172	72900	176000	174	82700	
26	99900		154000	148	61500	179000	179	86500	
27	92700		157000	174	73800	180000	200	97200	
28	84800		146000	171	67400	181000	195	95300	
29	84700		129000	114	39700	181000	179	87500	
30	87900		121000	65	21200	184000	165	82000	
31	87000		117000	48	15200	---	---	---	
TOTAL	3485900		4100200	---	---	1250800	5512000	---	4113100
OCTOBER			NOVEMBER			DECEMBER			
1	185000	143	71400	128000	177	61200	97400		
2	186000	119	59800	130000	222	77900	94600		
3	188000	126	64000	129000	205	71400	93500		
4	188000	136	69000	129000	181	63000	91000		
5	188000	139	70600	127000	181	62100	93800		
6	189000	138	70400	124000	184	61600	97400		
7	185000	137	68400	121000	142	46400	97000		
8	173000	131	61200	118000	113	36000	94700		
9	147000	119	47200	116000	98	30700	108000		
10	128000	86	29700	110000	72	21400	153000		
11	116000	66	20700	104000	48	13500	194000		
12	112000	64	19400	101000	44	12000	219000		
13	105000	58	16400	99900	62	16700	198000		
14	102000	56	15400	103000	100	27800	165000		
15	102000	57	15700	103000	122	33900	141000		
16	101000	66	18000	102000	109	30000	124000		
17	100000	63	17000	104000	90	25300	113000		
18	106000	71	20300	101000	71	19400	106000		
19	106000	74	21200	103000	60	16700	99300		
20	104000	62	17400	103000	---	---	97600		
21	104000	71	19900	101000	---	---	96700		
22	109000	87	25600	98200	---	---	93700		
23	118000	104	33100	94000	---	---	89600		
24	121000	106	34600	99600	---	---	85200		
25	117000	97	30600	105000	---	---	85800		
26	117000	95	30000	104000	---	---	79400		
27	116000	99	31000	109000	---	---	77600		
28	124000	113	37800	111000	---	---	74000		
29	130000	125	43900	108000	---	---	79300		
30	127000	117	40100	107000	---	---	80500		
31	124000	110	36800	---	---	---	73400		
TOTAL	4118000	---	1156600	3292700	---	727000	3397500		

MISSISSIPPI RIVER MAIN STEM

07020500 MISSISSIPPI RIVER AT CHESTER, IL--continued

SEDIMENT DISCHARGE, SUSPENDED (TNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TNS/DAY)
JANUARY			FEBRUARY			MARCH			
1	73800		68800	---	---	200000	375	203000	
2	76000		74300	---	---	185000	295	146000	
3	77100		70200	---	---	169000	196	89400	
4	77400		69500	---	---	169000	244	111000	
5	74700		60200	---	---	174000	244	115000	
6	67300		61300	---	---	179000	223	108000	
7	68700		62900	---	---	172000	184	85400	
8	70800		66600	---	---	161000	202	87800	
9	70400		66800	---	---	157000	175	74200	
10	72700		62700	---	---	146000	102	40200	
11	71900		58000	---	---	134000	100	36200	
12	72000		54900	---	---	126000	78	26500	
13	72000		52200	---	---	118000	89	28400	
14	69000		55100	---	---	111000	73	21900	
15	65500		59700	---	---	106000	58	16600	
16	63200		63700	---	---	103000	60	16700	
17	63200		67100	---	---	102000	38	10500	
18	63000		71200	---	---	102000	13	3580	
19	63300		74800	---	---	102000	27	7440	
20	65300		80400	---	---	101000	44	12000	
21	68000		93100	---	---	97900	59	15600	
22	68000		111000	---	---	94200	52	13200	
23	67400		119000	---	---	93100	41	10300	
24	66900		124000	---	---	91500	39	9630	
25	69200		145000	137	53600	85500	42	9700	
26	73000		182000	230	113000	78600	28	5940	
27	72100		201000	337	183000	75900	28	5740	
28	71000		210000	360	204000	78200	28	5910	
29	72300		---	---	---	82100	35	7760	
30	73700		---	---	---	92300	60	15000	
31	72500		---	---	---	98600	65	17300	
TOTAL	2171400		2485500	---	553600	3782900	---	1355900	
APRIL			MAY			JUNE			
1	101000	56	15300	232	110000	215000	549	319000	
2	99400	---	---	213	100000	216000	1540	898000	
3	94800	---	---	178	83600	218000	1320	777000	
4	92800	---	---	199	93500	217000	332	195000	
5	104000	---	---	185	88900	220000	269	160000	
6	111000	---	---	206	102000	220000	269	160000	
7	115000	---	---	221	107000	212000	332	190000	
8	118000	---	---	181	87000	204000	1440	793000	
9	128000	---	---	182	87500	182000	1300	639000	
10	138000	112	41700	201	97700	164000	1040	461000	
11	138000	143	53300	272	145000	155000	569	238000	
12	149000	136	54700	494	316000	160000	224	96800	
13	164000	476	211000	592	390000	155000	214	89600	
14	188000	218	111000	566	370000	161000	202	87800	
15	228000	504	310000	510	318000	184000	249	124000	
16	246000	905	601000	478	310000	212000	326	187000	
17	268000	1070	774000	650	467000	232000	402	252000	
18	287000	1520	1180000	1620	1430000	250000	750	506000	
19	286000	1610	1240000	1260	1420000	274000	950	703000	
20	274000	1490	1100000	1600	2080000	308000	980	815000	
21	253000	1110	758000	1630	2250000	319000	975	840000	
22	238000	787	506000	1200	1680000	352000	1020	969000	
23	226000	737	450000	1400	1870000	401000	1450	1570000	
24	227000	831	509000	2000	2330000	425000	1450	1660000	
25	230000	597	371000	2510	2410000	404000	1210	1320000	
26	223000	456	275000	985	806000	375000	1040	1050000	
27	210000	393	223000	1320	984000	381000	1130	1160000	
28	199000	363	195000	450	324000	402000	1250	1360000	
29	194000	315	165000	570	399000	402000	1260	1370000	
30	184000	252	125000	1800	1190000	380000	950	975000	
31	---	---	---	1780	1100000	---	---	---	
TOTAL	5514000	---	9269000	---	23546200	8000000	---	19965200	

MISSISSIPPI RIVER MAIN STEM

07020500 MISSISSIPPI RIVER AT CHESTER, IL--continued

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
JULY			AUGUST			SEPTEMBER			
1	349000	835	787000	494000	1050	1400000	205000	241	133000
2	340000	660	606000	471000	950	1210000	232000	360	226000
3	354000	600	573000	429000	780	903000	223000	332	200000
4	362000	870	850000	372000	690	693000	228000	298	183000
5	358000	930	899000	327000	620	547000	228000	301	185000
6	372000	1010	1010000	296000	580	464000	226000	223	136000
7	396000	1180	1260000	291000	510	401000	222000	288	173000
8	418000	1030	1160000	289000	520	406000	213000	285	164000
9	421000	1130	1280000	286000	500	386000	198000	258	138000
10	407000	960	1050000	284000	480	368000	190000	252	129000
11	373000	820	826000	282000	540	411000	187000	246	124000
12	327000	640	565000	261000	530	373000	184000	226	112000
13	289000	540	421000	241000	525	342000	180000	181	88000
14	263000	480	341000	227000	437	268000	171000	205	94600
15	244000	380	250000	215000	428	248000	170000	202	92700
16	236000	340	217000	226000	417	254000	165000	142	63300
17	241000	360	234000	238000	392	252000	153000	141	58200
18	251000	370	251000	236000	402	256000	143000	116	44800
19	250000	500	338000	236000	353	225000	126000	116	39500
20	280000	560	423000	229000	320	198000	112000	132	39900
21	343000	760	704000	213000	282	162000	103000	114	31700
22	364000	1010	993000	198000	291	156000	103000	88	24500
23	354000	900	860000	195000	225	118000	109000	70	20600
24	364000	940	924000	190000	167	85700	113000	64	19500
25	407000	1160	1270000	174000	133	62500	116000	92	28800
26	423000	1060	1210000	159000	154	66100	115000	118	36600
27	416000	900	1010000	161000	246	107000	126000	190	64600
28	431000	1270	1480000	166000	158	70800	136000	260	95500
29	462000	1380	1720000	164000	187	82800	144000	141	54800
30	486000	1240	1630000	163000	162	71300	145000	114	44600
31	501000	1140	1540000	172000	128	59400	---	---	---
TOTAL 11082000		---	26682000	7885000	---	10646600	4966000	---	2845200

HEADWATER DIVERSION CHANNEL BASIN

07021000 CASTOR RIVER AT ZALMA, MO

LOCATION.--Lat 37°08'48", long 90°04'32", in SE¼ sec.29, T.29 N., R.9 E., Bollinger County, Hydrologic Unit 07140107, on downstream side of left bridge pier on State Highway 51 in Zalma, and 2.5 mi (4.0 km) downstream from Perkins Creek.

DRAINAGE AREA.--423 mi² (1,096 km²).

PERIOD OF RECORD.--January 1920 to current year. Prior to October 1921 monthly discharge only published in WSP 1931.

REVISED RECORDS.--WSP 1147: 1922-23(M). WSP 1281: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 350.38 ft (106.796 m) National Geodetic Vertical Datum of 1929. Prior to June 9, 1953, nonrecording gage. Prior to Oct. 1, 1925, at site 500 ft (152 m) upstream at datum 49.82 ft (15.185 m) lower, Oct. 1, 1925, to Nov. 12, 1930, at site 500 ft (152 m) upstream at datum 0.18 ft (0.055 m) higher. Nov. 13, 1930, to June 8, 1953, at present site and datum. Since Dec. 18, 1949, auxiliary nonrecording gage, 6.0 mi (9.7 km) downstream.

REMARKS.--Records good except those periods when fall was used as a factor, which are poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--61 years, 503 ft³/s (14.24 m³/s), 16.15 in/yr (410 mm/yr), 364,400 acre-ft/yr (449 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,800 ft³/s (1,160 m³/s) Mar. 28, 1977, gage height, 27.05 ft (8.245 m); maximum gage height, 28.20 ft (8.595 m) Mar. 11, 1935; minimum discharge, 16 ft³/s (0.453 m³/s) Aug. 31, 1936, gage height, 0.81 ft (0.247 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1915 reached a stage of 28.0 ft (8.53 m), present datum, from floodmark by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,820 ft³/s (137 m³/s) May 20, gage height, 17.64 ft (5.377 m), no peak above base of 8,000 ft³/s (227 m³/s); minimum daily discharge, 48 ft³/s (1.359 m³/s) Oct. 5-7, 12-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	94	108	86	96	245	113	136	1920	290	444	90
2	53	89	109	85	116	242	108	126	1070	280	372	93
3	51	86	109	85	131	230	107	118	728	600	331	92
4	50	87	110	83	134	238	108	112	584	1000	314	88
5	48	87	110	83	125	260	113	111	498	2300	280	84
6	48	85	110	84	115	269	113	110	1310	2600	257	80
7	48	87	111	85	100	269	112	105	2670	1300	271	78
8	49	88	111	85	92	264	108	102	1370	900	390	76
9	50	91	118	86	90	252	108	97	835	600	303	72
10	49	92	115	90	140	238	107	107	610	350	250	70
11	49	93	110	92	300	225	106	128	514	270	218	68
12	48	93	105	96	540	214	104	140	478	240	203	66
13	48	92	105	120	475	203	103	182	495	200	187	65
14	48	93	105	110	450	193	102	1800	500	185	168	65
15	49	94	106	100	400	184	114	3710	480	177	154	65
16	50	94	107	95	350	180	118	1700	470	176	146	65
17	59	103	108	92	330	172	116	964	500	177	138	64
18	68	116	106	88	320	162	112	751	700	312	131	62
19	68	125	102	85	310	152	142	2990	950	275	123	61
20	67	122	98	85	300	145	298	4100	1300	344	114	61
21	67	113	98	84	295	138	255	1760	2400	1240	108	61
22	66	107	96	82	290	138	233	1070	1200	1070	102	61
23	66	106	94	82	285	135	233	753	700	774	97	60
24	68	107	92	82	280	130	218	682	550	1670	93	59
25	68	107	91	82	278	124	206	820	490	1390	89	58
26	68	107	90	82	267	119	196	854	420	998	128	58
27	77	105	89	82	250	114	183	1420	380	757	124	58
28	93	105	87	81	243	111	172	972	350	764	106	57
29	105	106	87	80	---	111	159	714	320	905	102	55
30	107	107	87	83	---	117	147	740	330	682	93	56
31	101	---	87	83	---	117	---	3170	---	540	88	---
TOTAL	1941	2981	3161	2718	7102	5691	4414	30544	25122	23366	5924	2048
MEAN	62.6	99.4	102	87.7	254	184	147	985	837	754	191	68.3
MAX	107	125	118	120	540	269	298	4100	2670	2600	444	93
MIN	48	85	87	80	90	111	102	97	320	176	88	55
CFSM	.15	.24	.24	.21	.60	.44	.35	2.33	1.98	1.78	.45	.16
IN.	.17	.26	.28	.24	.62	.50	.39	2.69	2.21	2.05	.52	.18
AC-FT	3850	5910	6270	5390	14090	11290	8760	60580	49830	46350	11750	4060
CAL YR 1980 TOTAL	84353				2150			54	7.42		167300	
WTR YR 1981 TOTAL	115012				4100			.75	10.11		228100	

MISSISSIPPI RIVER MAIN STEM

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07022000 MISSISSIPPI RIVER AT THEBES, IL

LOCATION.--Lat 37°13'00", long 89°27'50", in NW¼ sec.17, T.15 S., R.3 W., Alexander County, Hydrologic Unit 07140105, near center span on downstream side of railroad bridge at Thebes, 5.0 mi (8.0 km) downstream from Headwater Diversion Channel, and at mile 43.7 (70.3 km) above Ohio River.

DRAINAGE AREA.--713,200 mi² (1,847,000 km²), approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: October 1932 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to April 1941, published as "at Cape Girardeau, Mo.".

Gage heights: March 1933 to February 1938 and October 1939 to current year in reports of Geological Survey (prior to April 1941, published as "at Cape Girardeau, Mo."). Since November 1878, under name of "at Grays Point" in files of St. Louis District office of Corps of Engineers. January 1879 to May of 1896, published as "at Grays Point" and since May 1896, published as "at Cape Girardeau" in reports of Mississippi River Commission. February 1891 to February 1894 and since 1904, published as "at Cape Girardeau" in reports of National Weather Service.

REVISED RECORDS.--WSP 1341: 1844(M). WRD M0-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Mar. 17, 1933, to Dec. 21, 1934, nonrecording gage and Dec. 22, 1934, to Apr. 4, 1941, water-stage recorder, at site 8.2 mi (13.2 km) upstream at datum 4.65 ft (1.417 m) higher. Apr. 5, 1941, to Sept. 30, 1941, nonrecording gage at present site and datum and Oct. 1, 1941, to Oct. 11, 1943, at datum 0.07 ft (0.021 m) higher. Prior to Apr. 5, 1941, various auxiliary gages used. Since Oct. 1, 1943, former gage at Cape Girardeau used as auxiliary gage.

REMARKS.--Records good except for period of ice effect which are fair. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in Missouri River basin.

AVERAGE DISCHARGE.--49 years, 188,300 ft³/s (5,333 m³/s), 136,400,000 acre-ft/yr (168 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 893,000 ft³/s (25,300 m³/s) May 27, 1943, elevation, 340.33 ft (103.733 m), present datum; maximum elevation, 343.43 ft (104.678 m) Apr. 30, 1973; minimum discharge, 23,400 ft³/s (663 m³/s) Dec. 13, 1937, at site then in use; minimum elevation, 301.67 ft (91.949 m) Jan. 2, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 4, 1844, reached an elevation of 345.14 ft (105.199 m), present datum, at Grays Point, from floodmarks, discharge, 1,375,000 ft³/s (38,900 m³/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 534,000 ft³/s (15,120 m³/s) May 22 at 2200, maximum elevation, 335.37 ft (102.221 m) May 23 at 0200; minimum daily discharge, 58,100 ft³/s (1,645 m³/s) Feb. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	185000	125000	106000	77900	73900	214000	101000	179000	238000	372000	496000	182000		
2	187000	129000	97400	78400	71000	200000	103000	174000	232000	346000	485000	219000		
3	187000	131000	94000	80200	73500	183000	101000	171000	232000	350000	461000	230000		
4	189000	131000	92400	80700	70200	171000	96300	172000	236000	361000	422000	227000		
5	189000	132000	90100	80400	62200	172000	95500	173000	232000	364000	373000	235000		
6	190000	130000	92600	76600	63600	178000	106000	180000	233000	367000	335000	232000		
7	191000	126000	95300	71400	65200	179000	112000	185000	233000	383000	314000	232000		
8	186000	123000	94100	72100	67100	167000	116000	182000	224000	401000	305000	228000		
9	170000	111000	95600	73100	69600	155000	121000	181000	211000	413000	300000	219000		
10	146000	117000	124000	73300	70000	147000	132000	183000	193000	412000	294000	209000		
11	128000	110000	179000	74500	69000	137000	140000	190000	178000	393000	291000	201000		
12	118000	104000	215000	73900	62900	127000	142000	215000	173000	356000	280000	196000		
13	113000	100000	210000	74000	59400	121000	137000	242000	176000	315000	260000	192000		
14	107000	100000	175000	73300	58100	114000	173000	253000	173000	284000	245000	184000		
15	105000	103000	151000	70500	60800	108000	205000	250000	185000	264000	232000	177000		
16	105000	104000	130000	67200	64300	104000	236000	243000	210000	250000	227000	173000		
17	104000	105000	119000	65700	67800	102000	253000	260000	233000	246000	240000	166000		
18	105000	106000	110000	65100	70900	102000	275000	302000	251000	254000	243000	156000		
19	110000	105000	102000	64600	73500	103000	287000	388000	278000	259000	242000	144000		
20	110000	108000	98600	64800	76400	104000	283000	454000	316000	267000	240000	128000		
21	108000	108000	98900	66100	81500	103000	266000	497000	339000	317000	230000	115000		
22	109000	105000	97500	68000	95000	101000	250000	524000	350000	353000	215000	107000		
23	114000	101000	91000	68300	111000	98300	239000	521000	381000	360000	204000	109000		
24	122000	96800	87800	67700	119000	98200	233000	483000	421000	363000	200000	113000		
25	122000	101000	85600	67300	125000	96700	233000	422000	413000	389000	192000	116000		
26	118000	105000	85800	69700	154000	90200	231000	360000	391000	417000	178000	118000		
27	118000	106000	81500	72300	191000	83500	220000	320000	376000	423000	166000	118000		
28	118000	110000	80900	72200	210000	80900	207000	289000	391000	427000	171000	128000		
29	124000	111000	81400	71700	---	82800	197000	274000	403000	448000	170000	139000		
30	127000	109000	82400	73300	---	86800	191000	260000	395000	471000	167000	146000		
31	125000	---	82200	74100	---	95100	---	253000	---	488000	168000	---		
TOTAL	4230000	3352800	3426100	2228400	2435900	3904500	5501800	8780000	8297000	11113000	8346000	5139000		
MEAN	136500	111800	110500	71880	87000	126000	183400	283200	276600	358500	269200	171300		
MAX	191000	132000	215000	80700	210000	214000	287000	524000	421000	488000	496000	235000		
MIN	104000	96800	80900	64600	58100	80900	95500	171000	173000	246000	166000	107000		
CFSM	.19	.16	.16	.10	.12	.18	.26	.40	.39	.50	.38	.24		
IN.	.22	.17	.18	.12	.13	.20	.29	.46	.43	.58	.44	.27		
AC-FT	8390000	6650000	6796000	4420000	4832000	7745000	10910000	17420000	16460000	22040000	16550000	10190000		
CAL YR 1980	TOTAL	57623800	MEAN	157400	MAX	368000	MIN	80900	CFSM	.22	IN	3.01	AC-FT	114300000
WTR YR 1981	TOTAL	66754500	MEAN	182900	MAX	524000	MIN	58100	CFSM	.26	IN	3.48	AC-FT	132400000

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.59	12.30	10.61	6.63	6.37	19.47	9.38	17.79	22.36	28.83	33.59	16.93
2	17.64	12.65	9.59	6.67	6.13	18.74	9.80	17.30	21.92	27.68	33.42	19.37
3	17.63	12.94	9.27	6.88	6.28	17.78	9.64	17.03	21.62	27.40	32.86	20.54
4	17.73	12.85	9.08	7.06	6.26	17.04	9.35	17.03	21.77	27.87	31.18	20.12
5	17.73	12.97	8.66	7.04	4.90	16.96	9.10	17.01	21.69	28.04	29.51	20.68
6	17.75	12.80	8.89	6.70	5.05	17.20	10.20	17.42	21.96	28.03	27.03	20.65
7	17.73	12.55	9.22	5.97	5.23	17.29	11.08	17.69	22.39	28.70	25.72	20.71
8	17.50	12.35	9.20	5.98	5.41	16.50	11.52	17.47	22.06	29.60	25.35	20.65
9	16.57	12.03	8.85	6.23	5.77	15.51	12.15	17.37	21.64	30.37	24.97	20.01
10	14.84	11.78	10.98	6.18	5.82	14.93	13.11	17.44	20.33	30.61	24.63	19.27
11	13.36	11.15	15.36	6.45	5.83	14.14	14.01	17.63	19.13	29.79	24.31	18.69
12	12.21	10.78	18.41	6.39	5.02	13.22	14.14	19.02	18.63	28.05	23.92	18.30
13	11.73	10.15	18.62	6.43	4.74	12.59	15.16	21.07	18.88	26.01	22.72	18.05
14	11.01	10.01	16.61	6.39	4.13	11.72	16.27	21.81	18.34	24.33	21.64	17.52
15	10.71	10.30	14.68	6.12	4.51	10.96	18.27	21.67	18.89	23.13	20.81	16.99
16	10.67	10.36	13.16	5.61	4.93	10.52	20.73	20.94	20.49	22.08	20.25	16.71
17	10.63	10.26	11.98	5.32	5.35	10.17	21.88	21.73	22.03	21.69	21.00	16.31
18	10.55	10.42	11.18	5.23	5.72	10.07	23.32	23.48	23.13	22.03	21.36	15.53
19	11.01	10.08	10.27	5.12	6.15	10.12	24.20	27.95	24.16	22.55	21.26	14.64
20	11.00	10.33	9.84	5.09	6.38	10.14	24.14	31.29	26.14	22.45	21.07	13.32
21	10.84	10.39	9.91	5.21	7.34	9.98	23.39	33.33	27.55	24.99	20.67	11.86
22	10.72	10.15	9.85	5.53	8.71	9.70	22.41	34.71	27.66	27.09	19.67	10.86
23	11.25	9.87	8.99	5.61	10.67	9.31	21.70	35.25	28.85	27.39	18.88	10.80
24	12.13	9.35	8.37	5.61	11.67	9.21	21.15	34.34	30.42	27.35	18.72	11.35
25	12.33	9.92	8.08	5.61	12.29	9.08	21.25	31.83	30.65	28.21	18.23	11.66
26	11.81	10.44	8.10	5.86	14.29	9.33	21.25	28.95	29.53	29.74	17.27	12.00
27	11.69	10.53	7.25	6.36	17.26	7.55	20.60	27.19	28.58	30.09	16.21	11.80
28	11.79	10.86	7.06	6.31	18.92	6.70	19.75	25.86	29.24	30.01	16.58	12.86
29	12.13	11.07	7.07	6.24	---	7.29	19.05	24.85	30.02	30.81	16.59	13.76
30	12.60	10.89	7.17	6.37	---	7.64	19.63	24.07	29.89	31.91	16.30	14.36
31	12.50	---	7.04	6.24	---	8.70	---	23.46	---	32.91	16.23	---

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to Sept. 1981. (Discontinued)

WATER TEMPERATURES: October 1974 to Sept. 1981. (Discontinued)

SUSPENDED-SEDIMENT: October 1980 to current year.

REMARKS.--Water temperature and specific conductance samples collected daily at Cape Girardeau water plant intake.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 705 micromhos Aug. 5, 6, 7, 1980; minimum daily, 272 micromhos April 6, 1979.

WATER TEMPERATURES: Maximum daily, 31.5°C July 10-11, 1975, July 17, 1977; minimum daily 0.0°C on several days during winter periods.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1810 mg/L July 26, 1981; minimum daily mean, 13 mg/L January 28, 1981.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 2,040,000 tons (1,850,000 metric tons) May 22 and July 26, 1981; minimum daily, 2530 tons (2300 metric tons) January 28, 1981.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 698 micromhos Jan. 23; minimum daily, 290 micromhos Aug. 3.

WATER TEMPERATURES: Maximum daily, 29.0°C July 15, 16, 20, 21; minimum daily, 0.0°C Feb. 13, 14, 15.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1810 mg/L July 26; minimum daily mean 13 mg/L January 28.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 2,040,000 tons (1,850,000 metric tons) May 22 and July 26; minimum daily, 2530 tons (2300 metric tons) January 28.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	COLI- FORM, FECAL, 0.7 JM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS, NONCAR- BONATE (MG/L CACJ3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACJ3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT 07...	191000	490	8.0	18.5	--	6.0	63	20000	1000	190	49	46
NOV 03...	132000	587	8.2	11.5	44	6.8	62	3300	2000	220	46	52
DEC 15...	157000	472	--	6.0	380	9.8	79	14000	600	180	63	47
JAN 19...	63900	676	8.2	2.0	4.7	15.0	109	1500	250	250	54	62
FEB 23...	112000	599	8.3	5.0	31	13.4	105	500	700	240	57	57
MAR 30...	90100	560	8.2	14.0	26	13.6	132	460	310	220	21	55
APR 15...	210000	488	7.9	12.0	54	6.0	56	1500	1800	200	36	47
MAY 11...	192000	565	8.0	15.5	42	6.4	64	1800	800	230	74	54
JUN 01...	237000	450	7.7	21.0	190	4.8	53	16000	4800	180	57	45
JUL 06...	367000	396	7.7	24.0	360	5.8	68	--	22000	160	94	42
AUG 10...	295000	436	7.6	27.0	120	5.4	68	3400	710	180	--	47
SEP 01...	185000	548	8.0	26.5	37	4.6	57	3400	60000	200	52	50

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 07...	18	26	4.3	184	0	74	19	.1	10	291	150000	1.5
NOV 03...	21	38	4.1	220	0	100	22	.3	5.9	357	127000	.86
DEC 15...	16	28	4.5	--	--	82	21	.3	5.9	243	103000	1.8
JAN 19...	24	42	3.6	240	0	100	28	.3	8.8	401	69200	1.7
FEB 23...	23	32	3.4	220	0	79	31	.2	5.0	352	106000	1.9
MAR 30...	20	31	4.7	210	16	76	28	.3	2.3	345	83900	1.4
APR 15...	21	30	4.2	200	0	93	20	.3	2.5	323	183000	.90
MAY 11...	22	26	3.2	190	0	86	24	.2	3.2	323	167000	2.7
JUN 01...	16	20	4.0	150	0	62	15	.2	5.4	261	167000	3.2
JUL 06...	14	12	3.9	80	0	60	14	.2	6.8	271	269000	2.9
AUG 10...	14	20	4.2	--	--	62	14	.2	9.1	257	205000	1.7
SEP 01...	19	30	4.6	180	--	82	18	.3	8.0	327	163000	1.9

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 07...	.040	1.40	.88	.430	.210	14	--	--	565	291000	32
NOV 03...	.170	1.40	1.1	.430	.230	--	11	1.7	458	163000	--
DEC 15...	.320	2.30	1.6	.250	.130	26	--	--	1570	666000	--
JAN 19...	.280	1.80	1.6	.130	.110	14	--	--	131	22600	67
FEB 23...	.270	2.20	.92	.350	.100	--	9.0	3.7	254	76800	43
MAR 30...	.060	2.30	1.4	.200	.060	>40	--	--	554	135000	13
APR 15...	.220	2.10	1.4	.310	.120	--	--	--	358	203000	--
MAY 11...	.190	2.30	1.1	.120	.120	--	11	--	306	159000	--
JUN 01...	.100	1.80	1.1	.280	.120	8.8	--	--	555	355000	--
JUL 06...	.100	2.40	1.4	.320	.120	7.2	--	--	1020	1010000	--
AUG 10...	.120	1.70	1.0	.290	.100	--	5.1	3.8	273	217000	72
SEP 01...	.070	1.60	<.20	.240	.120	8.6	--	--	152	75900	--

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
NOV 03...	3	2	100	80	10	2	0	0	2	<3
FEB 23...	2	1	200	90	2	<1	10	0	1	<3
MAY 11...	4	2	200	80	1	<1	0	10	2	<3
AUG 10...	5	2	200	110	1	<1	20	10	5	<3

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
NOV 03...	27	10	2900	160	51	2	200	10	.2
FEB 23...	13	8	2800	50	22	6	160	20	3.3
MAY 11...	15	7	4500	50	15	5	240	6	1.2
AUG 10...	27	3	8900	21	25	0	430	10	.1

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 03...	.1	10	7	1	1	0	0	40	5
FEB 23...	1.9	8	4	1	0	0	0	110	40
MAY 11...	.0	7	5	1	1	0	0	20	10
AUG 10...	.0	14	2	0	1	0	0	60	8

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN, TOTAL (UG/L) (39380)	ENDRIN, TOTAL (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)
OCT 03...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THION, TOTAL (UG/L) (39600)	METHYL TRI- THION, TOTAL (UG/L) (39790)	PARA- THION, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	TOTAL TRI- THION (UG/L) (39786)
OCT 03...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	GROSS ALPHA, DIS- SOLVED (UG/L) AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L) AS U-NAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L) AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L) AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L) AS SR/ YI-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L) AS SR/ YT-90) (80060)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L) (80020)
JAN 19...	<8.1	1.5	5.8	2.8	5.6	2.6	.08	3.3
JUN 01...	<6.2	15	6.0	18	5.8	17	.10	--

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	511	---	600	620	547	600	571	524	438	350	310	524
2	492	549	605	647	612	573	571	547	452	352	294	522
3	499	560	631	599	632	588	594	514	463	373	290	---
4	---	---	640	645	650	574	592	542	479	401	301	495
5	483	547	630	687	677	542	589	513	493	419	331	494
6	475	542	649	646	682	559	601	538	472	395	350	483
7	473	545	609	681	660	554	561	529	462	370	385	496
8	---	542	620	693	681	550	575	525	474	366	418	497
9	471	545	589	657	642	568	573	534	488	348	440	497
10	490	550	619	677	626	583	564	532	502	346	434	490
11	510	550	560	682	602	567	550	521	533	---	434	482
12	532	560	520	628	621	583	542	538	---	354	448	489
13	542	585	540	657	630	596	524	539	528	355	443	506
14	537	587	463	644	649	608	513	457	527	380	438	528
15	553	575	457	592	650	619	513	446	531	400	443	522
16	530	580	469	621	620	627	505	470	524	421	452	519
17	529	581	465	623	620	627	495	471	496	438	451	527
18	481	585	480	627	612	599	499	461	500	454	445	520
19	551	605	505	647	605	609	449	451	451	455	456	528
20	531	540	471	665	615	601	450	416	453	438	457	542
21	518	590	572	667	616	628	441	331	428	432	476	568
22	570	581	582	694	613	605	454	326	415	403	482	580
23	565	553	609	698	592	609	462	311	406	370	485	596
24	545	605	629	639	585	608	475	314	393	372	489	593
25	551	611	---	642	---	647	483	337	346	356	497	584
26	569	530	568	672	---	664	---	367	339	335	504	583
27	560	583	---	650	---	612	475	386	353	313	502	587
28	552	590	---	639	---	619	507	399	361	326	506	566
29	559	580	656	600	---	617	502	421	360	314	524	548
30	549	580	617	640	---	642	510	424	348	308	513	556
31	541	---	562	638	---	---	---	446	---	306	520	---
MEAN	527	569	568	649	627	599	522	456	449	375	436	532

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	---	6.0	.5	2.0	4.5	13.5	19.0	21.0	25.5	25.0	26.0
2	20.0	12.0	5.5	.5	1.0	4.5	13.0	19.0	21.0	26.0	25.0	26.5
3	19.0	12.0	5.0	.5	1.0	6.0	14.0	19.0	22.0	26.5	25.0	---
4	---	---	4.5	.5	1.0	7.0	14.0	19.0	22.0	26.0	25.5	26.0
5	18.0	10.0	4.5	.5	1.0	5.0	14.0	19.0	22.0	26.0	26.0	25.0
6	17.0	10.0	4.5	.5	1.0	6.0	15.0	20.0	22.0	26.0	26.5	25.0
7	17.0	10.5	4.5	.0	1.0	6.0	14.0	20.0	23.5	26.0	26.5	25.0
8	---	10.5	4.5	.0	---	5.0	14.0	18.0	24.0	26.0	26.0	24.5
9	17.0	10.5	5.0	.0	.5	5.5	15.0	18.0	24.5	26.0	26.0	25.0
10	16.5	10.5	4.5	.0	---	5.5	15.5	18.0	25.0	26.0	26.0	24.0
11	16.0	10.5	5.5	.0	.5	6.0	15.5	18.0	25.0	---	26.0	23.5
12	16.0	10.5	4.5	.0	---	6.0	16.0	16.5	---	26.5	23.0	23.5
13	16.0	11.0	4.5	.0	.0	6.5	16.0	16.5	26.0	26.5	26.5	23.5
14	16.0	11.0	4.0	.0	.0	7.0	16.0	16.0	26.0	26.5	26.5	23.5
15	16.0	10.5	4.0	.5	.0	7.0	16.0	16.0	26.0	29.0	26.5	23.5
16	17.0	10.5	3.5	.5	1.0	7.0	16.0	16.0	25.5	29.0	26.5	24.0
17	15.0	10.5	3.5	1.0	1.5	8.0	16.0	16.0	25.5	28.0	26.5	22.0
18	15.0	11.0	3.5	1.0	1.5	9.5	17.0	16.0	25.5	28.0	26.0	21.5
19	15.0	8.5	3.5	1.0	3.0	9.5	16.0	15.5	24.5	28.0	25.5	21.0
20	15.0	3.5	3.0	1.0	4.0	8.0	15.5	15.5	26.5	29.0	25.5	20.5
21	15.0	8.0	2.5	1.0	4.5	8.0	15.5	15.5	26.5	29.0	25.5	21.0
22	16.0	8.0	2.0	1.0	5.0	8.0	18.0	15.5	24.0	28.0	25.5	21.0
23	16.0	8.0	2.0	1.0	4.0	8.0	16.5	15.5	24.0	27.5	25.5	22.0
24	16.0	8.0	2.0	2.0	4.0	8.0	16.5	15.5	24.0	27.0	26.0	21.0
25	15.5	7.5	---	2.0	---	9.0	17.0	17.0	24.0	27.0	25.5	21.0
26	14.5	7.0	.0	2.0	---	9.5	---	18.0	25.0	27.0	25.5	21.0
27	14.0	7.0	---	1.5	---	9.5	17.0	18.0	24.0	26.0	25.5	21.0
28	13.5	6.5	---	2.5	---	10.0	18.5	18.0	24.0	26.0	25.0	21.0
29	12.0	6.0	1.0	2.0	---	10.0	18.5	19.0	24.0	26.5	25.5	21.0
30	11.0	6.5	1.5	2.0	---	11.0	19.0	20.0	24.0	26.0	25.5	21.0
31	11.0	---	1.0	2.0	---	---	---	20.0	---	25.0	26.0	---
MEAN	15.5	9.5	3.5	1.0	2.0	7.5	16.0	17.5	24.0	27.0	25.5	23.0

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 3,80 1500	MAR 30,81 1600	MAY 11,81 1500	JUN 1,81 1330
TOTAL CELLS/ML	34000	75000	53000	13000
DIVERSITY: DIVISION	1.3	0.3	1.1	1.4
..CLASS	1.3	0.3	1.1	1.4
..ORDER	1.9	0.4	2.0	1.7
...FAMILY	2.1	0.4	2.2	2.0
....GENUS	2.8	0.4	2.5	2.5

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....COELASTRACEAE								
.....COELASTRUM	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE								
....PEDIASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
....MICRACTINIUM	--	-	--	-	1600	3	--	-
...OCCYSTACEAE								
....ANKISTRODESMUS	670	2	1000	1	*	0	110	1
....DICTYOSPHAERIUM	--	-	--	-	--	-	69	1
....KIRCHNERIELLA	930	3	2000	3	*	0	*	0
....OCCYSTIS	270	1	--	-	280	1	92	1
....TREUBARIA	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	*	0	670	5
....SCENEDESMUS	*	0	--	-	2900	6	440	3
....TETRASTRUM	1600	5	--	-	1100	2	250	2
...VOLVOCACEAE								
....CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	400	1	1000	1	410	1	110	1
...ZYGNEMATALES								
....DESMIDIACEAE								
....STAUSTRUM	*	0	--	-	--	-	--	-
CHRYSOCHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
....COSCINODISCACEAE								
.....CYCLOCTELLA	3300	10	71000#	94	2300	4	480	4
.....MELCIRA	13000#	40	--	-	1200	2	960	7
....STEPHANODISCUS	1500	4	--	-	1300	2	250	2
...PENNALES								
....ACHNANTHACEAE								
....ACHNANTHES	--	-	--	-	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	--	-	--	-	--	-	69	1
...FRAGILARIACEAE								
....ASTERIONELLA	--	-	--	-	550	1	250	2
....FRAGILARIA	1100	3	--	-	550	1	600	4
....SYNEDRA	--	-	500	1	*	0	*	0
...NAVICULACEAE								
....DIPLOCNEIS	--	-	--	-	--	-	--	-
....ENTOMONEIS	--	-	--	-	--	-	--	-
....GYROSIGMA	--	-	--	-	*	0	--	-
....NAVICULA	*	0	--	-	--	-	*	0
...NITZSCHACEAE								
....NITZSCHIA	400	1	--	-	350	1	140	1
...SURIPELLACEAE								
....SURIPELLA	--	-	--	-	*	0	110	1
..CHRYSOCHYCEAE								
...CHRYSDOMONADALES								
....SYNURACEAE								
....SYNURA	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
....CRYPTOCCHRYSIDACEAE								
....CHROMONAS	--	-	--	-	*	0	--	-
....CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	--	-	*	0

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 3,80 1500		MAR 30,81 1600		MAY 11,81 1500		JUN 1,81 1330	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)								
.CYANOPHYCEAE								
...CHROOCCCALES								
...CHROOCCCAEAE								
....ANACYSTIS	5600#	17	--	-	21000#	39	--	-
....GOMPHOSPHAERIA	--	-	--	-	--	-	--	-
...HORMOGONIALES								
...NOSTOCACEAE								
....ANABAENA	--	-	--	-	--	-	--	-
....APHANIZOMENON	--	-	--	-	--	-	250	2
...OSCILLATORIACEAE								
....LYNGBYA	--	-	--	-	--	-	--	-
....OSCILLATORIA	4000	12	--	-	18000#	35	8100#	61
....PHORMIDIUM	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
.EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	*	0	160	1
....PHACUS	--	-	--	-	*	0	*	0
....TRACHELOMONAS	--	-	--	-	280	1	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	JUL 6,81 1400	AUG 10,81 1500	SEP 1,81 1400
TOTAL CELLS/ML	2200	4000	14000
DIVERSITY: DIVISION	1.4	1.6	1.5
..CLASS	1.4	1.6	1.6
..ORDER	2.3	2.3	2.3
...FAMILY	2.8	2.6	2.7
....GENUS	3.4	3.2	3.3

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCEAE						
....COELASTRACEAE						
.....COELASTRUM	--	-	110	3	--	-
...HYDRODICTYACEAE						
....PEDIASTRUM	--	-	--	-	320	2
...MICRACINIACEAE						
....MICRACINIUM	--	-	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	14	1	28	1	180	1
....DICTYOSPHAERIUM	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	56	1	--	-
....OOCYSTIS	55	2	--	-	230	2
....TREUBARIA	--	-	*	0	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	170	4	--	-
....SCENEDESMUS	41	2	110	3	1400	10
....TETRASTRUM	--	-	110	3	180	1
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	14	1	70	2	180	1
..ZYGNEMATALES						
...DESMIDIACEAE						
....STAUSTRUM	--	-	--	-	--	-
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
....COSCINGODISCACEAE						
.....CYCLOTELLA	260	12	850#	21	1700	12
.....MELOSIRA	190	9	550	14	1000	7
....STEPHANODISCUS	55	2	--	-	91	1
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	*	0	91	1
...CYMBELLACEAE						
....CYMBELLA	28	1	--	-	--	-
...FRAGILARIACEAE						
....ASTERIONELLA	--	-	--	-	--	-
....FRAGILARIA	180	8	56	1	--	-
....SYNEDRA	--	-	--	-	*	0
...NAVICULACEAE						
....DIPLONEIS	--	-	28	1	--	-
....ENTOMONEIS	--	-	*	0	--	-
....GYRCSIGMA	14	1	--	-	--	-
....NAVICULA	69	3	*	0	*	0
...NITZSCHACEAE						
....NITZSCHIA	150	7	200	5	1300	9
...SURIPELLACEAE						
....SURIPELLA	28	1	*	0	--	-
..CHRYSTOPHYCEAE						
...CHRYDOMONADALES						
....SYNURACEAE						
.....SYNURA	--	-	--	-	270	2
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOCHRYSIDACEAE						
.....CHROMONAS	--	-	--	-	--	-
....CRYPTOMONADACEAE						
.....CRYPTOMONAS	--	-	--	-	*	0

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	JUL 6,81 1400		AUG 10,81 1500		SEP 1,81 1400	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	410#	19	420	10	910	7
....GOMPHOSPHERIA	--	-	--	-	4500#	33
...HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	360	3
....APHANIZOMENON	--	-	--	-	--	-
...OSCILLATORIA						
....LYNGBYA	340#	16	--	-	--	-
....OSCILLATORIA	320	14	1100#	28	640	5
....PHORMIDIUM	--	-	--	-	360	3
EUGLENOPHYTA (EUGLENCIDS)						
..EUGLENCOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	*	0	--	-
....PHACUS	--	-	*	0	--	-
....TRACHELOMONAS	41	2	28	1	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM (70346)
SEP , 1980										
05...	221000	33	33	38	47	67	71	89	98	100
APR , 1981										
18...	294000	40	44	55	66	79	82	94	100	100
MAY										
22...	552000	47	47	52	63	81	84	94	98	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)
SEP , 1980										
05...	4	6	20	62	82	90	94	97	100	100
OCT										
15...	1	2	17	51	79	88	95	98	100	100
NOV										
26...	0	2	22	63	82	92	97	99	100	100
JAN , 1981										
28...	0	0	14	55	76	83	90	96	100	100
MAR										
10...	0	0	9	51	88	96	99	99	100	100
APR										
18...	1	20	18	66	96	98	99	100	100	100

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--continued

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	185000	189	94400	125000	154	52000	106000	88	25200
2	187000	350	177000	129000	197	68600	97400	86	22600
3	187000	205	104000	131000	307	109000	94000	115	29200
4	189000	198	101000	131000	279	98700	92400	141	35200
5	189000	187	95400	132000	235	83800	90100	108	26300
6	190000	199	102000	130000	248	87000	92600	115	28800
7	191000	203	105000	126000	209	71100	95300	134	34500
8	196000	279	140000	123000	155	51500	94100	121	30700
9	170000	239	110000	111000	153	45900	95600	100	25800
10	146000	169	66600	117000	190	60000	124000	149	49900
11	128000	164	56700	110000	149	44300	179000	255	123000
12	118000	122	38900	104000	116	32600	215000	429	249000
13	113000	116	35400	100000	102	27500	210000	780	442000
14	107000	132	38100	100000	101	27300	175000	930	439000
15	105000	136	38600	103000	100	27800	151000	924	377000
16	105000	124	35200	104000	108	30300	130000	828	291000
17	104000	158	44400	105000	109	30900	119000	642	206000
18	105000	113	32000	106000	192	55000	110000	600	178000
19	110000	110	32700	105000	113	32000	102000	300	82600
20	110000	115	34200	108000	107	31200	98600	315	83900
21	108000	98	28600	108000	89	26000	98900	312	83300
22	109000	95	28000	105000	90	25500	97500	523	138000
23	114000	93	28600	101000	140	38200	91000	165	40500
24	122000	113	37200	96800	98	25600	87800	105	24900
25	122000	143	47100	101000	136	37100	85600	79	18300
26	118000	121	38600	105000	98	27800	85800	68	15800
27	118000	187	59600	106000	101	28900	81500	66	14500
28	118000	147	46800	110000	120	35600	80900	65	14200
29	124000	180	60300	111000	131	39300	81400	67	14700
30	127000	161	55200	109000	135	39700	82400	84	18700
31	125000	177	59700	---	---	---	82200	123	27300
TOTAL	4230000	---	1971300	3352800	---	1390200	3426100	---	3189900
JANUARY			FEBRUARY			MARCH			
1	77900	124	26100	73900	23	4590	214000	455	263000
2	78400	118	25000	71000	25	4790	200000	412	222000
3	80200	---	---	73500	42	8330	185000	367	181000
4	80700	---	---	70200	65	12300	171000	306	141000
5	80400	---	---	62200	73	12300	172000	283	131000
6	76600	---	---	63600	67	11500	178000	336	161000
7	71400	---	---	65200	66	11600	179000	399	193000
8	72100	---	---	67100	62	11200	167000	354	160000
9	73100	---	---	69600	63	11800	155000	283	118000
10	73300	---	---	70000	62	11700	147000	241	95700
11	74500	---	---	69000	57	10600	137000	206	76200
12	73900	---	---	62900	50	8490	127000	195	66900
13	74000	66	13200	59400	49	7860	121000	219	71500
14	73300	65	12900	58100	48	7530	114000	170	52300
15	70500	64	12200	60800	45	7390	108000	208	60700
16	67200	52	9430	64300	47	8160	104000	217	60900
17	65700	37	6560	67800	43	7870	102000	168	46300
18	65100	25	4390	70900	30	5740	102000	131	36100
19	64600	63	11000	73500	23	4560	103000	138	38400
20	64800	149	26100	76400	227	46800	104000	202	56700
21	66100	60	10700	81500	480	106000	105000	157	43700
22	68000	51	9360	95000	121	31000	101000	140	38200
23	68300	37	6820	111000	272	81500	98300	143	38000
24	67700	25	4570	119000	140	45000	98200	143	37900
25	67300	43	7810	125000	182	61400	96700	129	33700
26	69700	49	9220	154000	350	146000	90200	135	32900
27	72300	34	6640	191000	531	274000	83500	139	31300
28	72200	13	2530	210000	501	284000	80900	145	31700
29	71700	55	10600	---	---	---	82800	156	34900
30	73300	53	10500	---	---	---	86800	185	43400
31	74100	30	6000	---	---	---	95100	182	46700
TOTAL	2228400	---	231630	2435900	---	1244010	3904500	---	2644100

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--continued
 SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
APRIL			MAY			JUNE			
1	101000	229	62400	179000	345	167000	238000	495	318000
2	103000	163	45300	174000	262	123000	232000	556	348000
3	101000	182	49600	171000	279	129000	232000	464	291000
4	96300	177	46000	172000	302	140000	236000	504	321000
5	95500	150	38700	173000	322	150000	232000	420	263000
6	106000	94	26900	180000	292	142000	233000	386	243000
7	112000	152	46000	185000	---	---	233000	357	225000
8	116000	188	58900	182000	---	---	224000	317	192000
9	121000	174	56800	181000	---	---	211000	291	166000
10	132000	181	64500	183000	---	---	193000	259	135000
11	140000	230	86900	190000	---	---	178000	338	162000
12	142000	262	100000	215000	---	---	173000	404	189000
13	157000	183	77600	242000	---	---	176000	367	174000
14	173000	246	115000	253000	---	---	173000	329	154000
15	205000	335	185000	250000	---	---	185000	338	169000
16	236000	604	385000	243000	---	---	210000	385	218000
17	253000	1940	1330000	260000	---	---	233000	395	248000
18	275000	860	639000	302000	---	---	251000	573	388000
19	287000	1090	845000	388000	---	---	278000	959	720000
20	283000	1250	955000	454000	---	---	316000	978	834000
21	266000	1190	855000	497000	---	---	339000	1010	924000
22	250000	963	650000	524000	1440	2040000	350000	940	888000
23	239000	783	505000	521000	1310	1840000	381000	1150	1180000
24	233000	677	426000	483000	1000	1300000	421000	1630	1850000
25	233000	715	450000	422000	850	968000	413000	1450	1620000
26	231000	541	337000	360000	838	815000	391000	1300	1370000
27	220000	396	235000	320000	835	721000	376000	1210	1230000
28	207000	443	248000	289000	542	423000	391000	1250	1320000
29	197000	486	259000	274000	536	397000	403000	1540	1680000
30	191000	371	191000	260000	521	366000	395000	1270	1350000
31	---	---	---	253000	598	408000	---	---	---
TOTAL	5501800	---	9369600	8780000	---	10129000	8297000	---	19170000
JULY			AUGUST			SEPTEMBER			
1	372000	949	953000	496000	1250	1670000	182000	162	79600
2	346000	752	703000	485000	1120	1470000	219000	235	139000
3	350000	733	693000	461000	960	1190000	230000	304	189000
4	361000	790	770000	422000	830	946000	227000	348	213000
5	364000	761	748000	373000	794	800000	235000	317	201000
6	367000	1350	1340000	335000	1010	914000	232000	282	177000
7	383000	1210	1250000	314000	627	532000	232000	264	165000
8	401000	1460	1580000	305000	564	464000	228000	278	171000
9	413000	1140	1270000	300000	526	426000	219000	267	158000
10	412000	1220	1360000	294000	502	398000	209000	272	153000
11	393000	951	1010000	291000	484	380000	201000	294	160000
12	356000	805	774000	280000	488	369000	196000	332	176000
13	315000	855	727000	260000	491	345000	192000	230	119000
14	284000	595	456000	245000	525	347000	184000	221	110000
15	264000	482	344000	232000	458	287000	177000	192	91800
16	250000	414	279000	227000	413	253000	173000	221	103000
17	246000	392	260000	240000	418	271000	166000	218	97700
18	254000	414	284000	243000	392	257000	156000	182	76700
19	259000	382	267000	242000	347	227000	144000	185	71900
20	267000	555	400000	240000	299	194000	128000	168	58100
21	317000	665	569000	230000	331	206000	115000	152	47200
22	353000	883	842000	215000	292	170000	107000	161	46500
23	360000	998	970000	204000	269	148000	109000	126	37100
24	363000	931	912000	200000	294	159000	113000	102	31100
25	389000	1320	1390000	192000	274	142000	116000	118	37000
26	417000	1810	2040000	178000	251	121000	118000	151	48100
27	423000	1090	1240000	166000	221	99100	118000	183	58300
28	427000	970	1120000	171000	320	148000	128000	245	84700
29	448000	1450	1750000	170000	208	95500	139000	266	99800
30	471000	1360	1730000	167000	126	56800	146000	163	64300
31	488000	1210	1590000	168000	126	57200	---	---	---
TOTAL	11113000	---	29621000	8346000	---	13142600	5139000	---	3263900
YEAR	66754500		95367240						

ST. FRANCIS RIVER BASIN

07037500 ST. FRANCIS RIVER NEAR PATTERSON, MO

LOCATION.--Lat 37°11'40", long 90°30'12", in NE¼ sec.16, T.29 N., R.5 E., Wayne County, Hydrologic Unit 08020202, near left bank on downstream side of pier of bridge on State Highway 34, 1 mi (1.6 km) upstream from Clark Creek, and 3 mi (4.8 km) east of Patterson.

DRAINAGE AREA.--956 mi² (2,476 km²).

PERIOD OF RECORD.--October 1920 to current year. Prior to June 1921, monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 732: 1922-23.

GAGE.--Water-stage recorder. Datum of gage is 370.45 ft (112.913 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1938, nonrecording gage at site 50 ft (15 m) upstream at datum 2.00 ft (0.610 m) higher. Oct. 1, 1938, to Apr. 12, 1939, nonrecording gage and Apr. 13, 1939, to Sept. 5, 1956, water-stage recorder at site 50 ft (15 m) upstream at present datum. Sept. 6, 1956, to Sept. 26, 1958, nonrecording gage at present site and datum.

REMARKS.--Records good except periods of no gage height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--61 years, 1,080 ft³/s (30.59 m³/s), 15.35 in/yr (390 mm/yr), 782,500 acre-ft/yr (965 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79,200 ft³/s (2,240 m³/s) Mar. 11, 1935, gage height, 30.70 ft (9.357 m), from rating curve extended above 55,000 ft³/s (1,560 m³/s); maximum gage height, 31.0 ft (9.49 m) Apr. 14, 1945, (backwater from Wappapello Dam); minimum discharge, 8 ft³/s (0.23 m³/s) Aug. 28 to Sept. 1, 1936; minimum gage height, 1.32 ft (0.402 m) Aug. 16, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood on August 1915 reached a stage of 33.8 ft (10.302 m), present datum, from floodmarks, discharge, 100,000 ft³/s (2,830 m³/s), from rating curve extended above 55,000 ft³/s (1,560 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,400 ft³/s (804 m³/s) May 17, gage height, 20.95 ft (6.386 m), no peak above base of 21,000 ft³/s (595 m³/s); minimum discharge, 45 ft³/s (1.27 m³/s) Sept. 30; minimum gage height, 3.44 ft (1.049 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	104	135	101	115	270	400	230	1310	663	945	164
2	54	99	147	99	149	250	340	210	1210	531	751	149
3	51	96	153	98	168	260	290	193	2250	452	636	143
4	50	99	157	96	198	500	250	179	1620	416	572	272
5	48	93	157	94	206	800	220	170	1400	475	509	223
6	47	86	157	93	198	500	200	163	1190	532	458	168
7	48	82	164	93	193	400	191	162	969	644	1130	139
8	48	78	164	91	191	370	184	149	798	694	1230	122
9	48	77	186	89	184	350	182	145	698	546	682	110
10	50	72	206	83	288	340	179	143	636	445	510	100
11	48	71	230	83	776	330	177	555	572	387	416	93
12	47	71	235	82	1280	340	175	1690	535	335	384	87
13	47	69	220	80	865	350	168	3500	506	310	321	82
14	48	68	210	78	663	320	166	10600	455	290	280	92
15	52	69	198	77	542	290	249	4110	428	262	259	104
16	51	69	184	77	489	220	496	2290	419	332	249	93
17	56	85	173	74	465	260	462	7800	393	267	225	84
18	60	103	159	72	458	250	359	9750	412	282	216	78
19	63	106	151	74	445	240	299	3640	5050	335	201	74
20	65	111	139	77	419	270	270	2250	5530	5570	184	69
21	63	115	133	80	390	240	269	1620	3090	6280	164	67
22	62	115	130	82	412	210	399	1900	4460	2450	149	64
23	60	115	128	80	479	240	448	1400	3020	1830	139	61
24	60	117	122	82	606	220	412	1950	1990	4440	130	58
25	60	115	117	80	598	200	374	2140	1370	3680	118	55
26	68	111	115	85	500	190	344	1770	1030	2670	131	53
27	83	120	113	85	320	180	315	1310	828	2530	193	49
28	113	119	111	91	250	170	291	1240	706	2180	213	47
29	115	120	106	89	---	200	264	1750	609	3410	162	47
30	113	124	104	94	---	580	244	2570	698	1980	159	46
31	108	---	103	94	---	500	---	2310	---	1270	168	---
TOTAL	1941	2879	4807	2653	11847	9840	8617	67889	44182	46488	11884	2993
MEAN	62.6	96.0	155	85.6	423	317	287	2190	1473	1500	383	99.8
MAX	115	124	235	101	1280	800	496	10600	5530	6280	1230	272
MIN	47	68	103	72	115	170	166	143	393	262	118	46
CFSM	.07	.10	.16	.09	.44	.33	.30	2.29	1.54	1.57	.40	.10
IN.	.08	.11	.19	.10	.46	.38	.34	2.64	1.72	1.81	.46	.12
AC-FT	3850	5710	9530	5260	23500	19520	17090	134700	87630	92210	23570	5940
CAL YR 1980	TOTAL	154985	MEAN 423	MAX 7500	MIN 14	CFSM .44	IN 6.03	AC-FT 307400				
WTR YR 1981	TOTAL	216020	MEAN 592	MAX 10600	MIN 46	CFSM .62	IN 8.41	AC-FT 428500				

ST. FRANCIS RIVER BASIN

07039000 WAPPAPELLO LAKE AT WAPPAPELLO, MO

LOCATION.--Lat 36°55'42", long 90°17'04", in NW¼SE¼ sec.3, T.26 N., R.7 E., Wayne County, Hydrologic Unit 08020202, at intake tower at dam on St. Francis River, 0.8 mi (1.2 km) southwest of Wappapello, and at mile 309 (497 km).

DRAINAGE AREA.--1,310 mi² (3,390 km²), approximately.

PERIOD OF RECORD.--April 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is 347.74 ft (105.991 m) National Geodetic Vertical Datum of 1929. Prior to June 19, 1941, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by earth-fill dam. Closure of channel at dam began July 10, 1940; river began to flow through outlet structure July 24, 1940. Stop logs placed in outlet structure and storage began Apr. 1, 1941; conservation pool level reached Apr. 20, 1941. Capacity at bottom of outlet tunnels (gage height, -9.0 ft or -2.743 m), 2,600 acre-ft (3.21 km³); at conservation pool level (gage height, 7.0 ft or 2.134 m), 30,900 acre-ft (38.1 hm³); at spillway crest (gage height, 47.0 ft or 14.326 m), 613,200 acre-ft (756 hm³); at maximum pool level (gage height, 62.4 ft or 19.020 m), uncontrollable above spillway crest, 1,022,000 acre-ft (1.26 km³). Figures given herein represent total contents. Under normal operating conditions lake surface will not be drawn below conservation pool level, which is maintained for purposes of conservation and recreation. Storage above this level used for flood control.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 729,800 acre-ft (900 hm³) Apr. 16, 1945, gage height, 51.35 ft (15.651 m); minimum, since initial filling to conservation pool level, 23,340 acre-ft (28.8 hm³) Mar. 1, 2, 3, 1970; minimum gage height, 4.20 ft (1.280 m) Sept. 26, 27, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 83,800 acre-ft (103 hm³) Dec. 28, gage height, 14.35 ft, (4.374 m); minimum, 29,000 acre-ft (36.4 hm³) Feb. 29, gage height, 6.63 ft (2.021 m).

Capacity table (gage height, in feet NGVD, and contents, in acre-ft)

6.0	27,100	17.0	109,600
7.0	30,900	22.0	166,200
10.0	48,000	27.0	235,200
13.0	71,400	33.0	332,900

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63700	66200	71500	73900	31700	30300	69300	61600	64500	64300	60100	59100
2	63300	66100	70100	70600	31900	31000	77000	62500	64600	64400	60000	59100
3	62700	65500	68700	67400	32100	31500	80700	63400	64500	64300	59700	59100
4	62400	65200	67200	64000	31800	32000	82100	64100	64400	64300	59500	59200
5	61900	64500	65400	60500	31500	32300	79300	64800	64100	64100	60000	59700
6	61900	64500	63900	56700	31200	31800	76700	65400	63800	63900	60900	60300
7	61800	63700	62100	53600	30800	31700	74400	65600	63800	63700	60700	60300
8	61800	63200	62400	50100	30700	31900	72300	65500	63500	63200	60600	60300
9	62200	64600	63200	46700	31000	31400	69300	65600	62500	63100	60500	60300
10	62100	64900	64000	43200	31300	31100	68500	65400	62400	62900	60300	60400
11	62100	64500	64500	41000	31500	30800	66800	65600	62000	62900	60100	60300
12	62200	64400	66100	39400	31800	30700	66100	65800	62100	62900	60200	60100
13	62400	64400	67200	38100	31700	30700	64600	67900	62200	62700	60000	60000
14	62400	64200	67700	37000	31400	30900	64300	68100	62300	62600	59900	60100
15	62400	64000	66100	35400	31400	31100	62900	67800	62400	62600	60000	59900
16	62500	63800	64100	34200	35700	31300	61800	68200	62800	62400	60000	59700
17	62700	63400	62000	33000	31900	33600	61100	67600	62400	62200	59800	60700
18	62700	63100	58700	31600	37900	35700	61300	66800	62600	62100	59800	60600
19	62800	62700	55600	31500	58500	40500	61100	66100	62600	61900	60500	60600
20	62900	63000	52900	31600	56400	44000	60800	65400	62500	61700	60300	60500
21	62900	63800	49900	31200	53500	46700	60100	64400	62600	61900	60400	60600
22	63400	65400	47100	30800	51000	48300	58800	63500	62600	61900	60300	60400
23	64400	66800	44800	32100	48400	49500	57500	62400	63700	61700	60000	61800
24	64400	66700	46600	32500	45600	51300	56300	61600	63800	61500	60000	61800
25	64400	66900	60200	32900	42700	54700	55500	60900	63900	61200	59800	62100
26	64400	67700	78000	32600	39300	58600	56300	60400	64100	61000	59700	62400
27	64700	69600	82600	31900	35700	59300	57900	61200	64100	61200	59600	62200
28	64900	72300	83800	30900	32500	58800	58800	62100	64100	61000	59500	62200
29	65200	73000	82000	30800	29500	57900	59300	62800	64400	60900	59400	62300
30	65300	72300	79800	31100	---	58200	60800	63900	64300	60700	59300	62400
31	65200	---	76700	31500	---	60900	---	64300	---	60500	59500	---

WTR YR 1980

(+)	12.28	13.10	13.58	7.12	6.63	11.75	11.73	12.17	12.17	11.69	11.56	11.95
(+)	+1500	+7100	+4400	-45200	-2000	+31400	-100	+3500	0	-3800	-1000	+2900
MAX	65300	73000	83800	73900	58500	60900	82100	68200	64600	64400	60900	62400
MIN	61800	62700	44800	30800	29500	30300	55500	60400	62000	60500	59300	59100

CAL YR 1979.....\$ +11100

WTR YR 1980.....\$ -1300

(+) Elevation, in feet NGVD, at end of month.

(+) Change in contents, in acre-feet.

ST. FRANCIS RIVER BASIN

07039000 WAPPAPELLO LAKE AT WAPPAPELLO, MO

LOCATION.--Lat 36°55'42", long 90°17'04", in NW¼SE¼ sec.3, T.26 N., R.7 E., Wayne County, Hydrologic Unit 08020202, at intake tower at dam on St. Francis River, 0.8 mi (1.2 km) southwest of Wappapello, and at mile 309 (497 km).

DRAINAGE AREA.--1,310 mi² (3,390 km²), approximately.

PERIOD OF RECORD.--April 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is 347.74 ft (105.991 m) National Geodetic Vertical Datum of 1929. Prior to June 19, 1941, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by earth-fill dam. Closure of channel at dam began July 10, 1940; river began to flow through outlet structure July 24, 1940. Stop logs placed in outlet structure and storage began Apr. 1, 1941; conservation pool level reached Apr. 20, 1941. Capacity at bottom of outlet tunnels (gage height, -9.0 ft or -2.743 m), 2,600 acre-ft (3.21 km³); at conservation pool level (gage height, 7.0 ft or 2.134 m), 30,900 acre-ft (38.1 hm³); at spillway crest (gage height, 47.0 ft or 14.326 m), 613,200 acre-ft (756 hm³); at maximum pool level (gage height, 62.4 ft or 19.020 m), uncontrollable above spillway crest, 1,022,000 acre-ft (1.26 km³). Figures given herein represent total contents. Under normal operating conditions lake surface will not be drawn below conservation pool level, which is maintained for purposes of conservation and recreation. Storage above this level used for flood control.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 729,800 acre-ft (900 hm³) Apr. 16, 1945, gage height, 51.35 ft (15.651 m); minimum, since initial filling to conservation pool level, 23,340 acre-ft (28.8 hm³) Mar. 1, 2, 3, 1970; minimum gage height, 4.20 ft (1.280 m) Sept. 26, 27, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 180,000 acre-ft (222 hm³) June 9, 10, gage height, 24.45 ft (7.452 m); minimum, 27,100 acre-ft (33.4 hm³) Jan. 18, 19, gage height, 6.00 ft (1.829 m).

Capacity table (gage height, in feet NGVD, and contents, in acre-ft)

6.0	27,100	17.0	109,600
7.0	30,900	22.0	166,200
10.0	48,000	27.0	235,200
13.0	71,400	33.0	332,900

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62400	63000	51800	30900	29600	41200	36800	56100	168000	130000	92500	63400
2	62500	62900	51800	30900	29900	41000	36800	56400	169000	126000	88700	63800
3	62600	62600	52200	31200	30000	40800	37100	56300	169000	121000	84800	63600
4	62500	62700	51900	31400	30300	40800	37400	56300	168000	116000	81000	63500
5	62400	62500	51800	31500	30500	40900	38300	56900	167000	112000	76800	63500
6	62400	62400	51800	31800	30800	41000	38700	57600	168000	109000	72400	63500
7	62400	62100	51800	31500	31000	41000	38900	57900	174000	105000	69900	63500
8	62400	62100	51800	30500	31700	41300	39300	58000	178000	101000	69700	63200
9	62400	60700	52400	29500	31800	41300	40000	58200	180000	97000	68700	62900
10	62500	59000	52400	28600	32500	41800	40300	59100	180000	92700	67200	62700
11	62600	57200	52400	28100	34800	41600	40500	60000	178000	88600	66200	62200
12	62600	55500	52600	27500	35600	41300	41000	61300	176000	83600	65300	62400
13	62600	53900	52900	27600	37000	41100	41500	64400	173000	78600	64000	62500
14	62500	52900	52600	27600	38100	40900	42100	72100	169000	74500	62400	62700
15	62400	52300	52700	27300	38700	40300	42300	96700	169000	70700	62400	63100
16	62400	51900	50100	27300	39100	40300	43400	111000	160000	68700	63300	63400
17	63600	52200	46900	27200	39300	40300	44300	115000	156000	66400	63800	63300
18	63900	52500	44000	27100	39400	40400	44900	115000	151000	64200	63800	63400
19	64000	52300	40000	27100	39700	39800	45800	118000	148000	68800	63900	63400
20	64000	52200	38300	27200	39800	39300	47400	148000	146000	64400	64000	63400
21	63800	52200	32700	27500	39800	38800	48400	166000	152000	76400	64000	62700
22	63400	52400	30300	27800	40200	38500	49600	166000	152000	83000	64000	59400
23	63000	52600	29000	27900	40200	38600	51500	164000	155000	81500	64000	55800
24	62700	53000	29500	28100	40200	38200	52300	161000	154000	83200	64000	52700
25	62500	53200	29400	28300	41100	37900	52800	160000	152000	89000	63900	50000
26	62200	53300	29500	28500	41200	37600	53300	158000	149000	91900	63900	47600
27	62000	54300	29800	28600	41200	37300	53800	160000	146000	92800	63900	45900
28	63900	54400	30000	28800	41200	37000	54500	163000	142000	93400	64000	44300
29	63600	53700	30100	28600	---	36600	55000	165000	138000	95300	64000	42300
30	63200	52500	30000	29000	---	37000	55800	164000	134000	97300	63800	39300
31	63100	---	30700	29000	---	36700	---	166000	---	95500	63400	---

WTR YR 1981

(†)	12.04	10.60	6.95	6.50	8.90	8.14	11.07	21.98	19.27	15.58	12.07	8.58
(‡)	+700	-10600	-21800	-1700	+12200	-4500	+19100	+110200	-32000	-38500	-32100	-24100
MAX	64000	63000	52900	31800	41200	41800	55800	166000	180000	130000	92500	63800
MIN	62000	51900	29000	27100	29600	36600	36800	56100	134000	64200	62400	39300

CAL YR 1980.....‡ -45980

WTR YR 1981.....‡ -23100

(†) Elevation, in feet NGVD, at end of month.

(‡) Change in contents, in acre-ft.

ST. FRANCIS RIVER BASIN

07039500 ST. FRANCIS RIVER AT WAPPAPELLO, MO

LOCATION.--Lat 36°55'41", long 90°15'55", in NW¼SE¼ sec.2, T.26 N., R.7 E., Wayne County, Hydrologic Unit 08020202, on right bank at downstream side of highway bridge, 0.5 mi (0.8 km) southeast of Wappapello and 1.25 mi (2.0 km) downstream from Wappapello Dam.

DRAINAGE AREA.--1,311 mi² (2,929 km²).

PERIOD OF RECORD.--October 1940 to current year. Since January 1939 in reports of Mississippi River Commission. Gage-height records collected in this vicinity since April 1920 are contained in reports of the Corps of Engineers.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 325.15 ft (99.106 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 14, 1940, nonrecording gages in the vicinity at same datum.

REMARKS.--Records good above 500 ft³/s (14.2 m³/s) and fair below. Discharge computed using gate openings and pool elevation at Wappapello Lake. Flow regulated by Wappapello Lake.

COOPERATION.--Records furnished by Corps of Engineers.

AVERAGE DISCHARGE.--41 years, 1,503 ft³/s (42.56 m³/s), 1,089,000 acre-ft/yr (1.34 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,300 ft³/s (632 m³/s) Apr. 16, 1945, gage height, 25.60 ft (7.803 m); no flow at times in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1920, 30.7 ft (9.36 m) May 15, 1933, discharge, 82,500 ft³/s (2,340 m³/s), determined by Corps of Engineers. Maximum discharge, 85,000 ft³/s (2,410 m³/s), determined by Corps of Engineers, Aug. 1915 (stage unknown).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,360 ft³/s (95.2 m³/s) May 21; minimum daily discharge, 40 ft³/s (1.13 m³/s) many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	220	230	1670	2830	180	90	460	40	220	40	120	40		
2	220	290	1660	2810	180	240	500	40	380	40	120	40		
3	220	410	1650	2790	370	330	1580	40	380	40	120	40		
4	220	410	1640	2750	470	470	1590	40	380	150	120	40		
5	130	400	1630	2700	460	540	2710	40	380	220	120	40		
6	40	400	1630	2690	460	590	2850	160	380	220	120	40		
7	40	400	1010	2670	450	525	2830	220	380	220	120	40		
8	40	400	40	2630	230	600	2760	220	380	100	120	40		
9	40	400	40	2590	130	590	2310	220	310	40	120	40		
10	40	400	40	2560	180	590	2030	180	220	40	120	40		
11	40	400	40	2310	180	500	2030	40	100	40	70	40		
12	40	400	40	2000	270	450	2010	110	40	40	40	40		
13	40	400	40	1990	410	360	2010	230	40	40	40	40		
14	40	400	630	1960	460	310	2010	380	40	40	40	40		
15	40	400	1370	1950	610	310	2120	530	40	40	40	40		
16	40	400	1360	1920	1080	360	2220	650	40	40	40	40		
17	40	400	1730	1910	1710	920	2210	880	40	40	40	40		
18	40	400	1960	1460	2340	1300	2210	880	40	40	40	40		
19	40	160	1940	950	2900	1340	2210	1030	40	40	40	40		
20	40	40	1910	970	3520	1600	2200	1020	40	40	40	40		
21	40	40	1960	1000	3490	1980	2190	1010	40	40	40	40		
22	40	40	1980	380	3450	1990	2180	1010	40	70	40	40		
23	40	410	1960	180	3430	2010	2020	1000	40	120	40	40		
24	40	600	2000	360	3380	2040	1690	1000	40	120	40	40		
25	40	600	2020	620	3380	2220	1010	1000	40	120	40	40		
26	40	600	2080	1010	3370	2690	40	560	40	120	40	40		
27	40	1110	2100	1000	3290	2820	40	40	40	120	40	40		
28	40	1670	2580	770	3220	2820	40	40	160	120	40	40		
29	40	1670	2880	270	2050	2820	40	40	220	120	40	40		
30	40	1670	2870	180	---	2820	40	130	100	120	40	40		
31	40	---	2860	180	---	2000	---	220	---	120	40	---		
TOTAL	2050	15550	47320	50390	45650	38225	50140	13000	4630	2700	2070	1200		
MEAN	66.1	518	1526	1625	1574	1233	1671	419	154	87.1	66.8	40.0		
MAX	220	1670	2880	2830	3520	2820	2850	1030	380	220	120	40		
MIN	40	40	40	180	130	90	40	40	40	40	40	40		
CFSM	.05	.40	1.16	1.24	1.20	.94	1.28	.32	.12	.07	.05	.03		
IN.	.06	.44	1.34	1.43	1.30	1.08	1.42	.37	.13	.08	.06	.03		
AC-FT	4070	30840	93860	99950	90550	75820	99450	25790	9180	5360	4110	2380		
CAL YR 1979	TOTAL	932050	MEAN	2554	MAX	9080	MIN	40	CFSM	1.95	IN	26.45	AC-FT	1849000
WTR YR 1980	TOTAL	272925	MEAN	746	MAX	3520	MIN	40	CFSM	.57	IN	7.74	AC-FT	541300

ST. FRANCIS RIVER BASIN

07039500 ST. FRANCIS RIVER AT WAPPAPELLO, MO

LOCATION.--Lat 36°55'41", long 90°15'55", in NW¼SE¼ sec.2, T.26 N., R.7 E., Wayne County, Hydrologic Unit 08020202, on right bank at downstream side of highway bridge, 0.5 mi (0.8 km) southeast of Wappapello and 1.25 mi (2.0 km) downstream from Wappapello Dam.

DRAINAGE AREA.--1,311 mi² (2,929 km²).

PERIOD OF RECORD.--October 1940 to current year. Since January 1939 in reports of Mississippi River Commission. Gage-height records collected in this vicinity since April 1920 are contained in reports of the Corps of Engineers.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 325.15 ft (99.106 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 14, 1940, nonrecording gages in the vicinity at same datum.

REMARKS.--Records good above 500 ft³/s (14.2 m³/s) and fair below. Discharge computed using gate openings and pool elevation at Wappapello Lake. Flow regulated by Wappapello Lake.

COOPERATION.--Records furnished by Corps of Engineers.

AVERAGE DISCHARGE.--40 years, 1,521 ft³/s (43.07 m³/s), 1,102,000 acre-ft/yr (1.36 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,300 ft³/s (632 m³/s) Apr. 16, 1945, gage height, 25.60 ft (7.803 m); no flow at times in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1920, 30.7 ft (9.36 m) May 15, 1933, discharge, 82,500 ft³/s (2,340 m³/s), determined by Corps of Engineers. Maximum discharge, 85,000 ft³/s (2,410 m³/s), determined by Corps of Engineers, Aug. 1915 (stage unknown).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,520 ft³/s (99.7 m³/s) Feb. 20; minimum daily discharge, 40 ft³/s (1.13 m³/s) many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	220	200	40	100	750	230	40	2080	2840	2970	220
2	40	220	200	40	100	750	40	110	2090	2970	2920	180
3	40	220	200	40	100	740	40	170	2090	2950	2890	180
4	40	220	200	40	100	740	40	40	2090	2910	2850	180
5	40	220	200	90	100	740	40	40	2080	2890	2810	170
6	40	220	200	330	100	740	40	40	1140	3080	2350	180
7	40	220	200	570	100	750	40	40	40	3130	1590	180
8	40	650	200	720	100	750	40	40	40	2790	1580	180
9	40	1050	200	700	100	500	40	40	880	2750	1560	180
10	40	1050	200	610	110	450	40	40	1590	2880	1120	180
11	40	1040	200	340	280	480	40	40	1590	2980	1110	130
12	40	1040	200	130	300	480	40	40	1960	2930	1110	40
13	40	930	200	120	340	480	40	40	2620	2730	950	40
14	40	720	200	250	350	480	40	1350	2610	1960	660	40
15	40	720	1190	260	400	480	40	1590	2590	1790	40	40
16	40	270	2250	170	410	280	40	1520	2580	1480	120	40
17	40	40	2130	170	450	300	40	1920	2550	1470	220	40
18	40	40	2370	170	450	410	40	2260	2550	1090	220	40
19	40	40	2410	140	450	410	40	2460	2530	40	220	40
20	140	40	2370	40	460	400	40	2920	2530	230	220	155
21	220	40	2300	40	460	400	40	3360	2550	1190	220	1260
22	220	40	1460	40	460	400	40	3360	2560	2520	220	1580
23	220	40	660	40	460	380	40	3340	2550	2880	220	1920
24	220	40	40	40	450	300	125	3330	2550	2380	220	1780
25	220	40	40	40	360	300	210	3320	2550	2010	220	1390
26	160	40	40	40	620	300	210	3020	2540	2280	220	1210
27	40	160	40	40	750	300	130	1890	2520	2490	220	1060
28	160	390	40	160	750	290	40	1050	2510	2510	220	670
29	220	770	40	140	---	300	40	1670	2480	2530	220	1300
30	220	790	40	90	---	300	40	2590	2640	2830	220	1550
31	220	---	40	200	---	300	---	2330	---	3010	220	---
TOTAL	3020	11520	20260	5840	9210	14680	1905	44420	63680	72520	29930	16155
MEAN	97.4	384	654	188	329	474	63.5	1433	2123	2339	965	539
MAX	220	1050	2410	720	750	750	230	3360	2640	3130	2970	1920
MIN	40	40	40	40	100	280	40	40	40	40	40	40
CFSM	.07	.29	.50	.14	.25	.36	.05	1.09	1.62	1.78	.74	.41
IN.	.09	.33	.57	.17	.26	.42	.05	1.26	1.81	2.06	.85	.46
AC-FT	5990	22850	40190	11580	18270	29120	3780	88110	126300	143800	59370	32040
CAL YR 1980	TOTAL	242805	MEAN 663	MAX 3520	MIN 40	CFSM .51	IN 6.89	AC-FT 481600				
WTR YR 1981	TOTAL	293140	MEAN 803	MAX 3360	MIN 40	CFSM .61	IN 8.32	AC-FT 581400				

ST. FRANCIS RIVER BASIN

07042500 LITTLE RIVER DITCH 251 NEAR LILBOURN, MO

LOCATION.--Lat 36°33'20", long 89°40'12", SW¼SE¼ sec.8, T.22 N., R.13 E., New Madrid County, Hydrologic Unit 08020204, on right bank 150 ft (46 m) upstream from bridge on U.S Highway 62, 3.7 mi (6.0 km) southwest of Lilbourn, and 4.0 mi (6.4 km) northwest of Marston.

DRAINAGE AREA.--235 mi² (609 km²).

PERIOD OF RECORD.--October 1945 to current year. Prior to January 1946 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WDR MO-80-1: 1980, (M).

GAGE.--Water-stage recorder, nonrecording gage and crest-stage gage. Datum of gage is 263.46 ft (80.303 m) National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission). Prior to Oct. 27, 1967, nonrecording gage at present site and datum.

REMARKS.--Records fair. Several observations of water temperature and specific conductance made during the year.

AVERAGE DISCHARGE.--36 years, 325 ft³/s (9.204 m³/s), 18.78 in/yr (477 mm/yr), 235,500 acre-ft/yr (290 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,580 ft³/s (186 m³/s) Mar. 29, 1975, gage height, 14.17 ft (4.319 m); maximum gage height, 15.16 ft (4.621 m) Feb. 15, 1950; minimum discharge, 29 ft³/s (0.82 m³/s) Sept. 20, 1954; minimum gage height, 1.94 ft (0.591 m) Sept. 21, 22, 23, 25, 26, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1945 reached a stage of 15.6 ft (4.75 m) from floodmark, discharge, 3,200 ft³/s (90.6 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,560 ft³/s (101 m³/s) June 7, gage height, 10.71 ft (3.264 m); minimum daily, 29 ft³/s (0.821 m³/s) Oct. 11, 12, 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	44	61	55	189	85	67	102	251	175	130	140
2	32	43	57	57	90	81	65	99	259	175	115	120
3	32	43	54	57	80	80	67	96	242	180	105	110
4	32	42	52	53	67	261	82	94	289	185	100	105
5	32	42	53	52	66	222	72	92	272	200	98	100
6	32	41	56	60	66	96	68	92	1470	230	180	92
7	32	42	54	59	63	83	67	92	3140	185	300	88
8	30	43	68	56	61	82	70	90	1730	175	550	83
9	30	44	378	56	63	80	71	90	607	175	300	78
10	30	43	136	53	216	78	66	110	410	170	210	75
11	29	42	75	56	120	79	66	145	360	165	150	72
12	29	41	67	56	100	77	67	120	340	165	140	70
13	29	41	63	59	95	78	65	100	318	160	130	68
14	29	40	61	59	90	75	65	1150	288	165	135	72
15	30	41	59	54	88	77	60	790	263	160	140	78
16	31	42	58	52	111	79	61	395	252	155	145	70
17	49	43	56	46	118	78	65	242	241	129	140	68
18	56	44	56	48	95	75	67	204	233	299	130	65
19	43	43	54	59	89	72	69	862	250	630	120	64
20	36	42	75	59	85	72	85	552	310	390	115	63
21	35	41	70	60	83	72	150	380	240	343	110	62
22	35	41	59	57	84	74	123	350	220	310	105	61
23	35	42	60	57	83	73	568	315	210	350	100	60
24	38	43	60	56	80	68	333	295	200	500	98	58
25	38	45	57	56	76	63	221	280	215	400	96	60
26	37	49	54	58	76	64	152	265	210	320	95	62
27	50	116	54	54	76	64	126	255	200	250	120	59
28	64	105	57	52	82	62	112	245	190	210	160	56
29	50	74	54	52	---	74	109	237	185	185	130	54
30	45	66	56	54	---	83	105	244	180	160	115	53
31	45	---	57	50	---	72	---	242	---	140	105	---
TOTAL	1147	1468	2231	1712	2592	2679	3364	8625	13575	7436	4667	2266
MEAN	37.0	48.9	72.0	55.2	92.6	86.4	112	278	453	240	151	75.5
MAX	64	116	378	60	216	261	568	1150	3140	630	550	140
MIN	29	40	52	46	61	62	60	90	180	129	95	53
CFSM	.16	.21	.31	.24	.39	.37	.48	1.18	1.93	1.02	.64	.32
IN.	.18	.23	.35	.27	.41	.42	.53	1.37	2.15	1.18	.74	.36
AC-FT	2280	2910	4430	3400	5140	5310	6670	17110	26930	14750	9260	4490
CAL YR 1980	TOTAL	68254	MEAN 186	MAX 1810	MIN 29	CFSM .79	IN 10.80	AC-FT 135400				
WTR YR 1981	TOTAL	51762	MEAN 142	MAX 3140	MIN 29	CFSM .60	IN 8.19	AC-FT 102700				

ST. FRANCIS RIVER BASIN

07043000 CASTOR RIVER AT AQUILLA, MO

LOCATION.--Lat 36°57'08", long 89°54'25", in NE¼SE¼ sec.25, T.27 N., R.10 E., Stoddard County, Hydrologic Unit 08020204, on downstream side of right pier of bridge on State Highway 25, 0.5 mi (0.8 km) north of Aquilla, and 4.0 mi (6.4 km) north of Bloomfield.

DRAINAGE AREA.--175 mi² (453 km²).

PERIOD OF RECORD.--October 1945 to current year. Prior to January 1946 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 317.11 ft (96.655 m) National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway Commission). Prior to Apr. 11, 1948, nonrecording gage at site 50 ft (15 m) downstream at same datum. Apr. 11, 1948, to July 31, 1968, nonrecording gage at present site and datum.

REMARKS.--Records good except those for fall and winter periods, which are poor. Several observations of water temperature and specific conductance were made during the year. Entire flow from headwaters of Castor River is diverted 22 mi (35 km) above station to Headwater diversion channel. See Castor River at Zalma for records of flow above diversion.

AVERAGE DISCHARGE.--36 years, 170 ft³/s (4.814 m³/s), 13.19 in/yr (335 mm/yr), 123,200 acre-ft/yr (152 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,510 ft³/s (213 m³/s) Mar. 28, 1977, gage height, 15.67 ft (4.776 m); no flow at times in several years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1945 reached a stage of 14.2 ft (4.33 m), from floodmark.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 977 ft³/s (27.7 m³/s) June 6, gage height, 10.13 ft (3.088 m); no flow Oct. 12-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	2.8	4.0	.84	7.7	9.0	27	13	344	9.4	27	61
2	.16	1.4	3.4	.80	12	6.8	57	9.0	312	8.1	14	57
3	.12	.77	3.1	.79	19	6.0	48	7.0	376	17	6.5	66
4	.10	.64	2.9	.79	26	8.6	36	5.9	290	195	23	75
5	.06	.58	2.6	.79	26	15	27	5.3	208	259	71	55
6	.03	.54	2.5	1.1	17	25	19	5.1	459	183	35	36
7	.03	.49	2.4	1.1	12	29	14	4.8	927	184	18	25
8	.02	.45	2.2	.99	12	23	10	4.7	830	219	10	18
9	.02	.41	2.5	.99	18	15	6.4	5.3	634	135	6.6	12
10	.01	.38	70	.96	71	9.9	7.3	12	366	69	6.0	8.0
11	.01	.36	64	.95	203	6.2	6.2	11	179	57	10	5.4
12	.00	.34	45	.94	179	4.3	4.8	10	102	37	22	2.8
13	.00	.32	25	.94	115	3.4	3.8	60	79	24	44	2.0
14	.00	.30	15	.93	62	2.8	3.2	901	109	20	66	1.9
15	.00	.40	11	.93	37	2.6	2.8	921	120	15	52	2.4
16	.00	.35	7.5	.92	31	2.5	2.8	748	95	11	37	1.6
17	.40	.70	5.7	.92	29	2.4	2.8	523	74	23	21	1.5
18	.55	.50	3.9	.92	31	2.5	2.8	314	60	35	17	1.4
19	.45	.35	2.9	.92	31	2.6	11	332	135	84	11	1.3
20	.20	.30	2.2	.99	26	2.8	208	418	231	122	6.8	1.1
21	.25	.30	1.9	2.0	21	2.8	201	342	186	122	6.2	.84
22	.20	.35	1.6	1.4	19	3.1	157	216	124	112	6.0	.70
23	.20	.77	1.4	1.4	21	2.9	228	131	87	247	5.7	.55
24	.18	.91	1.3	1.4	38	2.9	223	87	56	306	5.2	.50
25	.40	.77	1.2	1.4	33	3.0	154	68	38	251	5.3	.45
26	.30	.70	1.1	1.3	23	3.2	100	287	25	170	35	.43
27	.65	13	.99	1.3	14	3.1	56	579	20	111	185	.40
28	3.9	14	.92	1.4	10	3.2	40	522	17	98	129	.38
29	20	5.5	.92	1.4	---	4.9	24	346	14	91	89	.35
30	13	4.7	.84	2.4	---	7.2	18	226	11	87	93	.33
31	5.4	---	.84	2.4	---	6.8	---	312	---	58	77	---
TOTAL	46.80	53.38	290.81	36.31	1143.7	222.5	1702.9	7426.1	6508	3379.5	1142.3	439.33
MEAN	1.51	1.78	9.38	1.17	40.8	7.18	56.8	240	217	109	36.8	14.6
MAX	20	14	70	2.4	203	29	226	921	927	306	185	75
MIN	.00	.30	.84	.79	7.7	2.4	2.8	4.7	11	8.1	5.2	.33
CFSM	.009	.01	.05	.007	.23	.04	.33	1.37	1.24	.62	.21	.08
IN.	.01	.01	.06	.01	.24	.05	.36	1.58	1.38	.72	.24	.09
AC-FT	93	106	577	72	2270	441	3380	14730	12910	6700	2270	871
CAL YR 1980 TOTAL	23374.57			MEAN 63.9	MAX 1120	MIN .00	CFSM .37	IN 4.97	AC-FT 46360			
WTR YR 1981 TOTAL	22391.63			MEAN 61.3	MAX 927	MIN .00	CFSM .35	IN 4.76	AC-FT 44410			

ST. FRANCIS RIVER BASIN

07043500 LITTLE RIVER DITCH 1 NEAR MOREHOUSE, MO

LOCATION.--Lat 36°50'03", long 89°43'48", in SW¼SE¼ sec.2, T.25 N., R.12 E., Stoddard County, Hydrologic Unit 08020204, on downstream side of second pier right of left abutment of bridge on State Highway 114, 1.5 mi (2.4 km) downstream from Little River ditch 39, and 2.0 mi (3.2 km) west of Morehouse.

DRAINAGE AREA.--450 mi² (1,166 km²).

PERIOD OF RECORD.--October 1945 to current year. Prior to January 1946 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 280.76 ft (85.576 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 17, 1949, June 11, 1951, to Feb. 22, 1962, nonrecording gage at same site and datum. Nov. 17, 1949, to June 10, 1951 nonrecording gage at site 50 ft (15 m) downstream at present datum.

REMARKS.--Records fair except those for no gage-height record which are poor. Several observations of water temperature and specific conductance were made during the year. This Little River ditch 1 flows into Little River ditch 251 at point 35.3 mi (56.8 km) downstream, and is independent of the ditch for which records are published as Little River 1 near Kennett.

AVERAGE DISCHARGE.--36 years, 521 ft³/s (14.75 m³/s), 15.72 in/yr (399 mm/yr), 377,500 acre-ft/yr (465 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,250 ft³/s (234 m³/s) May 10, 1961, gage height, 19.35 ft (5.898 m); maximum gage height, 19.81 ft (6.038 m) Mar. 11, 1964; minimum discharge, 21 ft³/s (0.59 m³/s) Sept. 18, 1954, gage height, 3.13 ft (0.954 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1945 reached a stage of 19.85 ft (6.050 m) from floodmark, discharge, 5,830 ft³/s (165 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,930 ft³/s (111 m³/s) June 7, gage height, 10.04 ft (3.060 m); minimum daily, 46 ft³/s (1.303 m³/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	68	77	74	98	123	100	132	1070	179	175	203
2	47	66	71	73	117	118	108	125	701	171	159	205
3	46	64	67	73	112	111	132	123	784	161	155	167
4	47	61	67	71	93	127	138	118	730	250	157	151
5	47	60	69	74	87	136	118	116	503	540	167	145
6	47	60	69	76	85	127	103	116	1510	500	167	143
7	47	61	68	75	85	123	108	113	3520	557	384	127
8	49	60	73	74	84	123	113	110	1900	384	510	117
9	49	60	107	73	84	120	103	115	1180	298	227	113
10	49	58	90	71	189	113	100	175	832	225	167	108
11	48	58	80	71	405	108	102	260	500	202	155	104
12	47	58	76	74	399	106	100	183	530	185	155	101
13	48	60	74	76	309	103	100	179	494	173	153	98
14	49	60	73	69	187	102	92	2860	357	157	155	98
15	49	60	74	67	179	102	88	2560	320	155	157	108
16	53	60	74	67	175	106	89	1270	286	155	177	99
17	62	65	77	67	173	103	96	900	258	155	177	95
18	66	68	79	68	159	96	89	685	233	281	153	93
19	58	65	74	69	149	93	97	1590	270	393	149	93
20	54	64	76	69	143	92	628	1280	1100	357	147	93
21	53	64	86	73	134	93	223	764	784	577	139	93
22	52	63	85	73	143	92	191	513	474	500	132	93
23	51	65	70	73	143	92	628	378	343	349	127	88
24	53	65	74	73	132	89	772	312	202	728	123	87
25	54	63	87	78	136	89	221	255	229	581	120	89
26	53	64	85	73	130	92	255	665	217	426	151	88
27	60	78	73	72	122	90	214	1440	208	340	173	85
28	71	82	72	72	120	92	183	972	197	295	216	83
29	67	79	72	72	---	103	157	704	188	260	177	83
30	61	80	73	74	---	118	141	481	181	227	157	83
31	70	---	74	76	---	111	---	1450	---	201	163	---
TOTAL	1655	1939	2366	2240	4372	3293	5789	20944	20101	10012	5524	3333
MEAN	53.4	64.6	76.3	72.3	156	106	193	676	670	323	178	111
MAX	71	82	107	78	405	136	828	2860	3520	728	510	205
MIN	46	58	67	67	84	89	88	110	181	155	120	83
CFSM	.12	.14	.17	.16	.35	.24	.43	1.50	1.49	.72	.40	.25
IN.	.14	.16	.20	.19	.36	.27	.48	1.73	1.66	.83	.46	.28
AC=FT	3280	3850	4690	4440	8670	6530	11480	41540	39870	19860	10960	6610
CAL YR 1980	TOTAL	85463	MEAN 234	MAX 3020	MIN 39	CFSM .52	IN 7.06	AC=FT	169500			
WIR YR 1981	TOTAL	81568	MEAN 223	MAX 3520	MIN 46	CFSM .50	IN 6.74	AC=FT	161800			

ST. FRANCIS RIVER BASIN

07046001 LITTLE RIVER DITCHES NEAR KENNETT, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 36°14'08", long 89°58'41", in NW¼ sec. 3, T.18 N., R.10 E., Dunklin County, at bridges on State highway 84, 4 mi (6.4 km) east of Kennett.

PERIOD OF RECORD.--November 1969 to June 1970, August 1972 to September 1973, July 1977 to current year.

REMARKS.--Analyses represent a composite of water from five ditches.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHQS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 08...	1028	29001	145	380	8.3	18.5	7.6	80	20	60	170
NOV 04...	1028	29001	202	378	7.8	13.0	8.6	81	7	42	--
DEC 15...	1028	29001	272	319	7.5	10.0	11.4	101	19	160	--
JAN 20...	1028	29001	204	398	8.1	5.5	12.6	100	14	15	190
FEB 23...	1028	29001	309	345	8.2	12.0	11.2	104	<1	10	--
MAR 31...	1028	29001	366	360	8.2	16.0	9.0	91	--	64	--
APR 16...	1028	29001	285	410	7.8	14.0	8.8	85	12	140	180
MAY 12...	1028	29001	544	240	7.3	17.0	7.0	72	26	1700	--
JUN 02...	1028	29001	793	150	7.3	22.5	5.2	59	41	1100	--
JUL 07...	1028	29001	2470	140	7.3	26.0	6.0	73	50	--	83
AUG 11...	1028	29001	110	310	--	28.0	6.6	83	<5	250	--
SEP 02...	1028	29001	105	340	8.0	24.0	5.6	66	11	760	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CO3) (00445)	ALKA- LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 08...	0	48	13	12	1.7	220	0	180	1.8	17	12
NOV 04...	--	--	--	--	--	184	0	151	4.7	--	--
DEC 15...	--	--	--	--	--	160	0	131	8.1	--	--
JAN 20...	17	52	14	14	1.7	208	0	171	2.6	22	13
FEB 23...	--	--	--	--	--	180	0	148	1.8	--	--
MAR 31...	--	--	--	--	--	176	0	144	1.8	--	--
APR 16...	2	50	14	18	2.4	220	0	180	5.6	28	15
MAY 12...	--	--	--	--	--	84	0	69	6.7	--	--
JUN 02...	--	--	--	--	--	84	0	69	6.7	--	--
JUL 07...	27	23	6.1	5.3	2.2	68	0	56	5.5	6.0	5.7
AUG 11...	--	--	--	--	--	--	--	--	--	--	--
SEP 02...	--	--	--	--	--	168	0	138	2.7	--	--

WHITE RIVER BASIN

07050580 JAMES RIVER NEAR STRAFFORD, MO

LOCATION.--Lat 37°12'11", long 93°04'47", in SW¼NW¼NW¼ sec.24, T.29 N., R.20 W., Greene County, Hydrologic Unit 11010002, on right bank 15 ft (5 m) downstream from proposed bridge site on county road, 1.6 mi (2.6 km) downstream from County Line Damsite, 1 mi (1.6 km) downstream from Davis Creek and 4 mi (6.4 km) south of Strafford.

DRAINAGE AREA.--165 mi² (427 km²).

PERIOD OF RECORD.--October 1973 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1207 ft (368 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except periods of no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years, 148 ft³/s (4.191 m³/s) 12.18 in/yr (309 mm/yr) 107,200 acre-ft/yr (132 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,900 ft³/s (705 m³/s) Sept. 27, 1977, gage height, 18.90 ft (5.761 m); minimum, 1.2 ft³/s (0.034 m³/s) June 14-19, 1977, gage height, 2.01 ft (0.613 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
May 14	0100	*4,650	132	*11.03	3.362
June 19	1415	4,000	113	10.09	3.075

Minimum, 0.36 ft³/s (0.010 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.48	15	9.7	9.6	8.5	21	31	74	34	38	22	10
2	.48	14	10	9.5	8.5	20	27	55	52	32	24	8.8
3	.74	13	9.8	9.3	9.2	19	25	42	44	25	32	7.9
4	.74	11	9.8	9.2	9.5	22	24	34	47	22	32	7.1
5	.74	11	9.8	8.9	9.5	44	22	28	41	21	29	6.6
6	.74	10	9.8	8.8	9.5	54	20	25	46	28	27	6.2
7	.88	9.6	9.8	8.8	9.5	52	19	22	64	34	25	5.9
8	.88	9.1	13	8.7	9.8	46	18	20	50	25	23	5.7
9	1.0	8.8	22	8.5	9.8	40	17	18	35	20	21	5.5
10	1.0	8.3	30	8.8	10	37	16	184	25	18	19	4.5
11	1.0	8.2	30	8.6	12	32	15	330	21	16	18	4.0
12	1.2	8.1	27	8.5	13	30	14	190	18	15	17	4.0
13	1.2	7.9	24	7.4	13	27	14	705	15	14	16	4.5
14	1.4	7.9	21	6.6	13	25	13	2320	13	14	16	4.5
15	2.1	7.9	19	6.6	13	24	13	653	12	13	147	7.0
16	3.4	8.2	18	6.5	22	24	12	342	13	298	95	5.5
17	7.6	8.3	16	6.4	31	23	12	208	12	552	34	5.0
18	11	8.5	15	6.4	36	21	11	168	11	158	25	5.0
19	14	8.8	14	6.4	36	20	11	204	1250	92	20	4.0
20	11	8.8	13	6.4	33	18	13	149	1470	67	17	5.0
21	9.5	8.8	13	6.6	31	18	14	107	582	50	16	4.0
22	8.2	8.8	12	6.9	29	18	16	77	431	42	15	3.0
23	7.6	8.8	12	6.9	27	17	18	60	628	37	14	2.0
24	7.3	8.8	11	6.9	26	16	24	49	308	29	13	4.0
25	7.1	9.2	11	7.0	24	16	28	38	185	29	12	3.0
26	7.1	9.2	11	7.0	22	16	27	30	129	26	18	3.0
27	10	9.2	10	7.0	21	15	22	25	89	24	18	3.0
28	18	9.3	10	7.0	21	14	21	20	66	26	15	2.0
29	21	9.5	10	7.2	---	17	56	16	48	26	14	3.0
30	20	9.5	9.8	7.2	---	23	104	16	40	23	13	4.0
31	17	---	10	7.2	---	31	---	21	---	23	12	---
TOTAL	194.38	283.5	450.5	236.8	516.8	800	677	6230	5779	1837	819	147.7
MEAN	6.27	9.45	14.5	7.64	18.5	25.8	22.6	201	193	59.3	26.4	4.92
MAX	21	15	30	9.6	36	54	104	2320	1470	552	147	10
MIN	.48	7.9	9.7	6.4	8.5	14	11	16	11	13	12	2.0
CFSM	.04	.06	.09	.05	.11	.16	.14	1.22	1.17	.36	.16	.03
IN.	.04	.06	.10	.05	.12	.18	.15	1.40	1.30	.41	.18	.03
AC-FT	386	562	894	470	1030	1590	1340	12360	11460	3640	1620	293
CAL YR 1980	TOTAL	27057.60	MEAN 73.9	MAX 1810	MIN .00	CFSM .45	IN 6.10	AC-FT 53670				
WTR YR 1981	TOTAL	17971.68	MEAN 49.2	MAX 2320	MIN .48	CFSM .30	IN 4.05	AC-FT 35650				

07050700 JAMES RIVER NEAR SPRINGFIELD, MO

LOCATION.--Lat 37°08'59", long 93°12'10", in NE¼NW¼ sec.11, T.28 N., R.21 W., Greene County, Hydrologic Unit 11010002, on left bank on county road at Kinser bridge, 1.1 mi (1.8 km) downstream from Pearson Creek, and 2.5 mi (4.0 km) southeast of Springfield.

DRAINAGE AREA.--246 mi² (637 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 1,143.27 ft (348.469 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Dec. 19, 1955, nonrecording gage at same site and datum.

REMARKS.--Records good. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--26 years, 212 ft³/s (6.004 m³/s), 11.70 in/yr (297 mm/yr), 153,600 acre-ft/yr (189 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,800 ft³/s (702 m³/s) Dec. 17, 1957, gage height, 18.20 ft (5.547 m); minimum, 0.1 ft³/s (0.003 m³/s) Sept. 16, 24, 25, 1956, gage height, 2.18 ft (0.664 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1909 reached a stage about 22 ft (6.7 m) from information by local resident, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft³/s (113 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
May 14	0715	4,410	125	12.05	3.673
June 20	0800	*5,420	153	*12.85	3.917

Minimum discharge, 1.8 ft³/s (0.05 m³/s) Oct. 3-5; gage height 2.36 ft (0.719 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	2.7	24	16	10	4.2	10	10	84	78	111	23	18		
2	2.2	19	16	10	3.7	7.9	12	65	78	90	33	18		
3	1.8	17	15	10	4.0	8.5	12	46	79	77	61	16		
4	1.8	16	14	9.7	4.0	10	12	37	89	67	51	18		
5	1.8	15	14	9.4	3.7	16	12	28	77	65	36	21		
6	2.2	15	14	9.1	3.7	35	14	24	81	84	29	20		
7	2.4	15	14	8.2	3.7	36	18	20	85	162	40	20		
8	2.9	13	21	8.2	3.7	33	16	16	82	100	34	19		
9	3.3	12	30	5.6	3.5	24	11	18	64	74	28	16		
10	3.8	11	35	7.3	4.2	22	9.7	10	53	59	22	10		
11	4.2	12	40	7.6	6.2	17	11	332	46	47	16	11		
12	5.3	12	37	5.0	5.3	17	9.4	228	35	40	17	10		
13	5.9	12	35	4.2	6.2	14	8.8	352	33	30	22	15		
14	7.0	12	32	3.8	6.2	14	9.4	2510	28	22	20	16		
15	8.2	12	27	3.8	7.5	12	9.1	777	22	20	21	16		
16	16	13	24	3.5	12	11	11	466	24	158	379	14		
17	32	14	22	5.3	16	11	11	326	22	960	102	13		
18	21	16	18	6.4	22	9.7	11	256	18	376	57	12		
19	13	16	18	2.7	20	7.6	11	278	349	253	46	12		
20	12	16	17	2.9	18	14	15	220	2460	118	35	13		
21	18	15	15	3.3	13	14	12	160	940	88	26	12		
22	18	15	10	3.3	17	13	12	126	553	97	24	8.7		
23	17	16	10	3.3	6.5	14	16	107	687	76	21	6.7		
24	17	16	12	6.7	8.2	13	14	92	454	63	18	9.4		
25	17	15	12	7.6	8.2	12	20	80	332	52	18	9.6		
26	16	15	11	3.5	7.3	18	27	67	245	46	26	9.7		
27	37	16	10	2.7	5.9	18	16	49	182	35	42	9.6		
28	28	16	10	2.2	10	18	10	46	137	33	24	9.4		
29	29	16	10	2.0	---	22	38	40	101	32	22	7.6		
30	29	16	10	2.0	---	18	92	20	107	24	20	9.0		
31	27	---	10	3.1	---	19	---	43	---	22	18	---		
TOTAL	402.5	448	579	172.4	233.7	508.7	490.4	6923	7541	3481	1331	399.7		
MEAN	13.0	14.9	18.7	5.56	8.35	16.4	16.3	223	251	112	42.9	13.3		
MAX	37	24	40	10	22	36	92	2510	2460	960	379	21		
MIN	1.8	11	10	2.0	3.5	7.6	8.8	10	18	20	16	6.7		
CFSM	.05	.06	.08	.02	.03	.07	.07	.91	1.02	.46	.17	.05		
IN.	.06	.07	.09	.03	.04	.08	.07	1.05	1.14	.53	.20	.06		
AC-FT	798	889	1150	342	464	1010	973	13730	14960	6900	2640	793		
CAL YR 1980	TOTAL	45615.8	MEAN	125	MAX	2200	MIN	1.8	CFSM	.51	IN	6.90	AC-FT	90480
WTR YR 1981	TOTAL	22510.4	MEAN	61.7	MAX	2510	MIN	1.8	CFSM	.25	IN	3.40	AC-FT	44650

WHITE RIVER BASIN
07051600 JAMES RIVER NEAR WILSON CREEK, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°04'35", long 93°22'15", in SE¼ NW¼ sec.5, T.27 N., R.22 W., Christian County, Hydrologic Unit 11010002, at Nelson Mill Bridge on county road 2.5 mi (4.0 km) southeast of Wilson Creek, and 2 mi (3.2 km) upstream from Wilsons Creek.

PERIOD OF RECORD.--August 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (MG/L) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 14...	1028	29001	32	444	8.0	15.0	7.4	73	11	60	200
NOV 20...	1028	29001	15	426	8.0	6.0	8.8	71	2	--	--
DEC 10...	1028	29001	69	427	7.6	9.0	9.6	83	1	340	--
JAN 15...	1028	29001	37	430	8.0	3.5	12.6	95	7	<2	200
FEB 18...	1028	29001	19	410	7.9	8.0	12.4	104	<1	4	--
MAR 19...	1028	29001	22	411	7.7	8.0	11.4	96	<1	10	--
APR 14...	1028	29001	14	400	8.2	20.5	7.4	82	13	110	370
MAY 12...	1028	29001	250	358	8.0	19.5	7.4	80	12	600	--
JUN 17...	1028	29001	63	391	8.0	22.5	7.0	80	<1	120	--
JUL 15...	1028	29001	40	368	8.0	26.0	6.4	78	9	400	180
AUG 11...	1028	29001	56	325	7.8	23.0	5.6	64	10	420	--
SEP 09...	1028	29001	35	442	8.0	21.0	13.0	144	9	80	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS AS CO3) (00445)	ALKA- LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 14...	39	70	5.2	7.2	2.7	192	0	157	3.1	26	11
NOV 20...	--	--	--	--	--	166	0	136	2.7	--	--
DEC 10...	--	--	--	--	--	168	0	138	6.8	--	--
JAN 15...	48	68	7.8	8.6	3.5	188	0	154	3.0	52	15
FEB 18...	--	--	--	--	--	180	0	148	3.6	--	--
MAR 19...	--	--	--	--	--	180	0	148	5.7	--	--
APR 14...	210	131	10	8.0	2.7	188	0	154	1.9	29	20
MAY 12...	--	--	--	--	--	176	0	144	2.8	--	--
JUN 17...	--	--	--	--	--	165	0	135	2.6	--	--
JUL 15...	31	62	5.8	5.5	2.7	180	0	148	2.9	15	9.9
AUG 11...	--	--	--	--	--	180	0	148	4.6	--	--
SEP 09...	--	--	--	--	--	176	0	144	2.8	--	--

[illegible]

WHITE RIVER BASIN

07052100 WILSONS CREEK NEAR SPRINGFIELD, MO

LOCATION.--Lat. 37°10'06", long 93°22'14", in NE¼NE¼ sec.6, T.28 N., R.22 W., Greene County, Hydrologic Unit 11010002, on right bank just downstream from bridge on county road, 1 mi (1.6 km) upstream from Southwest Sewage Treatment Plant of Springfield and South Creek and in Springfield.

DRAINAGE AREA.--31.4 mi² (81.3 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1,149.65 ft (350.413 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Runoff affected by urbanized area.

AVERAGE DISCHARGE.--9 years, 28.2 ft³/s (0.800 m³/s), 12.20 in/yr (310 mm/yr), 20,430 acre-ft/yr (25.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,480 ft³/s (98.6 m³/s) May 20, 1979, gage height, 9.48 ft (2.890 m); no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s (23 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Apr. 28	2030	1300	36.8	5.74	1.750
June 20	0930	*3320	94.0	*9.04	2.755
July 17	0600	1300	36.8	6.23	1.899

No flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	UCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	.00	4.6	2.1	2.1	11	3.3	4.2	51	37	26	2.7	9.4		
2	.00	3.0	2.1	1.5	2.9	2.1	4.3	49	30	21	6.4	2.3		
3	.00	2.5	1.8	1.5	2.7	2.4	7.3	47	50	15	31	1.4		
4	.00	3.7	1.5	1.0	2.3	25	13	25	31	23	9.8	.70		
5	.00	2.7	1.5	.70	2.1	8.0	4.5	62	26	75	5.7	.20		
6	.00	2.6	28	1.5	2.1	5.5	4.8	51	49	55	17	.00		
7	.00	1.9	7.0	1.5	2.0	4.4	5.3	49	27	55	12	2.4		
8	.00	1.0	79	1.5	1.2	3.7	5.8	61	22	28	3.9	4.4		
9	.00	.38	19	1.5	.79	3.0	6.5	93	20	18	2.5	1.1		
10	.00	.31	10	1.2	25	2.9	8.3	276	67	15	2.0	.42		
11	.00	.27	7.8	.70	8.2	2.7	7.0	95	65	13	1.8	.42		
12	.00	.27	7.0	.42	6.1	2.2	7.0	82	33	11	1.2	.70		
13	.00	.24	4.7	1.0	7.7	1.9	7.3	146	25	10	.70	.00		
14	2.4	.27	3.2	1.2	9.8	1.6	36	198	20	9.2	.35	1.3		
15	38	5.8	5.1	1.2	7.1	12	13	118	37	8.7	7.4	.12		
16	17	1.0	4.3	1.2	6.0	3.7	13	98	40	186	27	.00		
17	91	6.6	3.9	1.2	5.3	2.2	13	89	16	45	4.0	.00		
18	7.5	7.1	3.9	.70	4.6	1.9	13	113	13	15	1.6	.00		
19	4.2	4.1	3.2	.70	3.9	1.6	74	79	31	20	.42	.00		
20	2.7	2.5	2.6	5.1	3.0	1.6	79	70	647	16	.35	.00		
21	2.8	2.0	2.4	4.0	12	1.7	30	64	69	11	.20	.00		
22	2.9	1.8	2.1	2.3	14	2.1	52	59	59	10	.02	.00		
23	3.0	5.8	2.4	1.8	5.5	1.5	37	66	31	8.8	.00	.00		
24	9.3	5.1	2.1	1.2	4.2	1.7	30	61	11	7.0	.00	.00		
25	2.5	2.1	2.1	.27	3.5	1.3	29	49	17	6.3	.27	.00		
26	1.8	1.5	1.5	.31	3.9	.42	28	45	8.8	3.9	64	.00		
27	55	5.5	2.1	.35	2.9	.35	28	42	6.8	3.3	48	.00		
28	14	6.2	2.1	.42	6.6	.35	168	38	5.2	25	7.4	.00		
29	6.6	47	2.1	.44	---	49	85	35	4.2	6.3	4.0	.00		
30	5.5	2.6	2.1	3.3	---	8.3	103	51	199	4.3	1.9	.00		
31	5.7	---	2.1	10	---	5.8	---	55	---	3.3	.90	---		
TOTAL	271.90	130.44	220.8	51.81	166.39	164.22	916.3	2417	1697.0	754.1	322.11	24.86		
MEAN	8.77	4.35	7.12	1.67	5.94	5.30	30.5	78.0	56.6	24.3	10.4	.83		
MAX	91	47	79	10	25	49	168	276	647	186	64	9.4		
MIN	.00	.24	1.5	.27	.79	.35	4.2	25	4.2	3.3	.00	.00		
CFSM	.28	.14	.23	.05	.19	.17	.97	2.48	1.80	.77	.33	.03		
IN.	.32	.15	.26	.06	.20	.19	1.09	2.86	2.01	.89	.38	.03		
AC-FT	539	259	438	103	330	326	1820	4790	3370	1500	639	49		
CAL YR 1980	TOTAL	4605.79	MEAN	12.6	MAX	189	MIN	.00	CFSM	.40	IN	5.46	AC-FT	9140
WTR YR 1981	TOTAL	7136.93	MEAN	19.6	MAX	647	MIN	.00	CFSM	.62	IN	8.45	AC-FT	14160

WHITE RIVER BASIN

07052100 WILSONS CREEK NEAR SPRINGFIELD, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1972 to current year.

PH: October 1972 to current year.

WATER TEMPERATURES: October 1972 to current year.

DISSOLVED OXYGEN: October 1972 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1972.

REMARKS.--Little or less than 0.5 cfs Oct. 1 thru 15, Nov. 7 thru 14, Jan. 25 thru 29, Mar. 26 thru 28, Aug. 14
 19 thru 25, Sept. 5, 6, 10, 11, 13, 15 thru 30. Water below pump well intakes. Water quality monitor inoperative
 May 17 thru July 10, July 14 thru July 29. Missing record exceed 20 percent of year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1973,1977-80): Maximum, 1,580 micromhos Feb. 7, 8, 1980; minimum, 70 micromhos Sept. 24, 1977.

PH (water years 1975-80): Maximum, 9.1 units Feb. 22, Mar. 25, 1977; minimum, 6.4 units Oct. 18, 1979.

WATER TEMPERATURES: Maximum, 29.5°C July 9, 1978; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN (water years 1975-80): Maximum, 19.3 mg/L Mar. 5, 1980; minimum, 0.4 mg/L May 26, 1976.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1					---	---	548	530	724	322	640	606
2					---	---	580	548	458	380	644	544
3					---	---	580	550	506	458	562	530
4					---	---	570	552	578	506	610	224
5					---	---	578	548	616	576	498	352
6					---	---	570	526	624	580	550	478
7					---	---	536	518	592	572	592	550
8					---	---	596	536	584	566	610	588
9					---	---	594	548	584	556	612	568
10					---	---	550	534	938	374	602	550
11					652	610	602	550	474	376	578	554
12					660	626	658	602	498	462	578	530
13					640	618	648	580	602	498	630	574
14					636	604	592	568	852	602	616	556
15					648	608	590	566	936	736	650	346
16					636	612	570	558	784	638	350	306
17					634	588	602	570	654	622	440	350
18					608	586	622	588	662	614	508	440
19					634	584	608	560	644	602	572	468
20					678	602	580	552	662	608	584	548
21					674	664	616	580	722	500	562	534
22					682	670	618	540	500	362	620	562
23					684	614	540	494	460	435	630	584
24					652	606	524	496	515	440	610	582
25					684	652	532	516	570	515	612	588
26					676	622	546	522	662	570	612	594
27					640	610	552	520	676	630	596	564
28					612	564	566	540	694	614	570	536
29					586	560	594	558	---	---	598	124
30					562	546	612	558	---	---	450	330
31					558	542	1130	536	---	---	542	450
MONTH					684	542	1130	494	938	322	650	124

07052100 WILSONS CREEK NEAR SPRINGFIELD, MO--Continued.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

WHITE RIVER BASIN

07052100 WILSONS CREEK NEAR SPRINGFIELD, MO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	12.0	9.0	9.5	7.5	3.0	2.0	4.0	.0	11.0	8.0
2	---	---	13.5	10.0	8.5	3.5	2.5	.5	.5	.0	10.5	8.5
3	---	---	14.0	11.0	4.0	2.0	3.5	1.5	1.0	.0	8.5	6.5
4	---	---	13.0	10.5	6.5	3.0	1.5	.5	1.0	.0	8.5	7.0
5	---	---	13.5	11.0	10.5	6.5	1.0	.0	1.0	.5	8.5	6.5
6	---	---	14.0	10.0	14.0	10.5	1.5	.5	1.5	.5	9.5	4.5
7	---	---	---	---	14.0	13.0	2.5	.5	2.0	.5	8.5	6.5
8	---	---	---	---	14.0	9.0	2.5	.5	2.0	.5	10.0	6.0
9	---	---	---	---	9.0	7.0	1.5	.0	1.5	.5	10.0	5.5
10	---	---	---	---	7.0	5.0	1.0	.0	1.5	.5	11.0	7.0
11	---	---	---	---	7.0	3.5	1.5	.0	.5	.0	11.5	7.0
12	---	---	---	---	8.0	5.5	1.0	.0	.5	.5	11.5	6.5
13	---	---	---	---	7.5	5.5	1.0	.0	.5	.5	12.5	8.5
14	---	---	---	---	6.0	3.5	1.0	.0	.5	.5	12.0	7.0
15	---	---	---	---	7.0	5.0	1.5	.0	1.5	.5	11.5	9.5
16	18.0	16.0	7.5	6.0	6.5	5.5	.5	.0	7.0	1.5	12.5	8.0
17	19.0	16.5	6.0	4.0	6.0	4.0	.5	.0	10.0	5.0	12.5	8.5
18	16.5	13.5	5.5	4.0	7.0	4.5	.5	.0	12.0	8.0	12.0	8.5
19	15.0	13.0	4.5	2.0	5.5	.5	.5	.0	12.5	8.5	10.0	6.0
20	14.5	11.5	5.0	2.0	1.0	.0	1.5	.0	11.5	8.0	10.5	6.5
21	15.5	12.0	5.5	2.5	1.0	.0	2.5	1.5	13.0	10.5	11.0	9.0
22	15.5	12.5	5.0	3.0	.5	.0	5.0	1.5	12.5	8.5	10.0	8.5
23	16.0	13.0	7.0	5.0	.5	.0	6.0	1.5	9.5	6.0	12.0	6.5
24	15.0	10.0	7.0	5.0	.5	.0	7.5	2.5	11.0	5.5	13.5	8.0
25	10.5	8.0	5.0	2.5	.5	.0	10.5	5.0	12.5	7.5	14.5	11.0
26	9.5	7.5	3.5	2.5	.5	.0	9.0	6.5	14.0	10.5	16.0	11.0
27	12.5	9.5	3.0	2.0	.5	.0	8.0	4.0	15.0	12.0	18.0	13.0
28	12.0	9.5	4.5	2.5	1.0	.0	8.5	3.0	14.5	10.5	17.5	15.0
29	9.5	7.5	5.5	3.5	1.0	.0	6.0	3.0	---	---	17.5	14.0
30	9.0	6.0	7.5	4.0	2.0	.5	4.0	1.0	---	---	19.0	12.0
31	11.0	7.5	---	---	4.0	2.0	4.0	.0	---	---	19.0	15.0
MONTH	19.0	6.0	14.0	2.0	14.0	.0	10.5	.0	15.0	.0	19.0	4.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER
1	17.5	13.0	20.0	16.5			---	---	25.0	22.5
2	18.5	12.5	19.5	15.0			---	---	24.5	23.5
3	17.0	16.0	20.0	16.5			---	---	26.0	23.0
4	16.5	13.5	20.0	17.5			---	---	27.0	23.0
5	15.0	11.0	18.5	17.5			---	---	27.0	25.0
6	16.0	10.0	18.5	16.0			---	---	27.0	25.0
7	18.5	13.0	18.0	15.5			---	---	26.0	24.0
8	20.0	15.5	17.0	15.5			---	---	24.0	22.0
9	19.5	16.5	17.5	15.5			---	---	24.5	22.0
10	22.0	17.5	16.5	12.5			---	---	24.0	23.0
11	23.5	20.0	17.0	11.5		27.0	23.0	23.5	22.5	
12	24.0	19.5	16.5	13.0		28.0	23.5	23.5	21.0	
13	24.5	21.0	16.5	15.0		28.0	24.0	24.0	22.5	
14	22.0	16.0	15.5	13.5		---	---	26.0	22.5	
15	16.5	13.5	17.5	12.0		---	---	27.5	24.0	
16	18.0	14.5	16.0	14.5		---	---	26.5	24.0	
17	22.5	17.0	14.5	14.5		---	---	24.0	22.0	
18	23.0	19.5	---	---		---	---	22.0	20.0	
19	21.0	18.5	---	---		---	---	22.0	19.0	
20	18.5	14.5	---	---		---	---	22.5	19.0	
21	17.0	13.5	---	---		---	---	22.5	19.0	
22	18.5	16.5	---	---		---	---	---	---	
23	20.0	16.0	---	---		---	---	---	---	
24	19.0	15.0	---	---		---	---	---	---	
25	20.5	15.5	---	---		---	---	---	---	
26	22.0	17.5	---	---		---	---	---	---	
27	23.0	18.5	---	---		---	---	---	---	
28	22.5	19.0	---	---		---	---	---	---	
29	22.5	17.0	---	---		---	---	---	---	
30	22.0	18.5	---	---		23.0	21.0	---	---	
31	---	---	---	---		23.5	22.0	---	---	
MONTH	24.5	10.0	20.0	11.5		28.0	21.0	27.5	19.0	
YEAR	28.0	.0								

CAL YR 1980	TOTAL	22082	MEAN 60.3	MAX 461	MIN 21	CFSM 1.10	IN 14.94	AC=FT	43600
WTR YR 1981	TOTAL	22529	MEAN 61.7	MAX 1070	MIN 21	CFSM 1.12	IN 15.24	AC=FT	44690

WHITE RIVER BASIN

07052160 WILSONS CREEK NEAR BATTLEFIELD, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1972 to current year.

PH: October 1972 to current year.

WATER TEMPERATURES: October 1972 to current year.

DISSOLVED OXYGEN: October 1972 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1972.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,680 micromhos Sept. 26, 1981; minimum, 100 micromhos June 23, 1976.

PH (water years 1974-79): Maximum, 8.4 units May 14, 1974; minimum, 6.5 units May 14, 1974.

WATER TEMPERATURES: Maximum, 28.0°C July 17, Aug. 5, 6, 7, 8, 12, 1980; minimum, 2.0°C Jan. 18, 1980.

DISSOLVED OXYGEN (water years 1974-79): Maximum, 17.9 mg/L Mar. 14, 1981; minimum, 0.0 mg/L on many days during the year.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,680 micromhos Sept. 26; minimum, 228 micromhos July 16.

PH: Maximum, 8.3 units June 12, 13, 14, 15; minimum, 7.1 Feb. 10, 11, 12; May 10, 13, 14, 15.

WATER TEMPERATURES: Maximum, 26.0°C June 9, July 24, 26, 27; minimum, 3.0°C Feb. 11.

DISSOLVED OXYGEN: Maximum, 17.9 mg/L Mar. 14; minimum, 2.3 mg/L June 3, 7, 10.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1130	1040	880	784	752	714	798	760	1030	736	904	850
2	1110	998	894	818	846	752	820	780	980	910	886	798
3	1110	1040	872	790	864	812	850	768	1030	958	906	836
4	1120	1040	844	758	848	798	858	806	1130	974	892	640
5	1130	1040	904	746	808	764	858	790	1180	1080	688	616
6	1090	972	982	810	900	598	936	780	1150	1010	782	688
7	1070	976	992	846	728	610	954	870	1120	1020	862	782
8	1120	1010	988	900	726	332	936	836	1120	1030	858	804
9	1110	1020	1040	906	624	508	948	844	1080	960	826	784
10	1100	978	998	858	678	624	1010	912	1060	764	884	808
11	1090	960	920	848	746	648	1000	936	950	804	952	880
12	1150	1090	934	880	798	704	1070	970	996	882	976	906
13	1160	836	950	894	776	726	1120	1040	1010	890	982	932
14	948	836	936	888	760	724	1120	1090	970	878	964	878
15	984	340	924	838	748	684	1120	1090	946	850	962	766
16	744	336	920	822	828	748	1120	1070	926	852	816	712
17	792	278	904	772	882	824	1210	1080	898	856	868	712
18	836	668	832	714	868	810	1230	1170	890	844	1030	858
19	884	810	830	750	862	808	1170	1030	916	838	1090	1000
20	936	844	844	784	922	860	1150	1040	840	780	1080	1000
21	982	902	878	800	908	818	1050	982	810	774	1130	1030
22	982	916	878	816	870	814	1120	994	848	686	1130	1030
23	1060	926	856	760	858	808	1120	1020	746	674	1100	896
24	1110	900	772	710	878	812	1070	1000	802	712	1080	890
25	992	924	854	740	860	828	1080	994	850	800	1110	898
26	1010	878	902	760	844	764	1040	924	886	804	1090	908
27	878	312	906	794	764	718	1000	916	890	854	1090	976
28	698	484	796	672	776	746	986	946	936	852	1060	976
29	746	698	794	712	762	738	1090	958	---	---	1010	390
30	806	650	782	734	790	752	1050	942	---	---	756	616
31	836	764	---	---	796	740	1040	932	---	---	810	754
MONTH	1160	278	1040	672	922	332	1230	760	1180	674	1130	390

07052160 WILSONS CREEK NEAR BATTLEFIELD, MO--continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

07052160 WILSONS CREEK NEAR BATTLEFIELD, MO--continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

07052160 WILSONS CREEK NEAR BATTLEFIELD, MO--continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

WHITE RIVER BASIN
07052250 JAMES RIVER NEAR BOAZ, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°00'25", long 93°21'50", in NE¼NE¼NW¼ sec.32, T.27 N., R.22 W., Christian County, Hydrologic Unit 11010002, at Frazier bridge, 0.2 mi (0.3 km) upstream from Turkey Hollow, and 2 mi (3.2 km) southeast of Boaz.

PERIOD OF RECORD.--August 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 14...	1028	29001	52	875	8.0	16.0	7.6	77	25	30	240
NOV 20...	1028	29001	60	657	8.1	7.0	10.0	83	19	--	--
DEC 10...	1028	29001	100	507	7.4	9.0	10.6	91	14	730	--
JAN 15...	1028	29001	65	797	8.2	4.0	12.2	93	12	10	270
FEB 18...	1028	29001	62	690	8.2	8.0	13.2	111	<1	8	--
MAR 19...	1028	29001	75	621	8.0	8.0	10.2	86	<1	14	--
APR 14...	1028	29001	62	758	8.1	20.5	6.8	76	16	260	270
MAY 12...	1028	29001	354	397	8.0	19.0	8.0	85	10	1300	--
JUN 18...	1028	29001	193	480	8.0	21.0	6.2	69	<1	230	--
JUL 15...	1028	29001	86	510	8.2	26.0	7.0	85	7	180	190
AUG 11...	1028	29001	100	509	8.2	23.0	7.2	83	11	530	--
SEP 09...	1028	29001	73	640	8.1	21.0	10.8	120	12	180	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CO3) (00445)	ALKA- LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 14...	62	81	8.9	84	11	216	0	177	3.5	77	101
NOV 20...	--	--	--	--	--	212	0	174	2.7	--	--
DEC 10...	--	--	--	--	--	176	0	144	11	--	--
JAN 15...	110	91	9.6	56	7.2	196	0	161	2.0	120	66
FEB 18...	--	--	--	--	--	200	0	164	2.0	--	--
MAR 19...	--	--	--	--	--	200	0	164	3.2	--	--
APR 14...	77	95	9.0	52	6.4	240	0	197	3.1	94	76
MAY 12...	--	--	--	--	--	176	0	144	2.8	--	--
JUN 18...	--	--	--	--	--	200	0	164	3.2	--	--
JUL 15...	25	67	5.3	18	3.3	200	0	164	2.0	31	29
AUG 11...	--	--	--	--	--	188	0	154	1.9	--	--
SEP 09...	--	--	--	--	--	200	0	164	2.5	--	--

DATE	FLUORIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT 14...	.4	568	10	8.6	.010	4.20	<3	2	5	4
NOV 20...	--	--	2	5.8	<.010	3.40	--	--	--	--
DEC 10...	--	--	7	3.2	.120	1.10	--	--	--	--
JAN 15...	.1	520	5	7.6	.030	3.70	<2	<2	<5	<5
FEB 18...	--	--	6	2.8	<.010	1.70	--	--	--	--
MAR 19...	--	--	5	4.4	.010	2.10	--	--	--	--
APR 14...	.3	472	20	1.4	.060	2.10	3	2	9	<5
MAY 12...	--	--	56	.83	.010	.350	--	--	--	--
JUN 18...	--	--	17	2.6	.030	.700	--	--	--	--
JUL 15...	.1	136	7	1.6	.040	.720	<2	2	<5	<5
AUG 11...	--	--	15	3.7	.020	.910	--	--	--	--
SEP 09...	--	--	13	4.3	.020	.620	--	--	--	--

[illegible]

WHITE RIVER BASIN

07052500 JAMES RIVER AT GALENA, MO

LOCATION.--Lat 36°48'19", long 93°27'41", in SW¼SE¼SW¼ sec.6, T.24 N., R.23 W., Stone County, Hydrologic Unit 11010002, on downstream side of right pier of first arch span from left end of bridge on State Highways 13 and 248 in Galena, 0.7 mi (1.1 km) upstream from Railey Creek, and 42.3 mi (68.1 km) above mouth.

DRAINAGE AREA.--987 mi² (2,556 km²).

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

REVISED RECORDS.--WSP 977: 1935(M), 1941(M).

GAGE.--Water-stage recorder. Datum of gage is 921.37 ft (280.834 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 11, 1927, nonrecording gage at site 500 ft (152 m) downstream at datum 1.48 ft (0.451 m) higher. Dec. 11, 1927, to July 22, 1939, nonrecording gage, and July 23, 1939, to Sept. 30, 1953, water-stage recorder at present site and at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--60 years, 937 ft³/s (26.54 m³/s), 12.89 in/yr (327 mm/yr), 678,900 acre-ft/yr (837 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,700 ft³/s (1,490 m³/s) May 20, 1943, gage height, 29.82 ft (9.089 m) present datum; minimum discharge, 10 ft³/s (0.28 m³/s) Sept. 20, 1954; minimum gage height, 1.15 ft (0.351 m) Jan. 13, 1964 (result of ice conditions upstream).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,250 ft³/s (262 m³/s) June 21, gage height 10.67 ft (3.252 m) no peak above base of 12,000 ft³/s (340 m³/s); minimum, 54 ft³/s (1.53 m³/s) Oct. 12, gage height, 2.19 ft (0.668 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	147	137	127	114	182	239	386	438	2570	383	257
2	76	138	135	124	121	176	226	375	447	1650	368	241
3	74	129	135	122	112	169	229	341	441	1270	774	221
4	79	121	136	121	108	179	221	322	465	1050	979	201
5	79	118	136	116	111	204	221	314	516	910	751	193
6	76	116	136	115	109	217	199	303	541	866	598	180
7	62	114	138	118	110	217	189	273	655	957	602	174
8	61	112	190	114	110	234	186	258	616	991	651	172
9	63	112	341	112	108	224	195	250	557	818	516	174
10	64	112	346	112	118	213	192	298	798	718	441	166
11	63	111	291	108	116	204	193	459	2530	642	399	160
12	59	109	261	101	130	195	186	619	1590	575	367	155
13	59	109	257	106	150	188	178	726	1190	512	335	153
14	61	109	243	108	171	180	175	3490	959	473	310	159
15	66	113	224	109	207	181	176	4230	810	457	286	158
16	435	113	212	108	198	184	184	2180	761	410	297	155
17	324	125	204	97	192	197	171	1550	715	1050	537	150
18	291	131	191	93	220	184	169	1260	623	1740	444	147
19	191	140	181	104	212	175	176	1200	570	1250	356	141
20	158	137	173	105	210	176	1920	1100	2510	956	300	136
21	142	131	161	110	210	169	1520	924	6130	781	267	130
22	132	128	157	110	220	164	1070	778	3040	676	246	126
23	123	128	154	108	206	165	989	698	2420	587	226	127
24	120	126	150	107	198	167	1370	662	2130	511	213	126
25	114	128	148	106	189	161	846	612	1680	452	202	124
26	115	128	146	103	186	162	628	558	1400	408	1380	123
27	134	131	143	100	180	163	499	500	1160	369	961	126
28	211	134	138	102	185	165	419	451	1000	387	661	123
29	199	134	133	104	---	191	448	417	879	389	465	114
30	176	136	129	103	---	283	411	386	899	357	359	114
31	159	---	132	104	---	262	---	400	---	357	296	---
TOTAL	4043	3720	5658	3377	4501	5931	13825	26320	38470	25119	14970	4726
MEAN	130	124	183	109	161	191	461	849	1282	810	483	158
MAX	435	147	346	127	220	283	1920	4230	6130	2570	1380	257
MIN	59	109	129	93	108	161	169	250	438	357	202	114
CFSM	.13	.13	.19	.11	.16	.19	.47	.86	1.30	.82	.49	.16
IN.	.15	.14	.21	.13	.17	.22	.52	.99	1.45	.95	.56	.18
AC-FT	8020	7380	11220	6700	8930	11760	27420	52210	76310	49820	29690	9370
CAL YR 1980	TOTAL	220524	MEAN 603	MAX 6050	MIN 59	CFSM .51	IN 8.31	AC-FT 437400				
WTR YR 1981	TOTAL	150660	MEAN 413	MAX 6130	MIN 59	CFSM .42	IN 5.68	AC-FT 298800				

WHITE RIVER BASIN

07053400 TABLE ROCK LAKE NEAR BRANSON, MO

LOCATION.--Lat 36°35'46", long 93°18'35", in NW¼ sec.22, T.22 N., R.22 W., Taney County, Hydrologic Unit 11010001, at dam on White River, 3 mi (4.8 km) upstream from Fall Creek, and 6.1 mi (9.82 km) southwest of Branson.

DRAINAGE AREA.--4,020 mi² (10,412 km²).

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

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to July 18, 1958, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by a combination concrete-gravity and embankment type dam. Storage began on Sept. 9, 1956. Storage for purpose of filling to power pool level at elevation 881 ft (268.5 m) and capacity 1,520,500 acre-ft (1.87 km³) began Nov. 24, 1958, and was reached Dec. 19, 1959. Capacity is 3,567,500 acre-ft (4.40 km³) at top of spillway gates, elevation 933 ft (284.4 m). Capacity is 3,462,000 acre-ft (4.27 km³) at top of flood control pool, elevation 931 ft (283.8 m). Capacity between elevations 915 ft (278.9 m) and 931 ft (283.8 m) is reserved for flood control, 760,000 acre-ft (0.937 km³). Capacity between elevation 881 ft (268.5 m) and 915 ft (278.9 m) of 1,181,500 acre-ft (1.46 km³) is used for power generation. The capacity at the lowest outlet, elevation 721.96 ft (220.053 m), is 3,530 acre-ft (4.35 hm³). Lake is used for flood control, power, and recreational purposes. Figures represent total contents. Contents computed from daily readings at 2400 and prior to Oct. 1, 1963 to five significant figures.

COOPERATION.--Records furnished by the Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,541,800 acre-ft (4.37 km³) May 10, 1961, elevation, 932.52 ft (284.232 m); minimum, since initial filling to bottom of power pool level, 1,535,500 acre-ft (1.89 km³) Feb. 8, 1965, elevation, 881.54 ft (268.693 m).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 2,890,000 acre-ft (3.56 km³) Sept. 7; minimum daily contents, 1,900,000 acre-ft (2.34 km³) Mar. 21-31.

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

905	2,297,000	915	2,702,000
910	2,493,000	919	2,878,000

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	207000	204000	199000	198000	195000	191000	191000	195000	210000	234000	242000	259000
2	207000	204000	199000	198000	194000	191000	191000	195000	210000	235000	243000	259000
3	207000	203000	200000	198000	193000	192000	191000	195000	211000	235000	245000	259000
4	207000	203000	200000	198000	193000	192000	191000	195000	211000	236000	247000	259000
5	207000	203000	200000	198000	193000	192000	191000	196000	212000	236000	248000	259000
6	206000	203000	200000	198000	193000	192000	191000	196000	212000	236000	248000	259000
7	206000	203000	200000	198000	193000	192000	191000	196000	212000	237000	249000	259000
8	206000	203000	200000	199000	193000	192000	191000	196000	213000	237000	249000	259000
9	206000	203000	200000	199000	193000	192000	191000	196000	213000	237000	249000	259000
10	206000	203000	201000	199000	193000	192000	191000	196000	216000	238000	249000	259000
11	206000	202000	201000	199000	191000	192000	192000	197000	217000	238000	249000	259000
12	205000	202000	201000	198000	191000	192000	192000	198000	218000	239000	250000	259000
13	205000	202000	201000	198000	191000	192000	192000	199000	219000	239000	250000	258000
14	205000	202000	201000	198000	191000	192000	192000	201000	219000	239000	251000	258000
15	205000	202000	201000	198000	191000	192000	192000	203000	220000	239000	251000	258000
16	205000	202000	201000	198000	191000	192000	192000	204000	221000	239000	251000	258000
17	206000	201000	201000	198000	191000	192000	192000	204000	222000	240000	252000	258000
18	206000	201000	201000	198000	191000	191000	192000	204000	223000	240000	253000	258000
19	206000	200000	200000	198000	191000	191000	192000	205000	225000	241000	253000	258000
20	206000	200000	199000	198000	191000	191000	193000	205000	226000	241000	253000	258000
21	206000	200000	199000	198000	191000	190000	193000	206000	228000	241000	254000	259000
22	206000	200000	198000	197000	191000	190000	193000	206000	229000	241000	254000	259000
23	205000	200000	198000	197000	191000	190000	194000	207000	230000	241000	255000	259000
24	205000	200000	198000	197000	191000	190000	194000	207000	231000	241000	255000	260000
25	205000	200000	198000	197000	191000	190000	194000	207000	231000	242000	255000	260000
26	205000	199000	198000	197000	191000	190000	194000	207000	232000	242000	256000	260000
27	205000	199000	198000	197000	191000	190000	195000	208000	232000	242000	257000	261000
28	205000	199000	198000	197000	191000	190000	195000	208000	232000	242000	258000	261000
29	205000	199000	198000	196000	---	190000	195000	208000	233000	242000	258000	261000
30	204000	199000	198000	196000	---	190000	195000	208000	233000	242000	258000	261000
31	204000	---	198000	195000	---	190000	---	209000	---	243000	259000	---

WTR YR 1980

(+)	897.95	896.49	896.24	895.15	894.08	893.81	895.20	899.38	905.96	908.30	912.26	912.87
(#)	-30	-50	-10	-30	-40	-10	+50	+140	+240	+100	+160	+20
MAX	207,000	204,000	201,000	199,000	195,000	192,000	195,000	209,000	233,000	243,000	259,000	289,000
MIN	204,000	199,000	198,000	195,000	191,000	190,000	191,000	195,000	210,000	234,000	242,000	258,000

CAL YR 1980.....# -340

WTR YR 1981.....# +540

(+) Elevation, in feet NGVD, at end of month.

(#) Change in contents, in thousands of acre feet.

NOTE: ADD ZERO TO ALL VALUES IN DAILY TABLE.

07053500 WHITE RIVER NEAR BRANSON, MO

LOCATION.--Lat 36°35'51", long 93°17'42", in SE¼NE¼ sec.22, T.22 N., R.22 W., Taney County, Hydrologic Unit 11010003, on left bank 0.9 mi (1.4 km) downstream from Table Rock Dam, 2.1 mi (3.4 km) upstream from Fall Creek, 5 mi (8.0 km) southwest of Branson, 7.4 mi (11.9 km) upstream from Missouri Pacific bridge, and at mile 527.8 (849.2 km).

DRAINAGE AREA.--4,022 mi² (10,417 km²).

PERIOD OF RECORD.--July 1909 to December 1910 (gage heights and discharge measurements only), October 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 696.00 ft (212.141 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). July 19, 1909 to Dec. 31, 1910, nonrecording gage at site 7.4 mi (11.9 km) downstream at different datum. Oct. 1, 1951 to Mar. 6, 1952, nonrecording gage at same site and datum.

REMARKS.--Records good except Feb. 22, 23 which are poor. Discharge computations based on power releases, conduit releases, fish hatchery releases, and pool elevation at Table Rock Lake. Fish hatchery releases began on Feb. 18, 1959. Regulated by Table Rock Lake since Sept. 9, 1956.

COOPERATION.--Records furnished by Corps of Engineers.

AVERAGE DISCHARGE.--30 years, 3,483 ft³/s (98.6 m³/s), 2,523,000 acre-ft/yr (3.11 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 89,100 ft³/s (2.523 m³/s) May 16, 1956, gage height, 36.9 ft (11.25 m); minimum, prior to building dam, 24 ft³/s (0.68 m³/s) Sept. 20, 1954; no outflow from reservoir at various times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 16, 1945 reached a stage of 52.8 ft (16.09 m), from floodmark, discharge, 203,000 ft³/s (5,750 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 7,740 ft³/s (219 m³/s) Feb. 11; minimum daily, 100 ft³/s (2.83 m³/s) Nov. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	231	100	125	132	451	120	120	121	222	208	2000	211		
2	223	222	1170	132	3020	295	126	232	221	209	249	139		
3	221	5350	767	130	3550	430	123	220	221	328	5670	1020		
4	221	2280	403	136	873	127	125	222	209	346	3850	888		
5	222	1060	126	465	996	1020	125	224	221	359	773	208		
6	1390	589	126	132	194	845	128	252	211	260	248	209		
7	233	1140	124	130	133	1510	252	241	260	290	220	229		
8	222	211	344	130	1070	637	321	222	1770	330	209	1180		
9	1380	239	425	133	1410	1160	291	223	3590	1350	230	998		
10	520	2110	506	136	1820	386	122	221	249	288	220	1420		
11	1200	1670	128	135	7740	970	124	274	219	1480	209	1620		
12	562	1340	343	1420	1630	218	123	672	220	652	417	209		
13	463	2270	341	1210	381	426	510	223	268	3710	318	704		
14	222	3500	128	649	142	247	124	221	299	1840	288	1030		
15	221	491	489	135	138	406	720	628	277	5010	1620	1180		
16	222	254	662	337	134	1250	429	280	239	3350	843	1180		
17	244	4560	217	139	134	2460	503	279	219	268	933	439		
18	244	5410	1990	137	476	3360	123	3100	247	288	885	448		
19	241	1980	5450	130	1250	1570	127	1220	249	258	1060	210		
20	550	2250	3760	1420	801	1580	442	220	219	4120	1500	210		
21	1100	1380	593	1710	124	3340	484	220	208	1820	1120	576		
22	232	234	2790	250	125	521	839	220	1060	1740	219	505		
23	788	233	136	1430	356	1170	832	220	3080	1240	219	804		
24	473	1450	141	189	685	852	807	222	3510	388	2630	1320		
25	261	1400	142	129	883	939	120	222	2310	673	2660	1520		
26	245	1570	478	1150	936	937	119	223	612	565	1320	626		
27	3580	267	139	894	792	122	566	251	218	2740	973	228		
28	602	308	137	1020	653	121	548	1330	259	1130	974	1670		
29	1450	236	135	2770	---	123	606	227	430	212	219	1760		
30	1290	226	134	3080	---	124	358	218	2130	212	208	3010		
31	412	---	130	4860	---	125	---	220	---	221	930	---		
TOTAL	19465	44330	22579	24850	30897	27391	10237	12868	23447	35885	33214	25751		
MEAN	628	1478	728	802	1103	884	341	415	782	1158	1071	858		
MAX	3580	5410	5450	4860	7740	3360	839	3100	3590	5010	5670	3010		
MIN	221	100	124	129	124	120	119	121	208	208	208	139		
CFSM	.16	.37	.18	.20	.27	.22	.09	.10	.19	.29	.27	.21		
IN.	.18	.41	.21	.23	.29	.25	.09	.12	.22	.33	.31	.24		
AC-FT	38610	87930	44790	49290	61280	54330	20310	25520	46510	71180	65880	51080		
CAL YR 1980	TOTAL	786045	MEAN	2148	MAX	9150	MIN	100	CFSM	.53	IN	7.27	AC-FT	1559000
WTR YR 1981	TOTAL	310914	MEAN	852	MAX	7740	MIN	100	CFSM	.21	IN	2.88	AC-FT	616700

WHITE RIVER BASIN

07053700 LAKE TANEYCOMO AT BRANSON, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 36°38'09", long 93°15'52" in SE¼ NW¼ sec.4, T22 N., R21 W., Taney County, Hydrologic Unit 11010003, 1000 ft (300 m) downstream from Turkey Creek, at bridge on Business Route 65 in Branson.

PERIOD OF RECORD.--July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER)	SPE- CIFIC CCN- DUCTI- ANCE (UMHCS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)
OCT											
14...	1028	29001	245	7.4	13.0	8.2	77	7	28	120	18
NOV											
19...	1028	29001	238	8.0	11.0	5.0	45	7	13	--	--
DEC											
10...	80513	80513	--	--	--	--	--	--	K420	--	--
10...	80513	80020	254	7.6	8.5	8.2	--	--	--	110	13
10...	80513	80020	251	7.8	8.0	8.4	--	--	--	110	16
11...	1028	29001	248	7.5	9.5	8.4	73	<1	310	--	--
JAN											
15...	1028	29001	232	8.1	7.0	11.0	91	4	17	110	6
FEB											
19...	1028	29001	229	8.0	8.0	11.8	99	<1	3	--	--
MAR											
19...	1028	29001	222	8.0	7.0	12.2	101	<1	9	--	--
APR											
14...	1028	29001	228	8.0	16.5	10.4	106	10	24	130	25
MAY											
12...	1028	29001	234	7.9	14.5	9.0	87	4	52	--	--
13...	80513	80513	--	--	--	--	--	--	19	--	--
13...	80513	80020	279	8.2	13.5	10.3	--	--	--	110	--
13...	80513	80020	202	8.0	12.0	9.9	--	--	--	80	--
JUN											
18...	1028	29001	260	8.6	20.0	9.0	98	<1	42	--	--
JUL											
15...	1028	29001	234	7.8	10.0	10.0	88	<5	23	120	25
AUG											
11...	1028	29001	270	8.2	21.0	9.8	109	7	230	--	--
12...	80513	80513	--	--	--	--	--	--	41	--	--
12...	80513	80020	270	8.0	20.5	11.2	--	--	--	130	--
12...	80513	80020	244	7.7	16.5	8.9	--	--	--	120	--
SEP											
09...	1028	29001	240	7.9	12.0	13.6	126	<5	88	--	--
DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CC3) (00445)	ALKA- LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
OCT											
14...	37	5.9	4.5	1.9	120	0	98	7.6	<10	5.2	<.1
NOV											
19...	--	--	--	--	136	0	112	2.2	--	--	--
DEC											
10...	--	--	--	--	--	--	--	--	--	--	--
10...	34	6.7	--	--	--	--	--	--	7.9	5.7	--
10...	35	6.6	--	--	--	--	--	--	7.2	5.6	--
11...	--	--	--	--	128	0	105	6.5	--	--	--
JAN											
15...	35	5.8	4.9	1.9	128	0	105	1.6	8.0	6.0	<.1
FEB											
19...	--	--	--	--	132	0	108	2.1	--	--	--
MAR											
19...	--	--	--	--	124	0	102	2.0	--	--	--
APR											
14...	41	6.0	5.0	1.8	124	0	102	2.0	5.0	5.3	<.1
MAY											
12...	--	--	--	--	132	0	108	2.7	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
13...	27	10	--	--	--	--	--	--	12	6.3	--
13...	21	6.8	--	--	--	--	--	--	9.8	5.4	--
JUN											
18...	--	--	--	--	124	8	115	.6	--	--	--
JUL											
15...	40	5.7	4.0	1.7	120	0	98	3.0	6.0	4.7	<.1
AUG											
11...	--	--	--	--	144	0	118	1.5	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	39	9.0	--	--	--	--	--	--	1.0	6.5	--
12...	38	6.9	--	--	--	--	--	--	3.0	6.0	--
SEP											
09...	--	--	--	--	120	0	98	2.4	--	--	--

WHITE RIVER BASIN

07057500 NORTH FORK RIVER NEAR TECUMSEH, MO

LOCATION.--Lat 36°37'22", long 92°14'53", in NE¼SE¼ sec.35, T.23 N., R.12 W., Ozark County, Hydrologic Unit 11010006, on right bank 3.2 mi (5.2 km) downstream from Spring Creek, and 3.5 mi (5.6 km) northeast of Tecumseh.

DRAINAGE AREA.--561 mi² (1,453 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 584.67 ft (178.207 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to May 12, 1945, nonrecording gage at same site at datum 0.22 ft (0.067 m) lower.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--37 years, 705 ft³/s (19.97 m³/s), 17.07 in/yr (434 mm/yr), 510,800 acre-ft/yr (630 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,900 ft³/s (1,073 m³/s) Apr. 22, 1974, gage height, 22.15 ft (6.751 m); minimum, 187 ft³/s (5.30 m³/s) Sept. 14-18, 1954, gage height, 2.06 ft (0.628 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,100 (92.0 m³/s) at 1900 May 14, gage height, 7.50 ft (2.286 m), no other peak above base of 6,500 ft³/s (184 m³/s); minimum, 240 ft³/s (7.845 m³/s) Sept. 28-30, gage height, 2.18 ft (0.664 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	286	293	287	268	268	268	416	360	396	530	389	330
2	284	292	287	263	263	263	382	349	457	509	399	306
3	279	291	282	263	258	263	365	338	478	489	429	292
4	277	288	277	258	254	268	360	333	449	477	406	277
5	277	287	282	258	249	277	338	354	432	474	395	272
6	276	284	282	263	254	292	323	371	430	472	388	261
7	277	287	287	258	254	297	307	371	777	468	442	259
8	277	289	292	258	254	287	302	371	768	463	418	258
9	277	289	302	258	254	282	297	360	627	453	391	254
10	276	285	307	254	282	277	287	464	552	438	374	249
11	271	282	307	254	282	273	282	637	507	426	385	254
12	268	281	297	254	268	268	282	624	468	413	366	258
13	268	282	292	258	268	268	277	559	445	409	358	258
14	272	282	287	258	263	268	273	2930	428	402	347	258
15	281	289	287	254	263	263	263	1910	416	405	343	258
16	284	289	287	254	263	263	263	1060	450	409	370	258
17	318	314	282	249	268	263	263	772	434	414	377	254
18	316	315	282	249	269	258	258	663	419	416	358	249
19	310	311	277	254	269	254	273	733	457	411	339	249
20	297	301	268	263	265	249	440	723	1430	426	330	249
21	291	293	268	263	268	249	742	619	1010	419	318	249
22	288	287	268	258	271	254	624	547	816	412	312	249
23	286	291	273	258	268	258	559	503	1240	404	306	246
24	285	287	273	258	266	254	598	492	1090	398	302	246
25	282	283	268	258	264	249	533	464	876	400	322	246
26	284	287	268	254	258	249	482	439	726	405	645	246
27	316	292	268	254	258	254	440	419	650	404	360	246
28	321	292	268	254	268	249	410	392	600	430	336	240
29	313	287	268	249	---	533	393	384	568	439	340	240
30	305	287	268	249	---	540	382	360	543	417	321	240
31	298	---	268	249	---	495	---	375	---	401	318	---
TOTAL	8940	8717	8709	7952	7389	8985	11414	19276	18939	13433	11484	7751
MEAN	288	291	281	257	264	290	380	622	631	433	370	258
MAX	321	315	307	268	282	540	742	2930	1430	530	645	330
MIN	268	281	268	249	249	249	258	333	396	398	302	240
CFSM	.51	.52	.50	.46	.47	.52	.68	1.11	1.13	.77	.66	.46
IN.	.59	.58	.58	.53	.49	.60	.76	1.28	1.26	.89	.76	.51
AC-FT	17730	17290	17270	15770	14660	17820	22640	38230	37570	26640	22780	15370
CAL YR 1980	TOTAL	189622	MEAN 518	MAX 2230	MIN 268	CFSM .92	IN 12.57	AC-FT 376100				
WTR YR 1981	TOTAL	132989	MEAN 364	MAX 2930	MIN 240	CFSM .65	IN 8.82	AC-FT 263800				

WHITE RIVER BASIN

07058000 BRYANT CREEK NEAR TECUMSEH, MO

LOCATION.--Lat 36°37'33", long 92°18'16", in E½ sec.32, T.23 N., R.12 W., Ozark County, Hydrologic Unit 11010006, on left bank 0.8 mi (1.3 km) downstream from Pine Creek, 3 mi (4.8 km) northwest of Tecumseh, and 5 mi (8.0 km) upstream from mouth.

DRAINAGE AREA.--570 mi² (1,476 km²).

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

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1441: 1945, 1946-47(M), 1950. WSP 1731: 1945-47, 1950.

GAGE.--Water-stage recorder. Datum of gage is 573.15 ft (174.696 m) National Geodetic Vertical Datum of 1929. (levels by Corps of Engineers). Prior to July 30, 1945, nonrecording gage at same site and datum.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--37 years, 508 ft³/s (14.39 m³/s), 12.10 in/yr (307 mm/yr), 368,000 acre-ft/yr (454 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,200 ft³/s (940 m³/s) Mar. 11, 1973, gage height, 21.93 ft (6.684 m); minimum, 96 ft³/s (2.72 m³/s) Sept. 16, 17, 1954; minimum gage height, 1.98 ft (0.604 m) Aug. 13, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,510 ft³/s (99.40 m³/s) May 14, gage height, 7.45 ft (2.271 m), no peak discharge above base of 6,000 ft³/s (170 m³/s); minimum discharge, 104 ft³/s (2.95 m³/s) Sept. 17, 18, 24, 25, 28-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	136	140	128	145	145	160	168	248	221	124	140
2	128	136	136	128	146	140	150	152	320	206	156	136
3	120	136	132	128	136	136	148	148	272	192	214	132
4	120	136	132	128	132	149	152	144	244	186	188	124
5	120	132	132	128	128	156	148	160	236	181	158	124
6	120	132	132	128	128	150	140	176	240	175	144	120
7	120	132	140	124	128	148	136	164	340	168	176	116
8	120	132	148	124	128	146	132	152	380	165	186	120
9	120	132	159	124	128	140	132	148	320	158	153	116
10	120	128	158	124	160	136	128	216	280	150	140	116
11	116	128	153	120	167	132	128	284	256	146	144	112
12	116	128	150	120	148	132	128	244	236	142	140	112
13	120	124	146	120	148	132	128	224	220	136	132	112
14	124	128	140	124	140	132	124	1590	208	132	124	112
15	128	136	140	124	140	132	116	1190	192	140	124	112
16	132	136	140	124	140	136	116	675	212	148	144	112
17	162	157	136	120	140	132	116	500	212	174	144	108
18	162	167	136	120	144	132	116	436	192	197	136	108
19	154	160	132	120	143	128	132	408	208	166	128	108
20	142	147	128	132	141	124	260	364	496	159	120	108
21	136	140	124	140	142	128	388	324	420	144	120	108
22	132	132	124	136	147	140	344	300	364	140	116	108
23	132	136	128	128	145	136	304	280	472	136	112	108
24	132	136	128	128	140	128	272	276	404	132	112	108
25	132	132	128	128	136	128	256	268	348	128	116	104
26	132	132	128	128	136	124	236	248	303	140	436	108
27	161	140	128	124	136	124	212	232	271	132	233	108
28	171	140	128	124	145	124	196	216	249	156	184	108
29	159	136	128	124	---	129	180	208	228	158	159	104
30	143	136	128	124	---	195	176	200	215	140	145	108
31	136	---	128	120	---	178	---	196	---	132	140	---
TOTAL	4142	4103	4210	3892	3937	4292	5354	10291	8586	4880	4848	3420
MEAN	134	137	136	126	141	138	178	332	286	157	156	114
MAX	171	167	159	140	167	195	388	1590	496	221	436	140
MIN	116	124	124	120	128	124	116	144	192	128	112	104
CFSM	.24	.24	.24	.22	.25	.24	.31	.58	.50	.28	.27	.20
IN.	.27	.27	.27	.25	.26	.28	.35	.67	.56	.32	.32	.22
AC-FT	8220	8140	8350	7720	7810	8510	10620	20410	17030	9680	9620	6780
CAL YR 1980	TOTAL	108834	MEAN 297	MAX 2070	MIN 116	CFSM .52	IN 7.10	AC-FT 215900				
WTR YR 1981	TOTAL	61955	MEAN 170	MAX 1590	MIN 104	CFSM .30	IN 4.04	AC-FT 122900				

WHITE RIVER BASIN

07061300 EAST FORK BLACK RIVER AT LESTERVILLE, MO

LOCATION.--Lat 37°27'03", long 90°49'38", in NE¼SE¼ sec.16, T.32 N., R.2 E., Reynolds County, Hydrologic Unit 11010007, at bridge on State Highway 21 at Lesterville, and 0.8 mi (1.3 km) upstream from Black River.

DRAINAGE AREA.--94.5 mi² (244.8 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 655.34 ft (199.748 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several observations of water temperature were made during the year. Low flow regulated by Union Electric Company Taum Sauk pumped-storage power plant lower reservoir, 4 mi (6.4 km) upstream, since Feb. 19, 1963, capacity 6,350 acre-ft (7.83 hm³).

AVERAGE DISCHARGE.--21 years, 102 ft³/s (2.889 m³/s), 73,900 acre-ft/yr (91.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,400 ft³/s (295 m³/s) Nov. 2, 1972, gage height, 11.13 ft (3.392 m); no flow Oct. 15 to Nov. 21, 1963, July 17-21, July 31 to Aug. 20, 1964, Nov. 13, 14, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1935 reached a stage of about 13.8 ft (4.21 m) from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,480 ft³/s (127 m³/s) May 19, gage height, 8.17 ft (2.490 m); minimum, 1.2 ft³/s (0.034 m³/s) Nov. 26, gage height, 2.26 ft (0.689 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	3.9	2.7	1.6	8.7	44	19	36	80	9.6	29	12
2	4.0	4.4	3.1	2.0	17	28	13	25	47	7.0	18	16
3	3.8	4.7	2.7	4.1	11	41	36	24	48	20	17	8.1
4	3.5	4.5	2.5	4.5	15	43	46	23	295	24	36	4.9
5	3.0	4.6	4.3	4.9	11	30	18	31	199	23	15	4.4
6	2.1	4.2	5.2	5.4	16	88	18	30	132	22	20	4.1
7	1.8	3.7	5.2	5.7	9.5	29	78	229	38	69	63	4.0
8	1.8	4.0	6.2	5.9	8.7	54	122	15	89	72	31	3.2
9	1.9	3.4	7.8	6.2	14	42	105	17	114	42	6.3	2.4
10	3.8	4.5	4.9	6.6	59	41	91	63	33	40	14	4.2
11	7.7	5.1	6.9	6.9	34	34	34	222	40	39	11	4.6
12	9.0	4.3	5.4	7.5	19	23	40	138	84	39	4.1	4.8
13	10	4.1	4.8	8.0	27	176	182	186	52	29	3.4	6.2
14	11	3.3	12	18	45	43	17	2250	43	14	2.8	8.1
15	13	3.6	9.2	42	9.9	12	114	597	42	10	3.2	7.9
16	13	3.0	13	41	113	9.9	65	241	43	12	27	9.8
17	16	3.7	6.9	29	31	10	29	156	82	30	25	11
18	16	3.7	5.0	7.4	32	28	30	1440	26	70	5.1	13
19	15	2.7	4.6	5.6	37	25	79	2810	898	200	3.0	14
20	13	2.3	4.3	6.1	38	15	231	661	1250	2000	2.5	14
21	12	1.9	4.2	6.1	39	16	156	269	494	1170	2.3	14
22	10	1.6	4.5	6.2	21	13	123	169	676	164	2.2	15
23	8.8	1.7	4.7	5.5	116	9.9	126	63	387	604	2.1	16
24	8.7	1.5	5.5	5.5	30	44	112	45	203	966	2.2	15
25	7.6	1.4	5.5	5.5	29	15	88	40	92	344	2.3	14
26	6.2	1.2	5.1	5.8	29	12	73	41	104	175	2.1	14
27	8.4	2.0	3.4	5.5	30	13	62	39	110	101	2.0	14
28	9.5	2.0	1.6	8.3	43	11	53	32	19	72	2.0	14
29	5.9	1.9	1.8	50	---	21	49	11	46	101	1.9	12
30	4.2	2.3	1.6	9.5	---	24	41	10	74	97	2.6	11
31	3.2	---	1.5	6.8	---	17	---	29	---	11	4.4	---
TOTAL	237.9	95.2	161.1	333.1	892.8	1011.8	2250	9942	5840	6576.6	362.5	295.7
MEAN	7.67	3.17	5.20	10.7	31.9	32.6	75.0	321	195	212	11.7	9.86
MAX	16	5.1	13	50	116	176	231	2810	1250	2000	63	16
MIN	1.8	1.2	1.5	1.6	8.7	9.9	13	10	19	7.0	1.9	2.4
CFSM	.08	.03	.06	.11	.34	.35	.79	3.40	2.06	2.24	.12	.10
IN.	.09	.04	.06	.13	.35	.40	.89	3.91	2.30	2.59	.14	.12
AC-FT	472	189	320	661	1770	2010	4460	19720	11580	13040	719	587
CAL YR 1980 TOTAL	15316.69			MEAN 41.8	MAX 1290	MIN .32	CFSM .44	IN 6.03	AC-FT 30380			
WTR YR 1981 TOTAL	27998.70			MEAN 76.7	MAX 2810	MIN 1.2	CFSM .81	IN 11.02	AC-FT 55540			

WHITE RIVER BASIN

07061500 BLACK RIVER NEAR ANNAPOLIS, MO

LOCATION.--Lat 37°20'10", long 90°47'19", in SW¼NW¼ sec.25, T.31 N., R.2 E., Reynolds County, Hydrologic Unit 11010007, on right bank 0.4 mi (0.6 km) downstream from Mayberry Branch, 7 mi (11.2 km) southwest of Annapolis, 11 mi (17.7 km) downstream from East Fork, and at mile 278.5 (448.1 km).

DRAINAGE AREA.--484 mi² (1,254 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 569.72 ft (173.651 m) National Geodetic Vertical Datum of 1929. (levels by Corps of Engineers). Prior to Aug. 21, 1942, at site 415 ft (126 m) upstream at same datum.

REMARKS.--Records good. Several observations of water temperature were made during the year. Small regulation from upstream reservoir since Feb. 1963.

AVERAGE DISCHARGE.--42 years, 556 ft³/s (15.75 m³/s), 15.60 in/yr (396 mm/yr), 402,800 acre-ft/yr (497 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,700 ft³/s (1,410 m³/s) Nov. 2, 1972, gage height, 21.55 ft (6.568 m); minimum discharge, 65 ft³/s (1.84 m³/s) Aug. 16,17,18, 1965; minimum gage height, 0.66 ft (0.201 m) July 26-28, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,800 ft³/s (306 m³/s) May 19, gage height, 9.84 ft (3.00 m), no peak above base of 7,000 ft³/s (198 m³/s); minimum, 103 ft³/s (2.92 m³/s) Oct. 11-14, Sept. 28-30, minimum gage height 0.62 ft (0.189 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	120	160	167	134	149	247	469	286	482	302	558	162		
2	115	151	175	133	155	250	387	263	427	328	480	178		
3	111	145	183	132	155	231	354	240	382	312	396	167		
4	109	140	179	129	153	252	325	225	789	299	358	154		
5	109	137	174	127	160	263	340	230	863	331	311	144		
6	107	134	170	127	156	445	280	236	745	334	279	137		
7	107	134	166	127	148	306	272	220	544	432	315	134		
8	106	132	175	125	145	290	288	207	496	461	311	132		
9	105	130	192	125	143	271	354	199	506	359	231	125		
10	105	128	202	124	174	264	298	319	376	299	205	122		
11	104	127	211	122	239	241	245	677	329	272	208	118		
12	103	127	202	122	214	229	225	576	356	253	189	116		
13	103	125	193	122	227	240	308	584	433	231	170	116		
14	104	125	185	124	303	250	263	5410	353	194	162	132		
15	103	128	182	134	221	202	222	3370	313	171	159	137		
16	104	128	174	155	216	191	302	1690	321	183	186	129		
17	123	143	171	160	232	184	213	1150	322	192	194	125		
18	145	154	163	145	248	182	201	1770	326	193	173	118		
19	165	159	156	133	252	180	392	8460	822	243	154	114		
20	156	159	150	134	247	179	1280	3900	2510	5090	149	111		
21	147	155	145	142	240	202	1200	2020	1680	3460	146	107		
22	140	152	142	142	231	191	913	1370	2500	1260	142	107		
23	134	152	140	138	364	176	795	1000	1740	1260	139	105		
24	131	148	139	137	282	190	741	812	1220	3980	132	105		
25	127	146	137	135	252	177	623	709	830	2150	132	105		
26	125	145	137	134	240	174	525	629	699	1550	181	105		
27	150	155	137	132	232	170	451	572	539	1140	162	105		
28	180	155	137	132	244	163	394	501	467	961	152	103		
29	190	158	136	139	---	172	355	423	345	1180	144	103		
30	182	160	134	146	---	726	323	375	377	1000	137	103		
31	170	---	134	140	---	643	---	431	---	690	134	---		
TOTAL	3980	4292	5088	4151	6022	7881	13338	38854	22092	29110	6789	3719		
MEAN	128	143	164	134	215	254	445	1253	736	939	219	124		
MAX	190	160	211	160	364	726	1280	8460	2510	5090	558	178		
MIN	103	125	134	122	143	163	201	199	313	171	132	103		
CFSM	.26	.30	.34	.28	.44	.53	.92	2.59	1.52	1.94	.45	.26		
IN.	.31	.33	.39	.32	.46	.61	1.03	2.99	1.70	2.24	.52	.29		
AC-FT	7890	8510	10090	8230	11940	15630	26460	77070	43820	57740	13470	7380		
CAL YR 1980	TOTAL	102784	MEAN	281	MAX	2910	MIN	89	CFSM	.58	IN	7.90	AC-FT	203900
WTR YR 1981	TOTAL	145316	MEAN	398	MAX	8460	MIN	103	CFSM	.82	IN	11.17	AC-FT	288200

WHITE RIVER BASIN

07062000 CLEARWATER LAKE NEAR PIEDMONT, MO

LOCATION.--Lat 37°08'00", long 90°46'31", NW¼ sec.6, T.28 N., R.3 E., Wayne County, Hydrologic Unit 11010007, in intake tower at dam on Black River, 2.3 mi (3.70 km) upstream from Brewer Bay, 4.5 mi (7.24 km) west of Piedmont, and at mile 257.4 (414.16 km).

DRAINAGE AREA.--898 mi² (2,326 km²).

PERIOD OF RECORD.--June 1948 to current year.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Lake is formed by earth-fill dam. Storage began June 3, 1948; conservation pool level reached July 4, 1948. Capacity at crest of spillway 413,700 acre-ft (510 hm³) at elevation 567 ft (172.8 m), of which 391,800 acre-ft (483 hm³) is available for flood-control storage, and 21,920 acre-ft (27.0 hm³) is permanent storage which under normal operating conditions will be maintained for purposes of conservation and recreation at elevation 494 ft (150.6 m). Lake used for flood control and incidental recreational purposes.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 399,400 acre-ft (492 hm³) May 28, 1957, elevation, 565.59 ft (172.392 m); minimum, since initial filling to conservation pool level, 15,800 acre-ft (19.5 hm³) Jan. 20, 23, 1972, elevation, 490.00 ft (149.352 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 32,600 acre-ft (40.2 hm³) Dec. 26, elevation, 499.76 ft (152.327 m); minimum, 21,100 acre-ft (26.0 hm³) Sept. 21, elevation, 493.47 ft (150.410 m).

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

493	20,300	520	91,600
498	28,900	530	137,000
504	41,500	540	193,000
510	57,300	551	269,000

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22400	22100	23800	21900	22000	22100	28500	22700	29500	27800	26400	26200
2	22200	22100	22700	21700	22000	21900	27200	23200	29400	27900	26400	26200
3	22000	22100	22200	21800	22000	21900	25700	23600	29400	27900	26300	26300
4	21900	22100	22100	22100	22000	22000	23700	24100	29900	27900	26200	26800
5	21700	22700	22000	22000	22100	22000	22800	24600	29400	27900	26800	26900
6	21600	22600	21900	21900	22000	22000	22800	25300	29200	27800	27100	26500
7	21400	22600	21900	21900	22000	22000	22300	25900	29000	27800	27400	26400
8	21300	22800	22000	21800	22100	22000	22200	26500	28700	27700	27600	26300
9	21300	23400	22000	21900	22000	22000	22000	27000	28600	27700	27800	26300
10	21400	24100	22000	22000	22000	22000	21900	27200	28600	27600	28000	26200
11	21400	24800	22200	22200	22000	22000	21900	27600	28600	27600	28000	26100
12	21400	25500	22400	22200	22000	22100	21900	28300	28600	27500	27700	26100
13	21500	25700	22700	22200	22000	22100	22000	29000	28400	27500	27500	26100
14	21600	24500	22900	22200	22000	22200	22100	29400	28200	27400	27400	26100
15	21600	23400	23100	22100	22600	22200	22100	29400	28000	27300	27500	26100
16	21700	23800	23200	22300	27300	22200	22300	29500	28000	27300	27600	26300
17	21800	22700	23400	22400	31300	23100	22500	29500	28000	27200	27600	26400
18	21900	22500	23500	22300	31700	24900	22300	29500	28100	27000	27500	26000
19	21900	23300	22600	22200	29900	23200	22000	29400	28200	26900	27400	25900
20	21900	22300	22100	22100	27700	21900	22000	29300	28400	26800	27400	26000
21	21900	22900	22200	22000	25500	22000	22000	29200	28400	26800	27300	21100
22	22000	23500	22100	22100	23300	22600	22000	29300	28400	26800	27200	26600
23	22000	23500	22400	22100	22100	23400	22000	29700	28400	26600	27100	26900
24	22000	23000	26600	22100	21800	25100	22000	30100	28500	26600	27000	27200
25	22000	23000	31600	22100	21700	24200	22000	30100	28500	26500	26900	27400
26	22000	23500	32600	22100	21600	22600	22000	30100	28500	26500	26800	27600
27	22000	24000	30300	22000	21800	22200	22000	30000	28400	26500	26700	27800
28	22000	23400	28100	22000	21900	22100	22000	29900	27900	26400	26600	27900
29	22000	24300	25800	22100	22200	22200	22100	29700	27800	26400	26500	28100
30	22000	24800	23100	22100	---	24800	22300	29600	27800	26400	26400	28200
31	22100	---	22000	22000	---	28500	---	29400	---	26400	26300	---

WTR YR 1980

(+)	494.11	495.73	494.03	494.07	494.20	497.81	494.22	498.30	497.43	496.62	496.58	497.63
(#)	-500	+2700	-2800	0	+200	+6300	-6200	+7100	-1600	-1400	-100	+1900
MAX	22400	25700	32600	22400	31700	28500	28500	30100	29900	27900	28000	28200
MIN	21300	22100	21900	21700	21600	21900	21900	22700	27800	26400	26200	21100

CAL YR 1979.....+ -1900

WTR YR 1980.....+ +5600

(+) Elevation, in feet NGVD, at end of month.

(#) Change in contents in acre-ft.

WHITE RIVER BASIN

07062000 CLEARWATER LAKE NEAR PIEDMONT, MO

LOCATION.--Lat 37°08'00", long 90°46'31", NW¼ sec.6, T.28 N., R.3 E., Wayne County, Hydrologic Unit 11010007, in intake tower at dam on Black River, 2.3 mi (3.70 km) upstream from Brewer Bay, 4.5 mi (7.24 km) west of Piedmont, and at mile 257.4 (414.16 km).

DRAINAGE AREA.--898 mi² (2,326 km²).

PERIOD OF RECORD.--June 1948 to current year.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Lake is formed by earth-fill dam. Storage began June 3, 1948; conservation pool level reached July 4, 1948. Capacity at crest of spillway 413,700 acre-ft (510 hm³) at elevation 567 ft (172.8 m), of which 391,800 acre-ft (483 hm³) is available for flood-control storage, and 21,920 acre-ft (27.0 hm³) is permanent storage which under normal operating conditions will be maintained for purposes of conservation and recreation at elevation 494 ft (150.6 m). Lake used for flood control and incidental recreational purposes.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 399,400 acre-ft (492 hm³) May 28, 1957, elevation, 565.59 ft (172.392 m); minimum, since initial filling to conservation pool level, 15,800 acre-ft (19.5 hm³) Jan. 20, 23, 1972, elevation, 490.00 ft (149.352 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 98,700 acre-ft (122 hm³) May 27, elevation, 521.75 ft (159.029 m); minimum, 22,000 acre-ft (27.1 hm³) many days; elevation, 494.05 ft (150.541 m) Jan. 6.

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

493	20,300	520	91,600
498	28,900	530	137,000
504	41,500	540	193,000
510	57,300	551	269,000

RESERVOIR STORAGE (AC-FI), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28200	22300	22200	22100	22400	22200	25800	22100	93300	32600	55500	27000
2	28200	22200	22200	22100	22500	22200	26400	22300	91000	31400	54000	27200
3	28100	22200	22200	22200	22500	22100	26800	22400	89200	31200	52400	27300
4	27900	22100	22100	22100	22500	22100	27500	22700	86900	31000	50800	27100
5	27900	22100	22100	22100	22400	22000	28000	23100	84500	30800	49100	27000
6	27900	22000	22100	22100	22400	22200	28300	23300	85200	30500	47100	26800
7	28200	22000	22100	22100	22300	22300	28400	23600	86600	30000	45000	26600
8	28100	22100	22200	22100	22100	22300	27500	23800	87100	29600	43100	26600
9	27900	22100	22300	22100	22200	22200	25100	24000	86100	29200	41000	26700
10	27800	22100	22300	22100	22600	22100	23200	24600	83700	28700	38700	26800
11	27600	22100	22400	22100	22600	22000	22600	25500	80200	28400	36300	26900
12	27500	22000	22500	22100	22400	22000	22400	26400	76500	28000	33900	26800
13	27400	22000	22500	22100	22200	22000	22400	27700	72700	27900	31500	26800
14	27200	22100	22500	22100	22200	22100	22400	40100	68800	28000	30300	26900
15	26500	22100	22400	22100	22000	22100	22300	49600	64800	28000	29700	27000
16	25400	22200	22300	22100	22000	22100	22200	53900	61200	28000	29100	27000
17	24400	22300	22100	22200	22000	22100	22200	56700	57000	27900	28500	27000
18	23400	22300	22100	22200	22000	22000	22100	59800	53100	27800	27900	27000
19	22600	22200	22100	22200	22100	22000	22200	75200	50000	27700	27200	26900
20	22200	22100	22000	22200	22000	22000	23200	85400	49500	32700	26800	26900
21	22100	22000	22000	22200	22100	22100	23700	89500	48200	39200	26600	26300
22	22100	22100	22000	22200	22200	22300	23500	92200	47500	40100	26500	25200
23	22100	22100	22100	22200	22100	22200	22900	94000	46100	42000	26400	24200
24	22100	22100	22100	22200	22000	22100	22500	95800	43600	48500	26500	23200
25	22100	22100	22000	22000	22000	22000	22300	97400	40500	52400	26600	22600
26	22100	22200	22000	22100	22000	22000	22100	98600	39100	55100	26800	22300
27	22400	22200	22000	22100	22100	22200	22000	98700	39200	56600	27000	22100
28	22600	22200	22000	22100	22100	22500	22100	97100	38700	57400	27000	22000
29	22700	22200	22000	22100	---	22900	22100	94000	36600	57900	26800	22000
30	22700	22200	22000	22200	---	23600	22000	92600	34600	57600	26600	22100
31	22500	---	22100	22300	---	24800	---	93700	---	56700	26800	---

WTR YR 1981

(+)	494.33	494.17	494.10	494.24	494.13	495.74	494.05	520.51	500.92	509.79	496.85	494.09
(-)	-5700	-300	-100	+200	-200	+2700	-2800	+71700	-59100	+22100	-29900	-4700

MAX	28200	22300	22500	22300	22600	24800	28400	98700	93300	57900	55500	27300
MIN	22100	22000	22000	22000	22000	22000	22000	22100	34600	27700	26400	22000

CAL YR 1979.....+100

WTR YR 1980.....+6100

(+) Elevation, in feet NGVD, at end of month.

(-) Change in contents, in acre-feet.

WHITE RIVER BASIN

07062500 BLACK RIVER AT LEEPER, MO

LOCATION.--Lat 37°04'42", long 90°42'52", in SE¼SW¼ sec.22, T.28 N., R.3 E., Wayne County, Hydrologic Unit 11010007, on downstream side of pier at right end of left truss of bridge on State Highway 34, 0.5 mi (0.8 km) northwest of Leeper, 2 mi (3.2 km) downstream from McKenzie Creek, 6 mi (9.7 km) downstream from Clearwater Dam, and at mile 251.0 (403.9 km).

DRAINAGE AREA.--957 mi² (2,480 km²).

PERIOD OF RECORD.--June 1921 to current year.

REVISED RECORDS.--WSP 762: 1933(M). WSP 1007: 1943. WSP 1281: 1922-23, 1927-29(M).

GAGE.--Water-stage recorder. Datum of gage is 428.51 ft (130.610 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 22, 1937, nonrecording gage, Oct. 22, 1937, to Jan. 21, 1942, water-stage recorder, and Jan. 22 to Apr. 6, 1942, nonrecording gage, all at site 1,900 ft (579 m) downstream at datum 3.85 ft (1.173 m) lower.

REMARKS.--Records good. Flow regulated by Clearwater Lake since June 3, 1948. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--60 years, 940 ft³/s (26.62 m³/s), 681,000 acre-ft/yr (840 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 78,400 ft³/s (2,220 m³/s) May 14, 1933, gage height, 20.01 ft (6.009 m), site and datum then in use, from rating curve extended above 55,000 ft³/s (1,560 m³/s); minimum, 62 ft³/s (1.76 m³/s) Sept. 22-25, 1966, gage height, 0.42 ft (1.128 m), result of closure of Clearwater Dam; minimum, prior to regulation, 133 ft³/s (3.77 m³/s) Aug. 11, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1904 reached a stage of about 22.3 ft (6.80 m), present site and datum, from floodmarks, discharge, 125,000 ft³/s (3,540 m³/s), from rating curve extended above 55,000 ft³/s (1,560 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,280 ft³/s (92.9 m³/s) May 30, gage height, 6.60 ft (2.011 m); minimum 148 ft³/s (4.19 m³/s) Oct. 7, 8, gage height, 0.98 ft (0.298 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	251	352	289	234	262	402	202	412	671	1520	1460	242
2	258	336	288	233	257	400	213	306	1660	1350	1460	227
3	262	320	293	234	259	410	257	297	1690	669	1490	236
4	265	313	290	235	285	464	263	271	1870	612	1490	324
5	265	311	288	237	285	510	258	234	2210	616	1470	335
6	262	312	289	241	286	479	256	224	2090	614	1530	331
7	186	299	285	238	308	429	260	219	642	757	1560	329
8	217	287	287	236	361	471	557	220	497	769	1530	303
9	272	291	292	229	325	508	1480	220	909	764	1520	216
10	276	294	285	227	257	514	1510	230	1730	767	1530	224
11	279	293	283	227	285	468	884	223	2110	602	1620	226
12	279	294	284	227	443	446	544	216	2410	576	1600	271
13	283	289	279	227	465	406	429	246	2450	550	1570	277
14	283	278	283	230	463	370	414	871	2420	382	1570	280
15	336	276	298	234	463	371	410	435	2450	354	623	280
16	644	275	296	234	440	366	408	318	2430	343	669	278
17	693	301	295	234	390	363	400	283	2530	364	655	275
18	682	299	288	236	385	358	395	336	2550	434	647	274
19	655	303	263	243	391	339	385	499	2360	436	637	273
20	427	324	258	246	404	299	411	363	2350	457	599	273
21	368	302	247	245	399	292	706	314	2460	588	392	354
22	298	292	244	246	399	297	1100	334	2590	1100	358	675
23	287	288	244	247	424	310	1120	413	2590	1050	353	702
24	287	287	243	253	503	382	1040	462	2610	387	331	702
25	287	283	241	260	461	372	868	357	2580	527	256	625
26	287	283	241	259	402	329	749	385	2120	548	237	387
27	294	285	241	261	395	272	632	753	750	694	230	367
28	287	283	241	261	401	205	490	1290	684	1030	236	334
29	283	291	241	251	---	203	477	2150	1470	806	356	248
30	294	292	240	254	---	200	472	2360	1530	1320	370	235
31	344	---	236	250	---	200	---	915	---	1360	347	---
TOTAL	10391	8933	8372	7469	10398	11435	17590	16156	57413	22346	28496	10103
MEAN	335	298	270	241	371	369	586	521	1914	721	919	337
MAX	693	352	298	261	503	514	1510	2360	2610	1520	1620	702
MIN	186	275	236	227	257	200	202	216	497	343	230	216
CFSM	.35	.31	.28	.25	.39	.39	.61	.54	2.00	.75	.96	.35
IN.	.40	.35	.33	.29	.40	.44	.68	.63	2.23	.87	1.11	.39
AC-FT	20610	17720	16610	14810	20620	22680	34890	32050	113900	44320	56520	20040
CAL YR 1980 TOTAL	170930				2360	186	CFSM .49	IN 6.64	AC-FT	339000		
WTR YR 1981 TOTAL	209102				2610	186	CFSM .60	IN 8.13	AC-FT	414800		

WHITE RIVER BASIN

07063000 BLACK RIVER AT POPLAR BLUFF, MO

LOCATION.--Lat 36°45'34", long 90°23'17", in SW¼NW¼ sec.2, T.24 N., R.6 E., Butler County, Hydrologic Unit 11010007, on right bank at City Light and Water Plant in Poplar Bluff, 1,500 ft (457 m) upstream from bridge on U.S. Highway 60, 4.8 mi (7.7 km) downstream from Indian Creek, and at mile 211.2 (339.8 km).

DRAINAGE AREA.--1,245 mi² (3,225 km²).

PERIOD OF RECORD.--October 1936 to September 1937, October 1939 to current year. Gage-height records collected at site 1,800 ft (549 m) downstream September 1923 to July 1935, and since July 1935 at site 1,500 ft (457 m) downstream are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 317.38 ft (96.737 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1940, nonrecording gage at site 1,500 ft (457 m) downstream are at datum 2.00 ft (0.610) higher, Oct. 1, 1940, to June 7, 1955, at site 1,500 ft (457 m) downstream at present datum.

REMARKS.--Records good. Flow regulated by Clearwater Lake. Several observations of water temperatures made during the year.

AVERAGE DISCHARGE.--43 years, 1,260 ft³/s (35.68 m³/s), 912,900 acre-ft/yr (1,130 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,600 ft³/s (1,490 m³/s) May 12, 1943, from rating curve extended above 44,000 ft³/s (1,246 m³/s); maximum gage height, 20.80 ft (6.340 m) June 10, 1945, from graph based on gage readings; minimum discharge, 180 ft³/s (5.10 m³/s) Sept. 25, 26, 1966, gage height, 0.65 ft (0.198 m), closure of Clearwater Dam for repairs; minimum prior to regulation, 236 ft³/s (6.68 m³/s) Aug. 12, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1904 reached a maximum discharge of 100,000 ft³/s (2,830 m³/s) and flood on Mar. 12, 1935 reached a stage of 21.1 ft (6.43 m), present datum (affected by levees constructed since 1904).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,680 ft³/s (104 m³/s) June 7, gage height, 10.31 ft (3.142 m); minimum, 297 ft³/s (8.41 m³/s) Oct. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	330	504	529	447	449	658	323	713	1790	1760	1530	535
2	320	528	537	439	461	629	323	655	1380	1750	1600	440
3	313	511	534	436	428	611	323	542	1960	1590	1610	422
4	312	474	548	429	421	686	348	507	2020	1160	1700	416
5	310	453	553	430	439	792	360	489	2170	1170	1680	465
6	308	450	554	444	446	784	347	445	2880	1100	1640	484
7	306	446	562	445	449	734	346	419	3320	1090	1680	488
8	304	434	575	438	465	672	353	407	1640	1160	1690	485
9	303	411	620	432	512	682	628	401	1160	1140	1670	464
10	333	404	602	418	716	710	1270	416	1370	1110	1640	397
11	347	414	597	416	907	709	1410	448	1910	1090	1670	384
12	352	418	596	410	668	668	1060	430	2280	973	1720	384
13	356	419	597	408	705	638	772	440	2590	927	1700	387
14	364	421	591	405	722	597	622	1900	2670	883	1670	397
15	363	411	601	405	718	563	571	3010	2660	740	1480	400
16	418	406	628	407	717	555	559	1510	2700	693	1040	394
17	763	434	631	408	701	539	552	1030	2690	672	968	389
18	825	477	630	405	649	527	546	869	2730	679	931	387
19	830	472	611	408	627	521	555	938	2810	739	904	387
20	814	483	546	421	616	495	674	1170	2690	745	888	387
21	664	537	529	434	621	457	777	970	2590	750	844	387
22	577	504	505	426	673	455	988	832	2680	854	681	440
23	456	499	496	423	685	445	1320	790	2820	1280	612	711
24	419	485	492	422	683	442	1360	823	2580	1390	584	787
25	406	475	480	422	732	498	1270	1040	2830	885	556	807
26	398	475	477	420	691	509	1140	1290	2800	887	478	758
27	433	504	472	417	637	466	1030	1940	2300	909	448	570
28	448	499	471	416	631	413	922	1740	1340	1060	438	514
29	406	492	467	410	---	356	790	1830	1200	1320	435	478
30	394	515	463	409	---	342	740	2360	1650	1200	509	400
31	407	---	458	403	---	327	---	2680	---	1470	550	---
TOTAL	13579	13955	16952	13053	17169	17480	22279	33054	68210	33176	35546	14344
MEAN	438	465	547	421	613	564	743	1066	2274	1070	1147	478
MAX	830	537	631	447	907	792	1410	3010	3320	1760	1720	807
MIN	303	404	458	403	421	327	323	401	1160	672	435	384
CFSM	.35	.37	.44	.34	.49	.45	.60	.86	1.83	.86	.92	.38
IN.	.41	.42	.51	.39	.51	.52	.67	.99	2.04	.99	1.06	.43
AC-FT	26930	27680	33620	25890	34050	34670	44190	65560	135300	65800	70510	28450
CAL YR 1980	TOTAL	262591	MEAN 717	MAX 2930	MIN 303	CFSM .58	IN 7.85	AC-FT 520800				
WTR YR 1981	TOTAL	298797	MEAN 819	MAX 3320	MIN 303	CFSM .66	IN 8.93	AC-FT 592700				

WHITE RIVER BASIN

07066000 JACKS FORK AT EMINENCE, MO

LOCATION.--Lat 37°09'18", long 91°21'31", in SW¼NW¼ sec.26, T.29 N., R.4 W., Shannon County, Hydrologic Unit 11010008, on left bank 50 ft (15 m) upstream from bridge on State Highway 19, at Eminence, 1.5 mi (2.4 km) downstream from Mahans Creek, and 8.0 mi (12.9 km) upstream from mouth.

DRAINAGE AREA.--398 mi² (1,031 km²).

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

REVISED RECORDS.--WSP 787: 1928(M), 1934. WSP 877: 1938. WSP 927: Drainage area. WSP 1281: 1929.

GAGE.--Water-stage recorder. Datum of gage is 617.87 ft (188.327 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 27, 1934, nonrecording gage at site 1,350 ft (411 m) upstream at datum 2.11 ft (0.643 m) higher. Jan. 27, 1934, to Jan. 10, 1935, nonrecording gage at site 75 ft (22.239 m) downstream at datum 0.04 ft (0.012 m) lower. Jan. 11, 1935, to July 9, 1964, nonrecording gage at site 50 ft (15 m) downstream at present datum.

REMARKS.--Records good except periods of no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--60 years, 437 ft³/s (12.38 m³/s), 14.91 in/yr (379 mm/yr), 316,600 acre-ft/yr (390 hm³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 40,000 ft³/s (1,130 m³/s) June 13, 1928, gage height, about 17.2 ft (5.24 m), present site and datum, from rating curve extended above 21,000 ft³/s (595 m³/s); minimum, 0.64 ft³/s (0.018 m³/s) Aug. 28, 1936; minimum gage height, 0.64 ft (0.195 m) Sept. 18, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in 1895 and March 1904 reached a stage of about 25 ft (7.6 m) present site and datum, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,000 ft³/s (312 m³/s) at 1845 May 14, gage height, 9.57 ft (2.917 m), no other peak above base of 3,900 ft³/s (110 m³/s); minimum, 100 ft³/s (2.83 m³/s) Oct. 12; gage height, 0.93 ft (0.283 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	127	122	122	130	150	450	230	321	188	153	206
2	105	125	127	122	140	160	390	220	461	181	143	176
3	105	125	127	122	130	150	350	210	382	198	138	155
4	105	122	122	120	120	160	300	200	301	197	138	144
5	105	120	120	120	120	170	280	210	273	204	135	135
6	105	122	120	120	120	180	260	220	283	205	132	131
7	105	122	116	120	130	180	238	210	410	235	262	125
8	107	120	118	120	120	180	230	210	510	219	247	124
9	107	118	129	120	130	170	220	210	393	199	181	121
10	105	122	136	110	150	160	210	230	372	185	161	119
11	105	122	138	110	140	150	230	300	319	179	149	118
12	103	116	136	110	170	140	220	320	287	170	142	116
13	105	114	132	110	160	140	210	1450	263	164	135	115
14	105	114	129	110	150	140	200	5730	248	159	131	126
15	106	116	122	110	140	140	190	2500	235	155	129	121
16	105	118	116	110	140	140	180	1430	238	152	272	115
17	116	127	116	110	150	140	170	984	234	155	324	114
18	114	132	117	110	160	130	170	993	230	160	217	112
19	122	136	112	110	160	130	190	1880	238	159	179	111
20	125	138	112	120	150	130	300	1450	244	173	162	110
21	121	134	112	130	150	130	310	998	400	161	149	110
22	117	125	114	131	160	140	320	747	380	153	141	109
23	116	120	110	132	160	140	320	568	380	174	135	110
24	114	120	112	127	150	130	310	495	350	167	129	108
25	114	120	114	127	150	130	330	432	300	161	136	107
26	113	116	114	127	149	130	300	387	260	162	137	105
27	130	125	114	122	140	130	280	354	240	185	331	105
28	145	122	112	129	140	130	260	320	220	182	240	110
29	143	120	114	122	---	140	250	287	200	184	194	110
30	142	120	114	129	---	500	240	271	186	174	171	110
31	134	---	118	130	---	620	---	269	---	163	165	---
TOTAL	3551	3678	3715	3712	4009	5360	7908	24315	9160	5503	5458	3678
MEAN	115	123	120	120	143	173	264	784	305	178	176	123
MAX	145	138	138	132	170	620	450	5730	510	235	331	206
MIN	103	114	110	110	120	130	170	200	188	152	129	105
CFSM	.29	.31	.30	.30	.36	.44	.66	1.97	.77	.45	.44	.31
IN.	.33	.34	.35	.35	.37	.50	.74	2.27	.86	.51	.51	.34
AC-FT	7040	7300	7370	7360	7950	10630	15690	48230	18170	10920	10830	7300
CAL YR 1980 TOTAL	88895		MEAN 243	MAX 2090	MIN 96	CFSM .61	IN 8.31	AC-FT 176300				
WTR YR 1981 TOTAL	80047		MEAN 219	MAX 5730	MIN 103	CFSM .55	IN 7.48	AC-FT 158800				

WHITE RIVER BASIN

07067000 CURRENT RIVER AT VAN BUREN, MO

LOCATION.--Lat 36°59'29", long 91°00'53", in NE¼NW¼ sec.25, T.27 N., R.1 W., Carter County, Hydrologic Unit 11010008, near right bank on downstream side of pier of bridge on U.S. Highway 60 in Van Buren, 0.4 mi (0.6 km) downstream from Pike Creek, 4.7 mi (7.6 km) upstream from Big Spring, and at mile 90.4 (145.5 km).

DRAINAGE AREA.--1,667 mi² (4,318 km²).

PERIOD OF RECORD.--October 1912 to current year. Prior to July 1921 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 877: 1938. WSP 897: 1939. WSP 927: Drainage area. WSP 1281: 1929.

GAGE.--Water-stage recorder. Datum of gage is 442.78 ft (134.959 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 1, 1926, nonrecording gage at site 100 ft (30 m) downstream at different datum. Sept. 1, 1926, to Oct. 19, 1934, nonrecording gage and Oct. 20, 1934, to Sept. 30, 1939, water-stage recorder, at present site at datum 3.00 ft (0.914 m) higher, set to read same as gage 100 ft (30 m) downstream.

REMARKS.--Records good except periods of no gage-height record which are poor.

AVERAGE DISCHARGE.--69 years, 1,841 ft³/s (52.14 m³/s), 15.00 in/yr (381 mm/yr), 1,334,000 acre-ft/yr (1,640 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 125,000 ft³/s (3,540 m³/s) Aug. 21, 1915, gage height, 25.9 ft (7.89 m), present datum, from rating curve extended above 62,000 ft³/s (1,760 m³/s); minimum discharge, 473 ft³/s (13.4 m³/s) Oct. 7, 8, 1956; minimum gage height, 1.55 ft (0.472 m) Sept. 16, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1904, reached a stage of 29.0 ft (8.84 m), present datum, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,600 ft³/s (498 m³/s) at 0900 May 15, gage height, 11.57 ft (3.527 m), no other peak above base of 14,000 ft³/s (396 m³/s); minimum discharge, 573 ft³/s (16.2 m³/s) Sept. 28, 29; minimum gage height, 1.55 ft (0.472 m) Sept. 28, 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	657	658	700	615	620	683	1990	810	1510	1330	1030	817
2	652	653	720	610	626	674	1570	772	1580	1120	956	798
3	652	652	720	605	615	666	1340	747	1600	1100	912	736
4	652	652	700	605	601	697	1240	734	1500	1210	930	687
5	652	615	700	601	592	736	1170	768	1530	1210	946	651
6	652	599	700	601	596	758	1090	783	1520	1210	911	632
7	652	599	680	605	601	772	1020	753	1700	1310	942	620
8	652	606	680	605	599	768	960	743	1840	1310	1130	611
9	652	607	700	601	597	740	910	739	1760	1150	1020	601
10	652	599	740	596	678	714	889	792	1560	1040	900	648
11	652	594	760	587	766	693	974	1200	1430	975	843	643
12	649	591	740	592	715	677	907	1370	1320	924	807	638
13	648	594	720	587	688	665	852	1420	1290	886	776	648
14	647	599	700	596	679	655	806	9320	1240	856	754	658
15	647	611	680	596	663	649	765	12800	1170	834	742	704
16	647	615	680	592	662	652	738	4840	1180	827	817	663
17	654	655	662	587	676	646	730	3410	1150	822	936	633
18	673	697	662	587	697	631	718	3040	1080	811	939	618
19	659	720	641	582	698	624	803	5070	1100	842	827	614
20	652	740	631	592	687	614	1200	5170	1190	887	766	611
21	652	720	631	605	679	616	1210	3670	2010	973	725	611
22	652	700	631	605	699	642	1250	2890	1870	885	697	607
23	652	680	636	601	694	640	1230	2420	1860	954	679	602
24	652	680	636	596	681	626	1230	2270	1700	2170	668	597
25	652	680	631	596	672	620	1290	2120	1600	1900	664	593
26	652	680	620	596	666	618	1170	1950	1440	1530	696	593
27	674	700	631	592	659	615	1040	1890	1300	1500	689	587
28	750	700	626	587	673	614	959	1710	1200	1330	898	581
29	735	680	620	592	---	633	902	1570	1110	1300	815	583
30	692	680	620	596	---	2580	856	1520	1090	1230	759	585
31	670	---	620	601	---	2740	---	1580	---	1130	731	---
TOTAL	20486	19556	20818	18509	18479	24658	31809	78871	43430	35556	25905	19170
MEAN	661	652	672	597	660	795	1060	2544	1448	1147	836	639
MAX	750	740	760	615	766	2740	1990	12800	2010	2170	1130	817
MIN	647	591	620	582	592	614	718	734	1080	811	664	581
CFSM	.40	.39	.40	.36	.40	.48	.64	1.53	.87	.69	.50	.38
IN.	.46	.44	.46	.41	.41	.55	.71	1.76	.97	.79	.58	.43
AC-FT	40630	38790	41290	36710	36650	48910	63090	156400	86140	70530	51380	38020
CAL YR 1980 TOTAL	377598			1032	MAX 4260	MIN 591	CFSM .62	IN 8.43	AC-FT 749000			
WTR YR 1981 TOTAL	357247			979	MAX 12800	MIN 581	CFSM .59	IN 7.97	AC-FT 708600			

WHITE RIVER BASIN

07068000 CURRENT RIVER AT DONIPHAN, MO

LOCATION.--Lat 36°37'19", long 90°50'51", in NW¼NW¼ sec.27, T.23 N., R.2 E., Ripley County, Hydrologic Unit 11010008, on right bank 0.5 mi (0.8 km) upstream from U.S. Highway 160, 1 mi (1.6 km) west of Doniphan, 2.5 mi (4.0 km) upstream from Brian Creek, and at mile 51.3 (82.5 km).

DRAINAGE AREA.--2,038 mi² (5,278 km²).

PERIOD OF RECORD.--October 1918 to current year. Prior to July 1921 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 877: 1937-38(M). WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 321.21 ft (97.905 m), National Geodetic Vertical Datum of 1929. July 3, 1936, to Sept. 30, 1971, datum is 1.00 ft (0.305 m) higher. Prior to July 3, 1936, nonrecording gages at several sites 0.5 mi (0.8 km) downstream at various datums.

REMARKS.--Records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--63 years, 1,578 ft³/s (44.69 m³/s), 17.86 in/yr (454 mm/yr), 1,942,000 acre-ft/yr (2,390 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 94,400 ft³/s (2,670 m³/s) Mar. 12, 1935, gage height, 23.0 ft (7.01 m), present site and datum, from rating curve extended above 60,000 ft³/s (1,700 m³/s); minimum, 852 ft³/s (24.1 m³/s) Oct. 8-19, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1904 reached a stage of 25.9 ft (7.89 m), from floodmarks, present site and datum, discharge, 130,000 ft³/s (3,680 m³/s) from rating curve extended above 60,000 ft³/s (1,700 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,800 ft³/s (362 m³/s) May 16, gage height, 8.38 ft (2.554 m), no peak above base of 14,000 ft³/s (396 m³/s); minimum, 1,070 ft³/s (30.3 m³/s) Sept. 28-30, gage height, 0.83 ft (0.253 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1220	1280	1220	1120	1170	1240	2840	1480	2740	2200	1710	1370
2	1220	1260	1230	1110	1160	1240	2390	1430	2630	2270	1620	1420
3	1200	1250	1230	1110	1150	1220	2090	1400	2680	2050	1550	1380
4	1190	1240	1220	1100	1140	1300	1920	1370	2600	1970	1520	1310
5	1190	1230	1210	1100	1120	1340	1790	1390	2530	2010	1530	1260
6	1180	1230	1200	1110	1110	1380	1690	1410	2590	2030	1520	1220
7	1180	1230	1190	1110	1100	1380	1630	1390	2640	2030	1580	1190
8	1190	1220	1220	1120	1100	1380	1570	1370	2700	2060	1590	1190
9	1190	1220	1280	1110	1090	1370	1520	1360	2740	1970	1710	1180
10	1190	1210	1300	1100	1250	1330	1470	1410	2560	1820	1580	1160
11	1180	1200	1300	1100	1290	1300	1490	1490	2380	1720	1490	1150
12	1170	1190	1280	1100	1230	1270	1530	1900	2260	1640	1440	1140
13	1170	1180	1250	1100	1230	1250	1470	1980	2160	1580	1380	1140
14	1170	1190	1220	1100	1240	1240	1420	3870	2110	1530	1350	1170
15	1180	1200	1190	1120	1250	1230	1360	10400	2030	1480	1320	1180
16	1190	1200	1180	1110	1240	1220	1340	9060	2000	1450	1340	1200
17	1300	1270	1170	1100	1230	1210	1310	4940	1970	1440	1390	1150
18	1280	1290	1160	1100	1300	1200	1300	4030	1910	1440	1540	1120
19	1280	1300	1150	1110	1290	1180	1320	4710	1890	1420	1480	1120
20	1250	1270	1130	1140	1280	1170	1570	5840	1920	1460	1380	1120
21	1240	1240	1120	1150	1270	1170	1860	5020	2100	1490	1330	1110
22	1230	1220	1120	1140	1260	1210	1870	4070	2730	1530	1280	1110
23	1220	1240	1130	1130	1250	1200	1920	3530	2560	1560	1250	1100
24	1220	1200	1120	1120	1250	1200	1870	3240	2450	1870	1230	1090
25	1220	1190	1130	1120	1240	1180	1920	3250	2350	2690	1210	1090
26	1210	1190	1120	1120	1220	1170	1910	3150	2220	2310	1240	1090
27	1310	1230	1110	1120	1220	1170	1780	3100	2070	2100	1250	1090
28	1350	1230	1110	1100	1240	1170	1670	2970	1940	2090	1300	1070
29	1380	1220	1120	1090	---	1200	1610	2780	1840	1980	1450	1070
30	1340	1210	1120	1120	---	1370	1540	2650	1790	1930	1370	1070
31	1300	---	1110	1100	---	3390	---	2790	---	1830	1340	---
TOTAL	38140	36830	36640	34480	33920	40880	50970	98780	69090	56950	44270	35060
MEAN	1230	1228	1182	1112	1211	1319	1699	3186	2303	1837	1428	1169
MAX	1380	1300	1300	1150	1300	3390	2840	10400	2740	2690	1710	1420
MIN	1170	1180	1110	1090	1090	1170	1300	1360	1790	1420	1210	1070
CFSM	.60	.60	.58	.55	.59	.65	.83	1.56	1.13	.90	.70	.57
IN.	.70	.67	.67	.63	.62	.75	.93	1.80	1.26	1.04	.81	.64
AC-FT	75650	73050	72680	68390	67280	81090	101100	195900	137000	113000	87810	69540
CAL YR 1980	TOTAL	637750	MEAN	1742	MAX	5370	MIN	1110	CFSM	.86	IN	11.64
WTR YR 1981	TOTAL	576010	MEAN	1578	MAX	10400	MIN	1070	CFSM	.77	IN	10.51
									AC-FT	1265000	AC-FT	1143000

WHITE RIVER BASIN

07068250 MIDDLE FORK LITTLE BLACK RIVER AT GRANDIN, MO

LOCATION.--Lat 36°49'50"; long 90°49'21", NE¼SW¼SW¼ sec.11, T.25 N., R.2 E., Carter County, Hydrologic Unit 11010008, on downstream side of center pier of Highway 21 bridge in Grandin and 0.6 mile (1.0 km) upstream from North Prong Little Black River.

DRAINAGE AREA.--6.85 square miles (17.74 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage is 571.84 ft (171.297 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 84.0 ft³/s (2.35 m³/s) May 14, 1981, gage height, 3.36 ft (1.02 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 84.0 ft³/s (2.35 m³/s) May 14, 1981, gage height, 3.36 ft (1.02 m); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	3.5	.40	.50	8.4	.21	.00	.00
2	.00	.00	.00	.00	.00	3.5	.40	.50	5.6	.17	.00	.00
3	.00	.00	.00	.00	.00	3.5	.50	.40	4.4	.17	.00	.00
4	.00	.00	.00	.00	.00	6.4	.50	.40	3.5	.17	.00	.00
5	.00	.00	.00	.00	.00	11	.40	.40	3.2	.32	.00	.00
6	.00	.00	.00	.00	.00	7.6	.40	.40	4.4	.26	.00	.00
7	.00	.00	.00	.00	.00	6.0	.40	.32	5.2	.17	.00	.00
8	.00	.00	.00	.00	.00	4.4	.40	.26	3.8	.17	.00	.00
9	.00	.00	.00	.00	.00	4.1	.32	.21	3.2	.17	.00	.00
10	.00	.00	.00	.00	.17	3.5	.32	.32	2.6	.17	.00	.00
11	.00	.00	.00	.00	.17	2.6	.32	.26	2.1	.17	.00	.00
12	.00	.00	.00	.00	.17	2.4	.32	.26	1.9	.13	.00	.00
13	.00	.00	.00	.00	.13	2.4	.32	.50	1.4	.13	.00	.00
14	.00	.00	.00	.00	.09	2.1	.32	45	1.2	.09	.00	.00
15	.00	.00	.00	.00	.21	2.1	.26	16	.95	.09	.00	.00
16	.00	.00	.00	.00	1.2	1.9	.32	8.0	.80	.09	.00	.00
17	.00	.00	.00	.00	1.2	1.6	.32	5.2	.65	.09	.00	.00
18	.00	.00	.00	.00	1.2	1.4	.32	4.4	.50	.05	.00	.00
19	.00	.00	.00	.00	1.4	1.2	.32	7.2	.80	.05	.00	.00
20	.00	.00	.00	.00	1.4	.95	.50	5.2	.65	.05	.00	.00
21	.00	.00	.00	.00	1.4	.95	.40	4.1	.50	.02	.00	.00
22	.00	.00	.00	.00	3.5	1.2	.50	2.9	.95	.02	.00	.00
23	.00	.00	.00	.00	5.2	.80	.65	2.4	.80	.05	.00	.00
24	.00	.00	.00	.00	4.1	.80	.65	3.5	.50	.05	.00	.00
25	.00	.00	.00	.00	3.2	.65	.65	3.8	.40	.02	.00	.00
26	.00	.00	.00	.00	2.9	.65	.65	9.2	.32	.00	.00	.00
27	.00	.00	.00	.00	2.6	.65	.65	22	.32	.00	.00	.00
28	.00	.00	.00	.00	3.2	.50	.65	10	.26	.00	.00	.00
29	.00	.00	.00	.00	---	.65	.65	6.8	.21	.00	.00	.00
30	.00	.00	.00	.00	---	.50	.65	6.8	.21	.00	.00	.00
31	.00	---	.00	.00	---	.40	---	14	---	.00	.00	---
TOTAL	.00	.00	.00	.00	33.44	79.90	13.46	181.23	59.72	3.08	.00	.00
MEAN	.000	.000	.000	.000	1.19	2.58	.45	5.85	1.99	.099	.000	.000
MAX	.00	.00	.00	.00	5.2	11	.65	45	8.4	.32	.00	.00
MIN	.00	.00	.00	.00	.00	.40	.26	.21	.21	.00	.00	.00

WTR YR 1981 TOTAL 370.83 MEAN 1.02 MAX 45 MIN .00

WHITE RIVER BASIN

07068250 MIDDLE FORK LITTLE BLACK RIVER AT GRANDIN, MO--continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1980 to current year.

REMARKS.--Water temperatures are not published for periods of no flow.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum, 28.5°C July 20, 198; minimum, 0°C on many days.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 28.5°C July 20; minimum 0°C on many days.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	6.5	4.5	5.5	15.5	8.0	11.5	21.0	15.5	18.5
2	---	---	---	6.5	4.0	5.5	16.5	7.0	12.0	20.0	13.5	16.5
3	---	---	---	5.5	2.0	4.0	14.5	9.5	12.0	20.5	13.0	16.5
4	---	---	---	5.0	4.5	4.5	14.5	9.5	12.0	20.0	15.5	18.0
5	---	---	---	5.0	4.5	4.5	13.5	8.5	11.0	18.0	16.0	16.5
6	---	---	---	6.5	1.5	4.5	14.0	6.5	10.0	16.5	15.0	15.5
7	---	---	---	5.5	3.0	4.5	15.5	8.5	12.0	18.5	13.0	15.5
8	---	---	---	6.5	3.5	5.0	15.0	11.0	13.5	19.5	12.0	15.5
9	---	---	---	7.0	1.5	4.5	18.5	13.0	15.5	19.5	14.5	16.5
10	.5	.0	.5	7.0	3.0	5.0	19.5	12.0	15.5	19.0	13.5	16.0
11	.5	.0	.5	7.0	3.0	5.0	19.0	13.0	15.5	19.5	13.5	16.5
12	.5	.0	.5	8.5	2.0	5.5	20.0	13.5	16.5	19.0	13.0	15.5
13	.5	.0	.5	9.0	4.0	6.5	20.5	14.0	17.0	17.0	15.0	16.0
14	.5	.0	.5	8.5	3.0	5.5	17.0	11.5	14.5	15.0	13.5	14.0
15	.5	.0	.5	5.5	4.0	4.5	15.5	10.0	13.0	18.5	12.0	15.5
16	3.0	.0	1.0	8.0	3.5	5.5	15.5	12.0	14.0	15.5	13.5	14.5
17	6.5	2.0	4.0	10.0	3.0	6.5	19.0	12.0	15.5	15.0	13.5	14.5
18	9.5	4.5	6.5	8.0	4.5	6.0	20.5	14.0	17.0	16.5	15.0	15.5
19	10.0	4.5	7.0	7.0	1.5	4.5	18.5	15.0	16.5	15.0	13.5	14.5
20	9.5	3.0	6.0	8.0	1.5	5.0	15.5	13.5	14.5	18.5	12.0	15.5
21	8.0	3.5	5.5	7.0	4.5	5.5	16.0	11.5	14.0	20.0	13.5	16.5
22	7.0	5.5	6.5	6.0	4.0	5.0	17.0	13.5	15.5	21.0	14.5	18.0
23	6.0	3.5	4.5	8.5	3.0	5.5	19.0	14.0	16.5	20.5	16.0	18.5
24	7.0	1.5	4.5	10.0	3.0	6.5	18.5	12.0	15.5	21.5	18.0	20.0
25	9.0	3.0	5.5	9.5	3.5	6.5	19.5	11.0	15.5	20.5	16.0	18.5
26	9.5	4.5	6.5	11.5	5.0	8.5	21.0	13.5	17.0	18.5	16.0	17.0
27	11.0	5.5	8.5	14.0	6.5	10.0	22.0	14.5	18.5	21.0	15.0	18.0
28	10.0	7.0	9.0	14.0	6.5	10.0	23.0	16.0	19.5	23.5	16.5	20.0
29	---	---	---	11.0	10.0	10.5	22.0	16.0	19.0	23.0	18.5	20.5
30	---	---	---	14.5	9.0	11.5	23.0	17.0	20.0	22.0	19.0	20.5
31	---	---	---	16.5	8.5	13.0	---	---	---	20.0	18.0	19.0
MONTH	11.0	.0	4.0	16.5	1.5	6.5	23.0	6.5	15.0	23.5	12.0	17.0
JUNE			JULY			AUGUST			SEPTEMBER			
1	23.5	18.0	20.5	24.0	20.0	22.0						
2	23.5	18.0	20.5	25.0	19.0	22.0						
3	22.0	19.5	21.0	25.0	19.0	22.0						
4	24.0	19.5	21.5	25.0	19.0	22.0						
5	24.0	21.0	22.0	24.5	20.0	22.0						
6	21.5	20.0	21.0	24.5	19.5	22.0						
7	21.0	19.0	21.0	25.0	19.0	22.0						
8	25.0	19.0	22.0	26.5	19.0	23.0						
9	26.0	20.5	23.5	26.0	19.5	23.5						
10	23.5	21.0	22.0	26.0	19.5	23.0						
11	23.5	20.0	21.5	26.5	19.0	23.0						
12	24.0	20.0	22.0	27.0	19.5	23.5						
13	24.5	21.0	23.0	27.0	19.5	23.5						
14	25.5	21.5	23.5	28.0	20.0	24.0						
15	26.5	22.0	25.0	28.5	20.5	24.5						
16	23.5	20.5	22.0	26.0	20.5	23.5						
17	23.0	18.5	20.0	26.0	20.5	23.5						
18	24.0	17.0	20.5	26.0	19.5	23.0						
19	23.5	20.0	21.5	28.0	20.0	24.0						
20	26.0	20.5	23.5	28.5	20.0	24.5						
21	24.5	21.0	23.0	28.0	19.0	23.5						
22	25.5	19.5	22.0	25.5	19.5	22.0						
23	24.0	18.0	21.0	21.5	18.5	20.0						
24	26.0	19.5	23.0	23.5	19.0	21.0						
25	24.0	20.0	22.0	26.0	18.5	22.0						
26	24.5	18.5	21.0	---	---	---						
27	25.0	18.0	21.0	---	---	---						
28	25.0	18.5	21.5	---	---	---						
29	26.0	19.0	22.0	---	---	---						
30	23.5	19.5	21.0	---	---	---						
31	---	---	---	---	---	---						
MONTH	26.5	17.0	22.0	28.5	18.5	23.0						

WHITE RIVER BASIN

07068300 NORTH PRONG LITTLE BLACK RIVER NEAR GRANDIN, MO

LOCATION.--Lat 36°46'48", long 90°48'01", SE¼NE¼NW¼ sec.36, T.25 N., R.2 E., Ripley County, Hydrologic Unit 11010008, on the right bank, 700 ft (213 m) upstream from Highway NN and 5.4 miles (8.6 km) above South Prong Little Black River.

DRAINAGE AREA.--39.4 square miles (102.0 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 8, 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage is 468.61 ft (142.832 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 368 ft³/s (10.3 m³/s) May 14, 1981, gage height, 3.59 ft (91.2 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 368 ft³/s (10.3 m³/s) May 14, 1981, gage height, 3.59 ft (9.12 m); no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	12	11	.00	.82	.00
2							---	11	9.4	1.6	.71	.00
3							---	10	8.4	1.6	.67	.00
4							---	9.6	7.8	1.6	.58	.00
5							---	9.1	7.4	1.5	2.3	2.5
6							---	8.4	6.7	1.3	2.3	1.5
7							---	7.5	6.2	1.2	1.5	1.2
8							34	7.4	5.6	1.2	1.2	1.0
9							31	6.8	5.2	1.0	1.2	.99
10							26	6.7	5.0	.92	1.1	.91
11							25	6.1	4.9	.98	1.0	.86
12							25	8.1	4.4	.87	.98	.86
13							24	9.9	4.2	.86	.92	.86
14							39	7.7	4.1	.81	1.6	.79
15							46	7.0	3.8	.70	3.0	.68
16							35	9.3	3.8	.68	2.0	.70
17							31	9.6	4.2	.70	1.6	2.2
18							30	8.7	4.2	.56	1.4	1.6
19							26	8.7	4.1	.56	1.6	1.3
20							24	8.2	3.5	.56	1.6	1.2
21							22	7.8	3.4	.56	1.3	1.1
22							21	7.8	.00	1.2	1.1	1.6
23							19	15	.00	1.3	.96	5.1
24							18	25	.00	.97	.86	2.6
25							17	17	.00	.86	.86	2.0
26							16	14	.00	.86	.00	1.7
27							15	12	.00	1.0	.00	1.5
28							14	11	.00	1.1	.00	1.5
29							13	11	.00	1.2	.68	1.6
30							13	12	.00	.98	.68	1.6
31							---	11	---	.92	.64	---
TOTAL							---	315.4	117.30	30.15	35.16	39.45
MEAN							---	10.2	3.91	.97	1.13	1.32
MAX							---	25	11	1.6	3.0	5.1
MIN							---	6.1	.00	.00	.00	.00

WHITE RIVER BASIN

07068300 NORTH PRONG LITTLE BLACK RIVER NEAR GRANDIN, MO--continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	2.6	5.4	.00	7.6	20	9.9	7.3	44	7.1	4.1	2.7
2	1.4	2.4	5.0	4.3	7.5	19	9.3	6.6	31	6.6	3.7	2.8
3	1.2	2.5	4.7	4.2	6.6	17	9.0	6.2	27	6.7	3.6	2.9
4	1.2	2.5	4.3	4.1	6.3	24	9.9	5.8	28	6.5	3.6	2.6
5	1.2	2.3	4.2	.00	6.1	36	9.1	6.2	28	64	3.5	2.4
6	1.1	2.6	4.5	4.4	6.0	32	8.3	6.4	49	91	3.5	2.2
7	1.2	2.6	4.8	4.6	5.8	27	7.3	5.7	71	40	5.9	2.0
8	1.3	2.6	6.2	4.4	5.6	24	7.2	4.6	48	28	4.6	2.0
9	1.3	2.6	9.2	4.4	5.2	22	7.2	4.4	33	19	3.9	1.8
10	1.2	2.6	6.3	4.2	21	19	7.2	5.8	27	15	4.4	1.8
11	1.1	2.6	5.7	4.0	25	18	6.3	5.8	23	13	6.8	1.7
12	1.0	2.6	5.8	3.8	19	18	6.3	4.6	20	12	6.5	1.7
13	1.1	2.6	5.9	3.8	16	16	6.3	6.6	18	9.9	5.5	1.7
14	1.2	2.5	5.6	3.9	14	15	5.7	212	15	8.6	4.8	1.8
15	1.3	2.7	5.5	3.9	13	15	5.4	89	13	7.9	4.5	1.8
16	1.3	2.9	5.4	3.9	13	14	5.2	49	13	6.8	4.3	1.8
17	3.8	5.8	5.0	3.9	13	13	4.9	35	11	6.4	4.4	1.8
18	3.2	5.2	5.2	3.7	14	11	4.7	31	9.2	6.0	4.2	1.7
19	2.1	4.1	5.0	3.7	14	10	5.6	39	12	6.1	3.7	1.7
20	1.8	3.7	.00	4.0	14	11	13	35	11	5.7	3.4	1.7
21	1.8	3.3	.00	4.6	14	12	11	26	8.6	4.8	3.2	1.7
22	1.9	3.1	.00	4.5	27	11	11	22	23	4.3	2.8	1.6
23	2.0	3.8	.00	4.2	37	9.6	14	18	21	10	2.9	1.5
24	1.9	3.8	4.6	4.0	25	8.8	12	17	14	8.5	2.7	1.5
25	1.9	3.3	.00	3.9	22	8.7	11	23	12	6.1	6.1	1.5
26	1.9	3.3	4.4	3.9	20	8.7	11	33	10	5.5	4.1	1.5
27	6.5	4.4	.00	3.9	18	8.1	9.9	86	8.9	5.3	3.6	1.3
28	5.0	4.1	4.4	3.8	18	11	9.5	53	8.0	6.0	3.4	1.3
29	3.2	4.1	4.6	3.7	---	11	8.4	36	6.9	5.8	3.1	1.2
30	2.7	4.4	4.4	4.0	---	10	8.2	31	6.5	4.9	3.0	1.2
31	2.6	---	.00	3.9	---	10	---	58	---	4.4	2.7	---
TOTAL	62.0	97.6	126.10	117.60	413.7	489.9	253.8	969.0	650.1	431.9	126.5	54.9
MEAN	2.00	3.25	4.07	3.79	14.8	15.8	8.46	31.3	21.7	13.9	4.08	1.83
MAX	6.5	5.8	9.2	4.6	37	36	14	212	71	91	6.8	2.9
MIN	1.0	2.3	.00	.00	5.2	8.1	4.7	4.4	6.5	4.3	2.7	1.2
WTR YR 1981	TOTAL	3793.10	MEAN	10.4	MAX	212	MIN	.00				

WHITE RIVER BASIN

07068300 NORTH PRONG LITTLE BLACK RIVER NEAR GRANDIN, MO

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1980 to current year.

WATER QUALITY DATA

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML) (31673)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)
AUG , 1980											
05...	3.4	225	8.0	25.0	--	6.0	72	630	2200	7	.02
OCT											
07...	2.3	265	8.0	17.0	--	10.6	109	36	26	--	.02
DEC											
01...	6.7	190	7.3	11.0	.90	11.0	100	--	--	0	.16
FEB , 1981											
17...	15	110	6.2	14.0	1.4	11.0	106	20	28	0	--
MAR											
31...	11	170	7.4	20.0	1.5	9.4	102	27	38	7	.00
JUN											
03...	30	150	7.6	21.0	2.9	8.0	89	160	260	110	.37
AUG											
13...	5.4	170	7.9	25.0	1.6	6.8	82	24	--	0	.21

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P) (70507)
AUG , 1980										
05...	.010	.03	.030	.32	.35	.38	1.7	.030	.09	.010
OCT										
07...	.000	.02	.020	.33	.35	.37	1.6	.010	.03	.000
DEC										
01...	.000	.16	.020	.36	.38	.54	2.4	.040	.12	.000
FEB , 1981										
17...	--	--	--	--	--	--	--	--	--	--
MAR										
31...	.000	.00	.050	.45	.50	.50	2.2	.010	.03	.000
JUN										
03...	.010	.38	.070	.44	.51	.89	3.9	.020	.06	.010
AUG										
13...	.030	.24	.100	.18	.28	.52	2.3	.020	.06	<.010

WHITE RIVER BASIN

07068380 LITTLE BLACK RIVER NEAR GRANDIN, MO

LOCATION.--Lat 36°44'47", long 90°44'08", in SW¼SW¼NW¼ sec.10, T.24 N., R.3 E., Ripley County, Hydrologic Unit 11010008, on the downstream side of center bridge pier on Highway K, 7.8 miles (12.6 km) southeast of Grandin and 0.1 mile (0.2 km) below the confluence of South Prong Little Black River and North Prong Little Black River.

DRAINAGE AREA.--79.5 square miles (205.9 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1980 to current year.

GAGE.--Water stage recorder. Datum of gage is 400.44 ft (122.054 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Beaver dam on control for part of the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 554 ft³/s (15.5 m³/s) May 14, 1981, gage height, 4.28 ft (1.31 m); minimum, 5.10 ft³/s (0.143 m³/s) October 25, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 554 ft³/s (15.5 m³/s) May 14, 1981, gage height, 4.28 ft (1.31 m); minimum, 5.10 ft³/s (0.143 m³/s) October 25, 1980.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	11	4.8	7.5
2									---	11	4.5	9.6
3									---	10	3.9	10
4									---	9.6	3.9	18
5									---	8.9	8.9	18
6									---	7.9	7.5	11
7									---	7.5	9.3	9.6
8									---	6.9	8.6	8.6
9									---	6.0	9.3	6.9
10									---	5.7	9.3	6.6
11									---	5.7	9.3	6.0
12									---	5.1	9.3	6.0
13									---	5.1	6.9	6.6
14									---	5.1	9.0	6.0
15									---	4.3	13	6.0
16									---	4.3	12	6.0
17									---	3.9	11	11
18									---	3.7	14	7.5
19									13	3.7	12	6.3
20									12	3.7	11	6.0
21									11	4.1	10	5.7
22									11	4.5	9.3	6.0
23									11	5.4	8.6	13
24									13	5.4	8.2	9.6
25									13	5.1	8.2	8.6
26									13	4.8	7.9	6.9
27									12	5.7	7.9	6.3
28									11	5.7	7.5	6.9
29									12	5.7	7.5	7.2
30									11	5.4	7.5	7.5
31									---	5.1	7.5	---
TOTAL									---	186.0	267.6	250.9
MEAN									---	6.00	8.63	8.36
MAX									---	11	14	18
MIN									---	3.7	3.9	5.7

07068380 LITTLE BLACK RIVER NEAR GRANDIN, MO

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1980 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: August 1980 to current year.

SUSPENDED-SEDIMENT DISCHARGE: July 1980 to current year.

INSTRUMENTATION.--Water temperature recorder since August 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 30.5°C August 20 and 21, 1980; minimum, 0.5°C February 11, 1980.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 59 mg/L April 1, 1981; minimum daily mean, <1 mg/L on many days.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 50 tons (5.4 metric tons) May 14, 1981; minimum daily, 0.0 tons on many days.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 30.5°C August 20 and 21, 1980; minimum, 0.5°C February 11.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 59 mg/L April 1, 1981; minimum daily mean, <1 mg/L on many days.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 50 tons (5.4 metric tons) May 14, minimum daily, 0.0 tons on many days.

WATER QUALITY DATA

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER (31673)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)
SEP , 1980											
05...	9.6	305	8.2	26.0	--	6.6	80	820	620	8	.03
OCT											
07...	7.8	330	8.0	15.0	--	10.0	99	18	78	--	.02
DEC											
01...	28	280	7.1	9.0	.70	8.8	76	--	--	1	.00
FEB , 1981											
17...	57	160	6.7	7.0	1.6	11.0	91	20	32	0	.39
MAR											
31...	32	240	7.2	20.0	1.5	8.4	91	30	23	0	.00
JUN											
03...	82	160	7.5	22.0	1.2	7.6	86	54	180	54	.16
AUG											
13...	13	230	7.8	20.5	1.8	64.0	71	20	--	0	.15

WHITE RIVER BASIN

07068380 LITTLE BLACK RIVER NEAR GRANDIN, MO--continued

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHURUS, TOTAL (MG/L AS P) (00665)	PHOS- PHURUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHURUS, ORTHO, TOTAL (MG/L AS P) (70507)
SEP , 1980										
05...	.010	.04	.050	.41	.46	.50	2.2	.070	.21	.010
OCT										
07...	.000	.02	.020	.27	.29	.31	1.4	.000	.00	.000
DEC										
01...	.000	.00	.020	.67	.69	.69	3.1	.040	.12	.000
FEB , 1981										
17...	.000	.39	.040	.59	.63	1.0	4.5	.090	.28	.000
MAR										
31...	.000	.00	.250	.75	1.00	1.0	4.4	.010	.03	.040
JUN										
03...	.010	.17	.050	.34	.39	.56	2.5	.020	.06	.020
AUG										
13...	.030	.18	.090	.33	.42	.60	2.7	.020	.06	<.010

WHITE RIVER BASIN

07068380 LITTLE BLACK RIVER NEAR GRANDIN, MO--continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1							---	---	---	29.5	27.0	28.5
2							---	---	---	29.0	27.0	28.0
3							---	---	---	29.5	26.5	28.0
4							---	---	---	28.5	25.5	27.0
5							---	---	---	27.0	24.5	26.0
6							---	---	---	28.0	25.0	26.5
7							---	---	---	28.5	25.5	27.0
8							---	---	---	27.0	25.5	26.5
9							---	---	---	28.5	27.0	27.5
10							---	---	---	28.5	26.0	27.0
11							---	---	---	27.0	24.0	25.5
12							---	---	---	26.0	24.0	25.0
13							---	---	---	26.5	25.0	26.0
14							---	---	---	27.0	26.0	26.5
15							---	---	---	26.5	25.0	26.0
16							---	---	---	26.0	24.5	25.5
17							---	---	---	25.5	24.0	24.5
18							---	---	---	24.0	21.0	22.5
19							---	---	---	23.5	21.0	22.0
20							30.5	28.0	29.0	23.5	21.5	22.5
21							30.5	28.5	29.5	24.5	23.5	24.0
22							29.5	26.0	28.0	25.5	24.0	24.5
23							28.5	25.0	26.5	25.5	23.0	24.0
24							28.0	25.0	26.5	23.0	21.5	22.0
25							28.0	24.5	26.0	23.0	21.5	22.0
26							28.5	24.5	26.5	23.0	20.5	21.5
27							28.0	25.0	26.5	21.5	19.5	20.5
28							28.5	25.5	27.0	20.0	19.5	19.5
29							28.0	25.5	26.5	20.0	19.5	19.5
30							28.5	25.5	27.0	21.0	19.5	20.5
31							29.0	26.0	27.5	---	---	---
MONTH							30.5	24.5	27.0	29.5	19.5	24.5
YEAR	30.5	19.5	25.5									

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	21.0	19.5	20.5	13.0	10.5	11.5	9.5	8.0	8.5	5.0	4.0	4.5
2	21.0	20.0	20.5	13.5	11.5	12.5	10.0	10.0	10.0	4.0	3.0	3.5
3	21.0	18.5	19.5	13.0	11.5	12.0	9.5	8.0	8.5	4.5	3.0	3.5
4	18.5	16.5	17.5	13.0	11.5	12.0	8.0	7.0	7.5	4.5	3.0	3.5
5	18.0	15.5	16.5	13.0	11.5	12.0	9.5	8.0	8.5	3.0	1.5	2.0
6	17.0	14.5	16.0	13.0	11.0	12.0	10.5	9.0	9.5	2.0	2.0	2.0
7	16.0	15.0	15.5	14.0	11.5	13.0	11.5	10.5	11.0	3.0	2.0	2.5
8	18.5	16.0	17.0	14.5	12.0	13.5	12.0	11.5	12.0	3.0	1.5	2.0
9	19.5	17.0	18.5	15.0	14.0	14.5	12.0	10.5	11.5	3.0	2.0	2.5
10	19.5	18.5	19.0	15.0	13.0	14.0	10.5	10.0	10.5	2.0	1.5	2.0
11	19.5	17.0	18.5	14.0	12.0	13.0	9.5	8.0	8.5	2.0	2.0	2.0
12	18.5	15.0	16.5	13.0	10.5	11.5	8.0	6.5	7.0	3.0	1.0	2.0
13	16.0	14.0	15.0	12.0	10.0	11.0	8.0	7.0	7.5	2.0	1.0	1.5
14	15.0	14.0	14.5	11.5	11.0	11.5	8.0	5.5	6.5	3.0	1.5	2.0
15	16.5	15.0	16.0	11.0	11.0	11.0	7.0	6.5	7.0	3.0	2.0	2.5
16	17.0	16.0	16.5	11.0	10.5	11.0	8.0	7.0	7.5	3.0	1.5	2.0
17	18.5	17.0	18.0	11.0	10.0	10.5	8.0	5.5	6.5	2.0	1.5	2.0
18	18.5	16.5	17.5	10.0	9.5	9.5	6.5	5.5	6.0	3.0	1.0	2.0
19	18.0	16.0	17.0	10.0	8.0	9.0	6.0	6.0	6.0	3.0	2.0	2.5
20	16.5	14.0	15.5	9.0	7.0	8.0	5.5	4.0	4.5	3.5	3.5	4.5
21	16.0	14.5	15.5	8.5	6.5	7.5	4.0	3.0	3.5	4.0	3.5	4.5
22	16.5	15.0	16.0	8.0	7.0	7.5	3.5	3.0	3.0	4.0	3.5	3.5
23	16.5	15.0	16.0	9.0	8.5	8.5	3.0	2.0	2.5	4.0	3.0	4.5
24	16.5	15.5	16.0	10.0	9.0	9.5	4.5	4.0	4.0	5.0	3.0	4.0
25	15.5	13.5	14.5	10.0	7.5	9.0	4.0	2.0	3.0	5.0	4.0	5.0
26	14.0	12.0	13.0	9.0	7.5	8.5	3.5	2.5	3.0	6.0	4.5	5.5
27	13.5	13.0	13.0	7.0	6.0	6.5	3.5	2.0	3.0	6.0	4.5	5.5
28	13.5	13.0	13.0	6.5	6.0	6.5	3.5	2.5	3.0	5.5	4.0	4.5
29	13.0	11.5	12.0	8.0	6.5	7.0	4.0	3.5	3.5	5.0	4.5	4.5
30	11.5	10.0	11.0	8.0	6.5	7.0	4.5	4.0	4.0	4.0	3.0	3.5
31	12.0	10.0	11.0	---	---	---	5.0	4.0	4.5	3.5	2.0	3.0
MONTH	21.0	10.0	16.0	15.0	6.0	10.5	12.0	2.0	6.5	6.0	1.0	3.0

07068380 LITTLE BLACK RIVER NEAR GRANDIN, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)
JULY			AUGUST			SEPTEMBER			
1	11	---	---	4.8	23	.30	7.5	5	.10
2	11	14	.42	4.5	21	.26	9.6	3	.08
3	10	11	.30	3.9	20	.21	10	1	.03
4	9.6	10	.26	3.9	7	.07	18	2	.10
5	8.9	7	.17	8.9	---	---	18	3	.15
6	7.9	17	.36	7.5	---	---	11	4	.12
7	7.5	14	.28	9.3	---	---	9.6	3	.08
8	6.9	10	.19	8.6	---	---	8.6	1	.02
9	6.0	10	.16	9.3	---	---	6.9	1	.02
10	5.7	11	.17	9.3	---	---	6.6	7	.12
11	5.7	10	.15	9.3	---	---	6.0	11	.18
12	5.1	3	.04	9.3	---	---	6.0	9	.15
13	5.1	5	.07	6.9	---	---	6.6	10	.18
14	5.1	2	.03	9.0	---	---	6.0	13	.21
15	4.3	4	.05	13	---	---	6.0	12	.19
16	4.3	15	.17	12	---	---	6.0	9	.15
17	3.9	30	.32	11	---	---	11	10	.30
18	3.7	39	.39	14	---	---	7.5	10	.20
19	3.7	39	.39	12	---	---	6.3	7	.12
20	3.7	26	.26	11	---	---	6.0	11	.18
21	4.1	20	.22	10	19	.51	5.7	14	.22
22	4.5	26	.32	9.3	30	.75	6.0	15	.24
23	5.4	29	.42	8.6	31	.72	13	17	.60
24	5.4	21	.31	8.2	36	.80	9.6	17	.44
25	5.1	34	.47	8.2	41	.91	8.6	15	.35
26	4.8	40	.52	7.9	34	.73	6.9	17	.32
27	5.7	35	.54	7.9	30	.64	6.3	19	.32
28	5.7	18	.28	7.5	29	.59	6.9	16	.30
29	5.7	30	.46	7.5	21	.43	7.2	19	.37
30	5.4	29	.42	7.5	20	.41	7.5	22	.45
31	5.1	16	.22	7.5	10	.20	---	---	---
TOTAL	186.0	---	8.36	267.6	---	7.53	250.9	---	6.29

SEDIMENT DISCHARGE, SUSPENDED (TUNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	6.6	21	.37	15	3	.12	28	2	.15
2	6.3	20	.34	14	4	.15	25	4	.27
3	6.9	25	.47	15	6	.24	22	7	.42
4	6.9	23	.43	15	5	.20	21	6	.34
5	7.2	25	.49	15	9	.36	20	5	.27
6	7.5	30	.61	16	7	.30	19	4	.21
7	7.9	18	.38	16	9	.39	20	4	.22
8	7.9	13	.28	16	8	.35	22	4	.24
9	7.9	13	.28	16	7	.30	39	4	.42
10	7.9	19	.41	16	4	.17	31	4	.33
11	7.9	16	.34	17	4	.18	26	4	.28
12	7.9	13	.28	17	6	.28	25	5	.34
13	7.9	12	.26	17	8	.37	24	5	.32
14	7.9	12	.26	18	10	.49	22	5	.30
15	8.2	15	.33	18	12	.58	22	2	.12
16	13	15	.53	18	8	.39	20	3	.16
17	15	17	.69	25	3	.20	20	6	.32
18	9.3	10	.25	28	5	.38	20	5	.27
19	8.6	4	.09	24	4	.26	19	3	.15
20	7.5	3	.06	22	3	.18	18	2	.10
21	7.5	7	.14	22	2	.12	17	7	.32
22	8.6	11	.26	21	5	.28	17	4	.18
23	7.9	13	.28	23	4	.25	17	6	.28
24	6.0	12	.19	23	5	.31	17	5	.23
25	5.1	10	.14	21	3	.17	17	3	.14
26	5.4	10	.15	22	2	.12	16	6	.26
27	22	9	.53	24	2	.13	16	7	.30
28	24	5	.32	23	2	.12	15	7	.28
29	17	5	.23	23	2	.12	15	6	.24
30	15	4	.16	25	2	.14	15	5	.20
31	14	4	.15	---	---	---	17	4	.18
TOTAL	298.7	---	9.70	585	---	7.65	642	---	7.84

WHITE RIVER BASIN

07068380 LITTLE BLACK RIVER NEAR GRANDIN, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	16	4	.17	37	2	.20	57	5	.77
2	15	3	.12	39	9	.95	49	7	.93
3	15	3	.12	35	7	.66	45	8	.97
4	14	4	.15	32	3	.26	67	7	1.3
5	14	2	.08	31	2	.17	93	6	1.5
6	15	<1	.04	32	3	.26	79	9	1.9
7	16	<1	.04	32	3	.26	66	8	1.4
8	15	1	.04	32	4	.35	56	4	.60
9	15	<1	.04	31	10	.84	49	4	.53
10	15	1	.04	118	11	3.5	43	3	.35
11	15	<1	.04	178	7	3.4	40	4	.43
12	14	1	.04	166	5	2.2	36	4	.39
13	14	1	.04	138	5	1.9	35	5	.47
14	15	2	.08	85	4	.92	32	4	.35
15	15	6	.24	62	3	.50	32	2	.17
16	15	11	.45	57	2	.31	32	2	.17
17	14	16	.60	57	4	.62	29	5	.39
18	14	12	.45	53	6	.86	27	5	.36
19	14	2	.08	48	5	.65	27	5	.36
20	16	<1	.04	46	4	.50	26	5	.35
21	21	<1	.06	44	6	.71	26	5	.35
22	20	<1	.05	79	10	2.1	31	5	.42
23	19	<1	.05	82	8	1.8	29	5	.39
24	18	<1	.05	72	6	1.2	27	4	.29
25	18	<1	.05	62	7	1.2	26	4	.28
26	18	<1	.05	54	6	.87	26	6	.42
27	18	<1	.05	49	6	.79	25	6	.41
28	17	<1	.05	54	5	.73	25	6	.41
29	18	1	.05	---	---	---	29	8	.63
30	21	<1	.06	---	---	---	32	24	2.1
31	21	<1	.06	---	---	---	31	25	2.1
TOTAL	505	---	3.48	1805	---	28.71	1227	---	21.49

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	30	59	4.8	24	31	2.0	128	9	3.1
2	29	52	4.1	22	30	1.8	87	8	1.9
3	29	26	2.0	21	25	1.4	82	7	1.5
4	34	32	2.9	21	16	.91	77	6	1.2
5	33	39	3.5	22	15	.89	84	7	1.6
6	30	37	3.0	24	15	.97	250	12	8.1
7	28	35	2.6	21	13	.74	315	12	10
8	27	29	2.1	19	15	.77	186	11	5.5
9	27	19	1.4	19	12	.62	118	9	2.9
10	26	17	1.2	28	7	.53	84	8	1.8
11	25	23	1.6	27	6	.44	69	9	1.7
12	25	25	1.7	23	9	.56	57	9	1.4
13	24	25	1.6	29	8	.63	49	8	1.1
14	22	26	1.5	461	38	47	42	9	1.0
15	21	26	1.5	325	17	15	35	9	.85
16	21	20	1.1	182	7	3.4	37	9	.90
17	21	31	1.8	117	4	1.3	34	8	.73
18	22	26	1.5	90	4	.97	29	7	.55
19	21	20	1.1	174	7	3.3	31	7	.59
20	39	31	3.3	136	8	2.9	32	8	.69
21	36	41	4.0	92	6	1.5	28	7	.53
22	37	32	3.2	72	5	.97	33	9	.80
23	40	21	2.3	60	6	.97	45	10	1.2
24	36	20	1.9	54	7	1.0	34	10	.92
25	34	15	1.4	57	7	1.1	29	10	.78
26	32	18	1.6	93	11	2.8	27	9	.66
27	29	22	1.7	226	8	4.9	24	9	.58
28	28	37	2.8	156	5	2.1	23	10	.62
29	26	34	2.4	99	4	1.1	21	12	.68
30	24	29	1.9	86	6	1.4	22	11	.65
31	---	---	---	150	7	2.8	---	---	---
TOTAL	856	---	67.5	2930	---	106.77	2112	---	54.53

WHITE RIVER BASIN

07068380 LITTLE BLACK RIVER NEAR GRANDIN, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
JULY				AUGUST			SEPTEMBER		
1	23	10	.62	12	10	.32	8.9	3	.07
2	21	9	.51	11	10	.30	9.3	2	.05
3	21	9	.51	11	9	.27	9.3	2	.05
4	22	9	.53	10	8	.22	8.9	1	.02
5	46	12	1.5	10	8	.22	8.2	1	.02
6	148	30	12	10	7	.19	8.2	2	.04
7	64	20	3.5	15	7	.28	8.2	1	.02
8	45	15	1.8	13	8	.28	7.9	2	.04
9	37	10	1.0	11	11	.33	7.9	2	.04
10	29	6	.47	10	9	.24	7.5	4	.08
11	27	5	.36	14	7	.26	7.5	2	.04
12	24	4	.26	15	6	.24	7.5	2	.04
13	22	4	.24	13	7	.25	9.3	2	.05
14	20	6	.32	12	9	.29	9.3	2	.05
15	19	7	.36	11	7	.21	9.3	2	.05
16	17	7	.32	12	4	.13	9.3	2	.05
17	17	8	.37	13	4	.14	10	2	.05
18	16	8	.35	12	5	.16	11	2	.06
19	16	8	.35	11	5	.15	11	2	.06
20	15	7	.28	11	3	.09	11	2	.06
21	13	5	.18	9.6	4	.10	13	2	.07
22	13	4	.14	9.3	3	.08	15	2	.08
23	22	4	.24	8.9	5	.12	17	2	.09
24	26	5	.35	8.9	7	.17	18	2	.10
25	18	6	.29	11	6	.18	19	2	.10
26	16	6	.26	12	4	.13	18	6	.29
27	15	6	.24	10	5	.14	9.6	4	.10
28	17	7	.32	9.3	4	.10	9.3	9	.23
29	17	8	.37	8.9	4	.10	9.3	7	.18
30	14	10	.38	8.6	6	.14	10	4	.11
31	13	11	.39	8.6	5	.12	---	---	---
TOTAL	833	---	28.81	342.1	---	5.95	317.7	---	2.29
YEAR	12453.5		344.72						

WHITE RIVER BASIN

07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO

LOCATION.--Lat 36°37'54", long 90°34'31", NE¼SE¼NE¼ sec.24, T.23 N., R.4 E., Butler County, Hydrologic Unit 11010008, on the left bank 200 feet (61 m) east of river and just north of a gravel road, 5 miles (8 km) below Beaverdam Creek and 3.1 miles (5.0 km) southeast of Fairdealing.

DRAINAGE AREA.--194 square miles (502 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage is 295.18 feet (89.971 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,340 ft³/s (37.95 m³/s) May 15, 1981, gage height, 10.09 ft (3.075 m); minimum, 30 ft³/s (0.850 m³/s) Sept. 27, 29, and 30, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,340 ft³/s (37.95 m³/s) May 15, 1981, gage height, 10.09 ft (3.075 m); minimum, 30 ft³/s (0.850 m³/s) Sept. 27, 29 and 30, 1981.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	138	43	40	37
2								---	89	43	39	38
3								---	69	44	40	37
4								---	60	43	42	38
5								---	57	44	43	40
6								---	54	46	44	42
7								---	52	45	42	39
8								---	49	44	42	38
9								---	47	41	41	38
10								---	45	40	42	38
11								---	45	41	42	38
12								---	43	42	40	37
13								---	42	43	47	37
14								---	42	43	69	36
15								32	44	42	50	36
16								34	44	41	45	36
17								39	46	40	43	38
18								40	46	38	42	38
19								38	43	39	44	38
20								38	42	40	41	37
21								38	43	41	40	36
22								38	44	42	39	36
23								42	45	41	39	37
24								64	46	43	39	37
25								82	47	44	40	39
26								67	47	44	39	37
27								57	47	45	39	37
28								53	47	45	38	36
29								54	48	44	38	35
30								77	48	42	38	35
31								113	---	42	37	---
TOTAL								---	1559	1315	1304	1121
MEAN								---	52.0	42.4	42.1	37.4
MAX								---	138	46	69	42
MIN								---	42	38	37	35

WHITE RIVER BASIN

07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO--continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	54	57	51	72	121	98	64	182	53	49	39
2	35	53	59	50	86	114	94	61	185	53	48	39
3	34	53	58	50	82	108	91	59	158	52	48	38
4	34	54	56	50	75	158	93	58	141	76	46	35
5	33	54	56	49	70	249	98	57	145	243	47	36
6	33	55	55	50	68	237	94	58	220	141	47	35
7	34	44	55	51	68	195	89	59	706	161	45	35
8	34	45	59	52	67	162	87	58	494	132	43	35
9	35	48	76	51	65	139	85	56	294	100	43	35
10	35	51	80	50	151	124	81	59	206	135	46	34
11	35	52	74	49	415	113	78	65	160	210	46	33
12	35	55	68	48	246	106	74	62	135	99	45	31
13	35	54	65	48	159	100	72	62	116	69	44	32
14	36	55	62	49	126	96	70	648	102	60	42	34
15	37	59	61	49	110	92	69	1090	88	56	49	34
16	37	60	60	48	105	94	69	469	79	53	124	35
17	44	65	58	48	103	92	76	204	78	52	74	34
18	50	72	57	47	97	87	85	149	72	52	53	34
19	50	70	54	48	90	83	98	174	67	53	47	34
20	46	63	52	49	80	81	106	238	71	52	45	33
21	44	58	51	54	80	80	93	178	69	51	42	33
22	44	54	51	55	96	84	84	129	63	47	37	32
23	44	54	51	55	135	89	76	104	68	50	37	32
24	45	54	52	54	142	89	70	90	89	58	38	31
25	47	53	52	53	128	86	99	95	80	59	39	31
26	46	51	51	52	114	84	87	276	69	61	39	31
27	56	56	51	51	102	83	82	349	61	54	40	30
28	72	57	52	50	100	83	78	218	56	57	40	31
29	72	57	51	50	---	84	70	171	52	57	39	30
30	63	57	51	52	---	96	66	175	50	53	37	30
31	56	---	51	54	---	102	---	207	---	50	39	---
TOTAL	1336	1667	1786	1567	3232	3511	2512	5742	4356	2499	1458	1006
MEAN	43.1	55.6	57.6	50.5	115	113	83.7	185	145	80.6	47.0	33.5
MAX	72	72	80	55	415	249	106	1090	706	243	124	39
MIN	33	44	51	47	65	80	66	56	50	47	37	30
WTR YR 1981	TOTAL	30672	MEAN 84.0	MAX	1090	MIN	30					

WHITE RIVER BASIN
07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1980 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: May 1981 to current year.

SUSPENDED-SEDIMENT DISCHARGE: July 1980 to current year.

INSTRUMENTATION.--Water temperature recorder since May 1981.

REMARKS.--The number of missing days of temperature record exceeds 20 percent of the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 31°C July 6, 7, 8, 9, 14, and 15, 1980; minimum, 4°C March 6, 7, and 8, 1981.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 356 mg/L August 16, 1981; minimum daily mean, 1 mg/L May 6, 1981.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 248 tons (225 metric tons) May 14, 1981; minimum daily, 0.16 tons (0.15 metric tons) May 6, 1981.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 356 mg/L August 16; minimum daily mean, 1 mg/L May 6.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 248 tons (225 metric tons) May 14; minimum daily, 0.16 tons (0.15 metric tons) May 6.

WATER QUALITY DATA

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (51625)	STREP- TOCOCCI FECAL, KF AGAR (CULS. PER 100 ML) (31673)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)
AUG , 1980											
06...	35	340	8.0	26.5	--	4.6	57	80	50	12	.00
OCT											
08...	37	365	7.7	14.0	--	8.2	79	88	130	--	.20
DEC											
02...	59	280	7.4	7.0	1.4	9.4	78	--	--	3	.00
FEB , 1981											
18...	98	230	6.1	11.0	3.6	10.0	91	34	82	0	--
APR											
01...	99	260	7.4	17.0	2.2	8.4	87	44	35	7	.00
JUN											
02...	190	160	7.6	2.0	9.9	5.2	58	110	260	25	.26
AUG											
11...	45	250	7.7	26.0	13	4.6	56	--	--	23	.18

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P) (70507)
AUG , 1980										
06...	.010	.01	.060	1.5	1.60	1.6	7.1	.080	.25	.020
OCT										
08...	.000	.20	.020	.39	.41	.61	2.7	.030	.09	.010
DEC										
02...	.000	.00	.020	.41	.43	.43	1.9	.050	.15	.010
FEB , 1981										
18...	--	--	--	--	--	--	--	--	--	--
APR										
01...	.000	.00	.050	.47	.52	.52	2.3	.010	.03	.020
JUN										
02...	.010	.27	.110	.61	.72	.99	4.4	.040	.12	.020
AUG										
11...	.030	.21	.110	.66	.77	.98	4.3	.050	.15	<.010

WHITE RIVER BASIN

07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO--continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1										---	---	---
2										---	---	---
3										---	---	---
4										---	---	---
5										---	---	---
6										---	---	---
7										---	---	---
8										---	---	---
9										---	---	---
10										---	---	---
11										---	---	---
12										---	---	---
13										---	---	---
14										---	---	---
15										---	---	---
16										19.5	18.0	18.5
17										20.0	18.0	19.0
18										20.0	19.0	19.5
19										20.5	19.0	19.5
20										20.5	19.5	20.0
21										20.0	19.5	20.0
22										20.0	19.0	19.5
23										19.5	18.5	19.0
24										20.0	18.5	19.5
25										21.5	19.5	20.5
26										23.0	21.0	22.0
27										24.0	21.5	22.5
28										24.0	21.5	22.5
29										24.0	22.5	23.0
30										23.0	21.5	22.5
31										23.0	22.0	22.5
MONTH										24.0	18.0	20.5
	JUNE			JULY			AUGUST			SEPTEMBER		
1	23.0	22.0	22.5	28.0	26.5	27.0	---	---	---	26.5	25.5	26.0
2	24.5	23.0	23.5	30.0	26.5	27.5	---	---	---	26.5	26.0	26.0
3	25.5	21.0	24.0	28.5	26.5	27.0	---	---	---	26.5	25.0	26.0
4	25.5	24.5	25.0	29.5	26.5	27.5	---	---	---	26.0	25.5	26.0
5	26.0	24.5	25.0	30.0	27.0	28.0	---	---	---	26.0	25.0	25.5
6	26.0	24.5	25.5	31.0	28.0	29.0	---	---	---	26.0	25.0	25.5
7	26.5	25.0	26.0	31.0	29.0	29.5	---	---	---	26.0	25.0	25.5
8	26.5	25.5	26.0	31.0	29.0	30.0	---	---	---	26.0	25.0	25.5
9	25.5	23.5	24.5	31.0	29.0	30.0	---	---	---	26.0	25.0	25.5
10	24.0	22.0	23.0	30.5	28.0	29.5	---	---	---	26.0	25.0	25.5
11	23.5	22.5	23.0	30.5	27.5	29.0	---	---	---	25.0	23.5	24.5
12	23.0	21.5	22.5	30.5	27.5	29.0	---	---	---	24.5	23.5	24.0
13	23.0	21.0	22.0	30.5	27.5	29.0	28.0	26.5	27.5	25.0	23.5	24.0
14	24.0	22.0	22.5	31.0	29.0	29.5	26.5	25.5	26.0	25.0	23.5	24.5
15	24.5	23.0	23.5	31.0	28.5	30.0	26.5	25.5	26.0	24.5	23.5	24.0
16	24.5	24.0	24.5	30.5	29.0	30.0	27.5	26.0	26.5	---	---	---
17	24.0	22.5	23.0	30.5	29.0	30.0	28.5	26.5	27.5	---	---	---
18	23.5	22.0	22.5	30.5	28.0	29.0	29.0	27.0	27.5	---	---	---
19	25.0	22.5	23.5	29.5	28.0	28.0	28.0	26.5	27.0	---	---	---
20	24.5	22.5	23.5	28.0	27.5	28.0	28.5	26.5	27.5	---	---	---
21	23.5	22.0	22.5	---	---	---	29.0	27.0	27.5	---	---	---
22	24.5	22.0	23.0	---	---	---	27.0	26.0	26.5	---	---	---
23	25.0	24.0	24.0	---	---	---	26.0	25.0	26.0	---	---	---
24	25.5	24.5	24.5	---	---	---	26.0	24.5	25.0	---	---	---
25	26.0	24.5	25.0	---	---	---	25.5	24.0	25.0	---	---	---
26	26.5	25.0	25.5	---	---	---	25.5	24.0	25.0	---	---	---
27	26.5	25.5	26.0	---	---	---	25.5	24.0	25.0	---	---	---
28	27.0	26.0	26.5	---	---	---	26.0	24.5	25.0	---	---	---
29	27.5	27.0	27.0	---	---	---	26.0	24.5	25.5	---	---	---
30	27.5	26.5	26.5	---	---	---	26.0	24.5	25.0	---	---	---
31	---	---	---	---	---	---	26.0	25.0	25.5	---	---	---
MONTH	27.5	21.0	24.0	31.0	26.5	29.0	29.0	24.0	26.0	26.5	23.5	25.0

WHITE RIVER BASIN

07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO--continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---							---	---	---
2	---	---	---							---	---	---
3	---	---	---							---	---	---
4	---	---	---							---	---	---
5	---	---	---							---	---	---
6	---	---	---							---	---	---
7	---	---	---							8.0	7.5	7.5
8	---	---	---							8.0	7.0	7.5
9	17.0	16.0	16.5							8.0	7.5	7.5
10	19.0	17.0	18.0							7.5	7.0	7.5
11	18.0	17.0	17.5							7.5	6.5	7.0
12	16.5	15.0	16.0							7.0	6.0	6.0
13	15.0	14.0	14.5							7.0	6.0	6.5
14	14.0	13.0	14.0							7.5	6.5	7.0
15	15.0	14.0	14.5							7.5	7.0	7.5
16	16.0	14.5	15.5							7.5	6.5	7.0
17	17.0	16.0	16.5							7.0	6.0	6.5
18	17.0	16.0	16.5							7.5	6.0	7.0
19	17.0	15.0	16.0							7.5	7.0	7.5
20	15.5	14.5	15.0							8.0	7.5	8.0
21	15.0	14.0	14.5							8.5	7.0	8.0
22	15.5	14.0	15.0							8.5	8.5	8.5
23	15.5	14.5	15.0							8.5	8.5	8.5
24	15.0	14.0	15.0							8.5	8.5	8.5
25	14.0	12.5	13.0							9.0	8.5	8.5
26	12.5	11.0	12.0							11.0	8.5	10.5
27	---	---	---							11.5	11.0	11.0
28	---	---	---							11.5	11.0	11.0
29	---	---	---							11.0	9.5	10.0
30	---	---	---							10.5	8.5	9.5
31	---	---	---							9.0	8.0	8.5
MONTH	19.0	11.0	15.5							11.5	6.0	8.0
FEBRUARY			MARCH			APRIL			MAY			
1	9.0	7.5	8.0	---	---	---				---	---	---
2	---	---	---	---	---	---				---	---	---
3	---	---	---	---	---	---				---	---	---
4	---	---	---	---	---	---				---	---	---
5	---	---	---	---	---	---				---	---	---
6	---	---	---	5.5	4.0	4.5				---	---	---
7	---	---	---	5.0	4.0	4.5				---	---	---
8	---	---	---	6.0	4.0	5.0				---	---	---
9	---	---	---	6.0	4.5	5.5				---	---	---
10	---	---	---	7.5	5.0	6.0				---	---	---
11	---	---	---	8.0	5.5	7.0				---	---	---
12	---	---	---	8.5	5.5	7.0				---	---	---
13	---	---	---	9.0	6.5	7.5				19.0	17.5	18.0
14	---	---	---	10.0	6.5	8.0				18.0	16.0	17.0
15	---	---	---	8.0	6.0	7.0				16.0	15.0	15.5
16	---	---	---	8.0	5.0	6.5				17.0	15.5	16.0
17	---	---	---	9.0	5.5	7.5				16.5	16.0	16.0
18	---	---	---	8.5	8.0	8.5				17.5	16.0	16.5
19	---	---	---	7.5	5.5	7.0				17.5	16.0	17.0
20	---	---	---	8.0	7.5	7.5				16.5	15.5	16.0
21	---	---	---	8.0	6.5	7.0				17.5	16.0	17.0
22	---	---	---	7.5	6.5	7.0				19.0	17.5	18.0
23	---	---	---	8.0	5.5	7.0				20.5	18.5	19.5
24	---	---	---	10.0	6.0	8.0				21.5	20.5	21.0
25	---	---	---	10.0	8.5	9.0				21.5	21.0	21.5
26	---	---	---	11.0	8.5	10.5				21.5	20.0	20.5
27	---	---	---	13.0	11.0	12.0				20.0	18.5	19.5
28	---	---	---	13.0	13.0	13.0				21.0	19.5	20.5
29	---	---	---	14.5	14.0	14.5				22.0	21.0	21.5
30	---	---	---	16.0	13.5	15.0				23.0	21.5	22.0
31	---	---	---	18.0	15.5	17.0				22.5	21.5	22.0
MONTH	9.0	7.5	8.0	18.0	4.0	8.5				23.0	15.0	18.5

WHITE RIVER BASIN

07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	43	---	---	40	4	.43	37	34	3.4
2	43	---	---	39	7	.74	38	24	2.5
3	44	43	5.1	40	8	.86	37	25	2.5
4	43	54	6.3	42	25	2.8	38	22	2.3
5	44	53	6.3	43	45	5.2	40	16	1.7
6	46	50	6.2	44	40	4.8	42	23	2.6
7	45	53	6.4	42	28	3.2	39	25	2.6
8	44	54	6.4	42	36	4.1	38	25	2.6
9	41	58	6.4	41	28	3.1	38	25	2.6
10	40	55	5.9	42	3	.34	38	22	2.3
11	41	44	4.9	42	5	.57	38	18	1.8
12	42	35	4.0	40	6	.65	37	15	1.5
13	43	35	4.1	47	9	1.1	37	15	1.5
14	43	30	3.5	69	19	3.5	36	13	1.3
15	42	34	3.9	50	10	1.4	36	13	1.3
16	41	35	3.9	45	5	.61	36	7	.68
17	40	34	3.7	43	11	1.3	38	10	1.0
18	38	38	3.9	42	19	2.2	38	26	2.7
19	39	20	2.1	44	16	1.9	38	36	3.7
20	40	14	1.5	41	12	1.3	37	38	3.8
21	41	17	1.9	40	9	.97	36	35	3.4
22	42	27	3.1	39	5	.53	36	34	3.3
23	41	26	2.9	39	7	.74	37	54	5.4
24	43	33	3.8	39	10	1.1	37	52	5.2
25	44	29	3.4	40	8	.86	39	23	2.4
26	44	17	2.0	39	6	.63	37	14	1.4
27	45	15	1.8	39	6	.63	37	22	2.2
28	45	13	1.6	38	8	.82	36	26	2.5
29	44	6	.71	38	11	1.1	35	25	2.4
30	42	4	.45	38	18	1.8	35	26	2.5
31	42	6	.68	37	21	2.1	---	---	---
TOTAL	1315	---	106.84	1304	---	51.38	1121	---	75.08

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	35	29	2.7	54	14	2.0	57	43	6.6
2	35	21	2.0	53	13	1.9	59	54	8.6
3	34	12	1.1	53	12	1.7	58	61	9.6
4	34	12	1.1	54	13	1.9	56	53	8.0
5	33	11	.98	54	25	3.6	56	38	5.7
6	33	13	1.2	55	30	4.5	55	29	4.3
7	34	17	1.6	44	28	3.3	55	32	4.8
8	34	36	3.3	45	27	3.3	59	30	4.8
9	35	7	.66	48	29	3.8	76	27	5.5
10	35	7	.66	51	29	4.0	80	22	4.8
11	35	11	1.0	52	25	3.5	74	28	5.6
12	35	9	.85	55	31	4.6	68	53	9.7
13	35	12	1.1	54	36	5.2	65	54	9.5
14	36	14	1.4	55	38	5.6	62	49	8.2
15	37	8	.80	59	49	7.8	61	50	8.2
16	37	43	4.3	60	52	8.4	60	30	4.9
17	44	52	6.2	65	52	9.1	58	40	6.3
18	50	51	6.9	72	56	11	57	30	4.6
19	50	52	7.0	70	41	7.7	54	16	2.3
20	46	35	4.3	63	42	7.1	52	19	2.7
21	44	19	2.3	58	39	6.1	51	14	1.9
22	44	14	1.7	54	35	5.1	51	14	1.9
23	44	16	1.9	54	41	6.0	51	17	2.3
24	45	12	1.5	54	37	5.4	52	18	2.5
25	47	6	.76	53	34	4.9	52	8	1.1
26	46	11	1.4	51	46	6.3	51	3	.41
27	56	13	2.0	56	60	9.1	51	5	.69
28	72	14	2.7	57	59	9.1	52	10	1.4
29	72	14	2.7	57	44	6.8	51	15	2.1
30	63	10	1.7	57	33	5.1	51	11	1.5
31	56	18	2.7	---	---	---	51	8	1.1
TOTAL	1336	---	70.51	1667	---	163.9	1786	---	141.60

WHITE RIVER BASIN

07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)
JANUARY				FEBRUARY			MARCH		
1	51	5	.69	72	10	1.9	121	17	5.6
2	50	3	.41	86	18	4.2	114	20	6.2
3	50	8	1.1	82	9	2.0	108	21	6.1
4	50	5	.68	75	4	.81	158	25	11
5	49	2	.26	70	8	1.5	249	27	18
6	50	4	.54	68	8	1.5	237	25	16
7	51	4	.55	68	7	1.3	195	31	16
8	52	11	1.5	67	9	1.6	162	24	10
9	51	10	1.4	65	11	1.9	139	18	6.8
10	50	7	.95	151	18	7.3	124	12	4.0
11	49	8	1.1	415	35	39	113	10	3.1
12	48	10	1.3	246	56	37	106	12	3.4
13	48	14	1.8	159	32	14	100	13	3.5
14	49	14	1.9	126	10	3.4	96	12	3.1
15	49	9	1.2	110	26	7.7	92	10	2.5
16	48	5	.65	105	12	3.4	94	11	2.8
17	48	10	1.3	103	15	4.2	92	12	3.0
18	47	11	1.4	97	18	4.7	87	11	2.6
19	48	7	.91	90	22	5.3	83	11	2.5
20	49	4	.53	80	20	4.3	81	14	3.1
21	54	13	1.9	80	17	3.7	80	13	2.8
22	55	17	2.5	96	12	3.1	84	12	2.7
23	55	19	2.8	135	15	5.5	89	17	4.1
24	54	13	1.9	142	9	3.5	89	17	4.1
25	53	9	1.3	128	10	3.5	86	15	3.5
26	52	7	.98	114	14	4.3	84	14	3.2
27	51	6	.83	102	14	3.9	83	15	3.4
28	50	9	1.2	100	17	4.6	83	16	3.6
29	50	4	.54	---	---	---	84	15	3.4
30	52	6	.84	---	---	---	96	34	8.8
31	54	13	1.9	---	---	---	102	25	6.9
TOTAL	1567	---	36.86	3232	---	179.11	3511	---	175.8
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)
APRIL				MAY			JUNE		
1	98	15	4.0	64	11	1.9	182	71	35
2	94	21	5.3	61	16	2.6	185	79	39
3	91	13	3.2	59	12	1.9	158	83	35
4	93	6	1.5	58	5	.78	141	78	30
5	98	12	3.2	57	2	.31	145	75	29
6	94	8	2.0	58	1	.16	220	156	93
7	89	6	1.4	59	2	.32	706	106	202
8	87	7	1.6	58	6	.94	494	44	59
9	85	11	2.5	56	12	1.8	294	49	39
10	81	10	2.2	59	20	3.2	206	49	27
11	78	12	2.5	65	35	6.1	160	48	21
12	74	11	2.2	62	39	6.5	135	36	13
13	72	12	2.3	62	67	11	116	38	12
14	70	8	1.5	648	142	248	102	33	9.1
15	69	4	.75	1090	76	224	88	36	8.6
16	69	7	1.3	469	23	29	79	47	10
17	76	6	1.2	204	29	16	78	50	11
18	85	4	.92	149	32	13	72	57	11
19	98	9	2.4	174	35	16	67	37	6.7
20	106	26	7.4	238	44	28	71	32	6.1
21	93	16	4.0	178	41	20	69	36	6.7
22	84	14	3.2	129	30	10	63	33	5.6
23	76	16	3.3	104	22	6.2	68	13	2.4
24	70	12	2.3	90	18	4.4	89	39	9.4
25	99	15	4.0	95	16	4.1	80	28	6.0
26	87	15	3.5	276	27	20	69	9	1.7
27	82	12	2.7	349	43	41	61	9	1.5
28	78	14	2.9	218	32	19	56	38	5.7
29	70	12	2.3	171	40	18	52	54	7.6
30	66	12	2.1	175	56	26	50	41	5.5
31	---	---	---	207	66	37	---	---	---
TOTAL	2512	---	79.67	5742	---	817.21	4356	---	748.6

WHITE RIVER BASIN

07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY				AUGUST			SEPTEMBER		
1	53	46	6.6	49	33	4.4	39	60	6.3
2	53	52	7.4	48	52	6.7	39	65	6.8
3	52	54	7.6	48	36	4.7	38	53	5.4
4	76	85	17	46	22	2.7	35	37	3.5
5	243	168	110	47	20	2.5	36	35	3.4
6	141	95	36	47	22	2.8	35	32	3.0
7	161	56	24	45	32	3.9	35	26	2.5
8	132	52	19	43	112	13	35	25	2.4
9	100	39	11	43	86	10	35	26	2.5
10	135	35	13	46	27	3.4	34	25	2.3
11	210	72	41	46	45	5.6	33	23	2.0
12	99	74	20	45	103	13	31	23	1.9
13	69	62	12	44	120	14	32	19	1.6
14	60	97	16	42	112	13	34	17	1.6
15	56	113	17	49	113	15	34	25	2.3
16	53	38	5.4	124	356	119	35	21	2.0
17	52	45	6.3	74	165	33	34	15	1.4
18	52	52	7.3	53	56	8.0	34	16	1.5
19	53	64	9.2	47	95	12	34	18	1.7
20	52	62	8.7	45	91	11	33	17	1.5
21	51	48	6.6	42	84	9.5	33	16	1.4
22	47	53	6.7	37	63	6.3	32	24	2.1
23	50	77	10	37	49	4.9	32	22	1.9
24	58	77	12	38	43	4.4	31	19	1.6
25	59	56	8.9	39	49	5.2	31	17	1.4
26	61	48	7.9	39	59	6.2	31	15	1.3
27	54	45	6.6	40	44	4.8	30	15	1.2
28	57	37	5.7	40	32	3.5	31	12	1.0
29	57	31	4.8	39	30	3.2	30	12	.97
30	53	32	4.6	37	25	2.5	30	10	.81
31	50	32	4.3	39	45	4.7	---	---	---
TOTAL	2499	---	472.6	1458	---	352.9	1006	---	69.28
YEAR	30672		3308.04						

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	5.0	9.6	4.6	19	34	15	13	18	5.5	4.8	4.0
2	3.1	4.8	9.2	4.6	24	28	14	12	16	5.5	4.4	3.9
3	3.3	5.0	7.8	4.8	16	24	13	11	15	6.0	4.0	3.9
4	3.3	5.2	6.5	4.6	13	85	14	11	14	6.2	4.2	3.6
5	3.3	5.2	6.2	5.2	11	90	12	12	18	13	5.0	3.6
6	3.3	5.2	5.7	5.5	11	47	13	13	120	10	4.8	3.4
7	3.3	5.2	5.2	5.7	10	33	13	12	125	7.8	4.6	3.4
8	3.1	5.5	8.1	5.7	10	25	12	11	53	6.8	4.0	3.3
9	3.1	5.0	23	5.5	9.2	23	12	11	31	6.0	4.0	3.1
10	2.9	5.2	13	5.0	109	20	11	15	20	5.2	3.7	3.0
11	2.7	5.2	10	5.0	105	17	11	21	17	4.8	3.6	2.9
12	2.7	5.2	8.5	5.0	36	16	11	15	15	4.8	3.6	3.0
13	2.8	5.2	7.4	5.0	28	15	11	17	12	4.4	3.4	3.1
14	2.8	5.0	6.2	5.0	24	13	10	129	10	4.2	3.4	3.3
15	2.7	5.2	5.7	5.0	21	14	9.6	70	8.8	3.9	10	3.3
16	2.8	5.5	4.8	4.8	20	15	9.6	41	10	3.9	64	3.1
17	8.8	9.2	4.6	4.6	18	13	9.6	31	10	3.7	11	3.0
18	6.2	9.2	4.4	4.8	16	12	9.6	27	8.1	3.6	7.1	2.9
19	3.9	10	4.0	5.0	15	11	10	57	8.8	17	5.7	2.9
20	3.3	5.7	3.7	5.7	15	10	14	38	13	6.5	5.0	2.9
21	3.3	5.2	3.6	6.5	16	11	13	25	9.6	4.2	4.6	2.9
22	3.3	5.2	3.4	6.2	36	15	14	19	8.5	3.9	4.6	2.8
23	3.3	5.7	3.4	5.7	35	15	20	16	9.2	7.4	4.2	2.8
24	3.4	5.7	3.6	5.7	27	14	18	15	8.5	17	4.2	2.7
25	3.9	5.2	3.6	5.7	22	13	17	13	7.4	8.5	5.0	2.7
26	4.0	5.5	3.7	5.7	19	13	16	31	6.5	36	5.0	2.9
27	14	7.8	3.9	6.0	16	13	15	72	5.7	10	4.2	3.0
28	12	8.1	4.0	6.0	20	12	14	39	5.5	7.8	4.0	3.0
29	6.5	8.1	4.2	5.7	---	13	13	26	5.0	7.1	3.9	3.0
30	5.2	8.8	4.4	7.4	---	17	13	24	5.2	6.0	3.9	2.9
31	5.2	---	4.4	6.5	---	16	---	22	---	5.0	3.7	---
TOTAL	134.6	182.0	195.8	168.2	721.2	697	387.4	869	613.8	241.7	207.6	94.3
MEAN	4.34	6.07	6.32	5.43	25.8	- 22.5	12.9	28.0	20.5	7.80	6.70	3.14
MAX	14	10	23	7.4	109	90	20	129	125	36	64	4.0
MIN	2.7	4.8	3.4	4.6	9.2	10	9.6	11	5.0	3.6	3.4	2.7
WTR YR 1981	TOTAL	4512.6	MEAN	12.4	MAX	129	MIN	2.7				

WHITE RIVER BASIN

07068540 LOGAN CREEK AT OXLY, MO

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1980 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: May 1981 to current year.

SUSPENDED SEDIMENT: August 1980 to current year.

INSTRUMENTATION.--Water temperature recorder since May 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 26.5°C on many days; minimum, 13.5°C May 15, 1981.

SUSPENDED SEDIMENT CONCENTRATIONS: Maximum daily mean, 89 mg/L February 10, 1981; minimum daily mean, <1 mg/L on many days.

SUSPENDED SEDIMENT LOADS: Maximum daily, 22 tons (20.0 metric tons) February 10, 1981; minimum daily, 0.00 tons on many days.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 26.5°C on many days; minimum, 13.5°C May 15, 1981.

SUSPENDED SEDIMENT CONCENTRATIONS: Maximum daily mean, 89 mg/L February 10, minimum daily mean, <1 mg/L on many days.

SUSPENDED SEDIMENT LOADS: Maximum daily, 22 tons (20.0 metric tons) February 10, minimum daily, 0.00 tons on many days.

WATER QUALITY DATA

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)
AUG , 1980											
06...	3.1	345	8.0	26.0	--	5.0	61	20	92	8	.00
OCT											
07...	3.3	375	7.9	13.5	--	9.0	86	20	26	--	.00
DEC											
02...	9.0	260	7.4	9.0	1.8	8.2	71	--	--	3	.00
FEB , 1981											
19...	15	190	6.3	10.5	--	10.2	91	34	130	0	.96
MAR											
31...	16	230	7.3	20.0	2.4	8.6	94	76	27	0	.00
JUN											
03...	15	240	7.4	21.0	2.5	6.0	67	90	110	46	.11
AUG											
12...	3.4	300	7.7	22.0	1.5	6.0	68	8	--	0	.11

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P) (70507)
AUG , 1980										
06...	.010	.01	.040	.88	.92	.93	4.1	.010	.03	.010
OCT										
07...	.000	.00	.001	.53	.54	.54	2.4	.010	.03	.000
DEC										
02...	.000	.00	.020	.70	.72	.72	3.2	.040	.12	.000
FEB , 1981										
19...	.010	.97	.030	.69	.72	1.7	7.5	.100	.31	.010
MAR										
31...	.000	.00	.050	.55	.60	.60	2.7	.010	.03	.010
JUN										
03...	.010	.12	.100	.62	.72	.84	3.7	.030	.09	.010
AUG										
12...	.030	.14	.100	.23	.33	.47	2.1	.020	.06	<.010

WHITE RIVER BASIN

07068540 LOGAN CREEK AT OXLY, MO--continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1										---	---	---
2										---	---	---
3										---	---	---
4										---	---	---
5										---	---	---
6										---	---	---
7										---	---	---
8										---	---	---
9										---	---	---
10										---	---	---
11										---	---	---
12										---	---	---
13										---	---	---
14										---	---	---
15										16.5	13.5	15.0
16										16.0	15.5	15.5
17										16.0	15.5	15.5
18										18.0	15.5	16.5
19										18.0	15.5	16.5
20										17.0	14.5	15.5
21										18.0	15.0	16.5
22										19.0	15.5	17.0
23										20.0	17.0	19.0
24										20.5	19.5	20.5
25										20.5	19.0	19.5
26										20.0	19.0	19.0
27										20.0	16.0	18.5
28										21.0	18.5	19.5
29										22.0	20.0	21.0
30										22.0	21.0	21.5
31										22.0	20.5	21.0
MONTH										22.0	13.5	18.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	21.5	20.0	21.0	25.5	24.5	25.0	24.0	20.5	22.5	24.0	23.5	23.5
2	21.5	20.0	21.0	26.0	24.5	25.5	24.0	21.5	23.0	23.5	23.0	23.5
3	22.0	21.5	22.0	26.0	24.5	25.0	25.5	23.5	24.5	24.5	22.0	23.0
4	23.0	21.5	22.0	25.5	24.0	24.5	25.5	24.0	25.0	24.0	20.5	22.5
5	23.0	22.0	22.5	25.5	24.5	25.0	25.5	24.5	25.0	23.5	20.0	22.0
6	22.0	21.5	22.0	25.5	25.0	25.5	26.5	25.0	26.0	23.5	19.5	21.5
7	23.0	20.5	21.5	26.0	25.0	25.5	26.0	25.0	25.5	22.0	19.5	21.5
8	23.5	21.0	22.0	25.0	25.0	25.0	25.5	23.5	24.5	23.5	20.0	21.5
9	25.0	23.0	24.0	26.0	23.5	25.0	25.5	22.0	24.5	22.0	18.5	21.0
10	24.5	24.0	24.0	25.0	24.5	24.5	25.0	23.0	24.0	23.5	18.0	20.5
11	24.0	22.0	23.0	25.5	23.5	24.5	24.5	23.5	24.0	23.5	19.0	21.0
12	24.0	23.5	23.5	26.0	24.5	25.5	24.5	21.5	23.0	23.5	20.0	22.0
13	24.5	23.5	24.0	26.5	24.5	25.5	24.5	20.5	23.0	23.5	21.5	22.5
14	25.5	24.0	24.5	26.0	24.5	25.5	25.0	21.0	23.5	23.0	21.5	22.5
15	26.0	25.0	25.5	26.5	24.5	26.0	26.0	23.0	24.5	23.0	22.0	22.5
16	26.0	23.5	24.5	26.5	24.5	26.0	24.5	24.5	24.5	22.0	20.5	21.5
17	23.5	21.0	22.0	25.5	24.5	25.5	24.5	23.5	23.5	21.0	18.5	19.0
18	23.0	20.5	22.0	25.5	23.5	24.5	24.0	22.0	23.0	19.0	16.5	18.0
19	23.5	22.0	23.0	25.5	23.5	24.0	24.0	21.5	23.0	19.0	15.5	17.0
20	24.5	22.5	23.5	26.5	24.5	25.5	24.0	22.0	23.5	19.5	15.5	19.0
21	25.0	24.0	24.5	26.5	24.5	25.5	23.5	21.0	22.0	20.0	16.0	18.5
22	25.5	24.5	25.5	26.0	24.5	24.5	23.5	21.0	22.0	21.5	19.0	20.0
23	25.0	23.0	24.0	25.0	23.5	24.0	25.0	21.5	23.0	21.0	19.0	20.0
24	26.0	24.0	25.0	24.5	23.5	23.5	25.0	22.0	24.0	20.0	18.5	19.5
25	26.5	25.0	26.0	25.0	24.0	24.5	24.5	23.0	24.0	21.5	18.5	20.0
26	26.0	24.5	25.5	26.0	24.0	25.0	24.0	22.0	23.0	22.0	19.0	21.0
27	25.5	23.5	24.5	26.0	24.5	25.5	23.5	22.0	23.0	23.5	21.0	22.0
28	25.5	23.5	24.5	25.5	25.0	25.5	24.5	22.0	23.0	23.0	19.0	20.5
29	26.0	24.0	25.5	25.5	23.5	24.0	25.0	23.0	24.0	21.0	18.5	20.0
30	25.5	25.0	25.0	23.5	20.5	22.0	25.0	23.0	24.0	22.0	19.0	20.5
31	---	---	---	24.0	20.5	22.0	24.5	23.5	24.0	---	---	---
MONTH	26.5	20.0	23.5	26.5	20.5	25.0	26.5	20.5	23.5	24.5	15.5	21.0

WHITE RIVER BASIN

07068540 LOGAN CREEK AT OXLY, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1			---	---	---	2.8	30	.23	
2			---	---	---	3.0	35	.28	
3			---	---	---	3.1	34	.28	
4			---	---	---	3.0	35	.28	
5			---	---	---	3.0	37	.30	
6			---	---	---	2.9	37	.29	
7			---	---	---	2.8	39	.29	
8			---	---	---	2.6	32	.22	
9			---	---	---	2.9	22	.17	
10			---	---	---	2.9	13	.10	
11			---	---	---	2.6	15	.11	
12			---	---	---	2.5	20	.14	
13			---	---	---	2.5	17	.11	
14			---	---	---	2.5	13	.09	
15			---	---	---	2.4	20	.13	
16			---	---	---	2.6	22	.15	
17			---	---	---	3.4	20	.18	
18			---	---	---	2.9	19	.15	
19			8.1	10	.22	2.6	18	.13	
20			5.5	9	.13	2.6	21	.15	
21			4.4	11	.13	2.6	27	.19	
22			3.9	11	.12	2.7	32	.23	
23			3.6	10	.10	3.4	29	.27	
24			3.4	11	.10	3.4	32	.29	
25			3.4	11	.10	2.9	27	.21	
26			3.3	16	.14	2.8	21	.16	
27			3.1	27	.23	2.9	20	.16	
28			3.1	32	.27	2.8	23	.17	
29			3.0	35	.28	2.9	25	.20	
30			3.0	31	.25	2.9	22	.17	
31			2.8	30	.23	---	---	---	
TOTAL			50.6	---	---	2.30	84.9	---	5.83

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	3.1	14	.12	5.0	2	.03	9.6	8	.21
2	3.1	11	.09	4.8	2	.03	9.2	6	.15
3	3.3	11	.10	5.0	2	.03	7.8	5	.11
4	3.3	11	.10	5.2	4	.06	6.5	6	.11
5	3.3	11	.10	5.2	4	.06	6.2	6	.10
6	3.3	10	.09	5.2	4	.06	5.7	7	.11
7	3.3	10	.09	5.2	5	.07	5.2	7	.10
8	3.1	7	.06	5.5	6	.09	8.1	10	.22
9	3.1	5	.04	5.0	7	.09	23	7	.43
10	2.9	4	.03	5.2	9	.13	13	2	.07
11	2.7	6	.04	5.2	15	.21	10	2	.05
12	2.7	13	.09	5.2	17	.24	8.5	1	.02
13	2.8	11	.08	5.2	16	.22	7.4	<1	.00
14	2.8	6	.01	5.0	15	.20	6.2	<1	.00
15	2.7	7	.05	5.2	10	.14	5.7	<1	.00
16	2.8	7	.05	5.5	14	.21	4.8	<1	.00
17	8.8	8	.19	9.2	17	.42	4.6	<1	.00
18	6.2	8	.13	9.2	26	.65	4.4	<1	.00
19	3.9	7	.07	10	38	1.0	4.0	<1	.00
20	3.3	9	.08	5.7	36	.55	3.7	<1	.00
21	3.3	10	.09	5.2	29	.41	3.6	<1	.00
22	3.3	9	.08	5.2	25	.35	3.4	2	.02
23	3.3	5	.04	5.7	31	.48	3.4	4	.04
24	3.4	3	.03	5.7	27	.42	3.6	5	.05
25	3.9	4	.04	5.2	25	.35	3.6	3	.03
26	4.0	8	.09	5.5	24	.36	3.7	2	.02
27	14	14	.53	7.8	26	.55	3.9	3	.03
28	12	8	.26	8.1	42	.92	4.0	4	.04
29	6.5	6	.11	8.1	19	.42	4.2	4	.05
30	5.2	4	.06	8.8	11	.26	4.4	3	.04
31	5.2	1	.01	---	---	---	4.4	2	.02
TOTAL	134.6	---	2.99	182.0	---	9.01	195.8	---	2.02

WHITE RIVER BASIN

07068540 LOGAN CREEK AT OXLY, MO--continued
 SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)
JANUARY			FEBRUARY			MARCH			
1	4.6	2	.02	19	5	.26	34	4	.37
2	4.6	2	.02	24	12	.78	28	5	.38
3	4.8	2	.03	16	7	.30	24	6	.39
4	4.6	2	.02	13	5	.18	85	10	2.3
5	5.2	3	.04	11	4	.12	90	11	2.7
6	5.5	3	.04	11	3	.09	47	6	.76
7	5.7	3	.05	10	5	.14	33	6	.53
8	5.7	2	.03	10	4	.11	25	6	.41
9	5.5	1	.01	9.2	16	.40	23	4	.25
10	5.0	4	.05	109	89	22	20	3	.16
11	5.0	2	.03	105	20	5.7	17	2	.09
12	5.0	1	.01	36	8	.78	16	4	.17
13	5.0	4	.05	28	8	.60	15	3	.12
14	5.0	2	.03	24	10	.65	13	5	.18
15	5.0	3	.04	21	12	.68	14	4	.15
16	4.8	3	.04	20	13	.70	15	4	.16
17	4.6	2	.02	18	6	.29	13	6	.21
18	4.8	1	.01	16	6	.26	12	4	.13
19	5.0	4	.05	15	9	.36	11	4	.12
20	5.7	5	.08	15	10	.41	10	4	.11
21	6.5	4	.07	16	9	.39	11	2	.06
22	6.2	3	.05	36	12	1.2	15	2	.08
23	5.7	6	.09	35	16	1.5	15	3	.12
24	5.7	8	.12	27	13	.95	14	3	.11
25	5.7	3	.05	22	8	.48	13	3	.11
26	5.7	1	.02	19	6	.31	13	4	.14
27	6.0	2	.03	16	6	.26	13	4	.14
28	6.0	2	.03	20	5	.27	12	2	.06
29	5.7	2	.03	---	---	---	13	3	.11
30	7.4	3	.06	---	---	---	17	3	.14
31	6.5	3	.05	---	---	---	16	3	.13
TOTAL	168.2	---	1.27	721.2	---	40.17	697	---	10.89

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TUNS/DAY)
APRIL			MAY			JUNE			
1	15	3	.12	13	2	.07	18	3	.15
2	14	3	.11	12	5	.16	16	4	.17
3	13	3	.11	11	3	.09	15	6	.24
4	14	3	.11	11	1	.03	14	3	.11
5	12	3	.10	12	2	.06	18	4	.19
6	13	3	.11	13	2	.07	120	10	3.2
7	13	3	.11	12	2	.06	125	7	2.4
8	12	1	.03	11	2	.06	53	5	.72
9	12	3	.10	11	4	.12	31	5	.42
10	11	2	.06	15	12	.49	20	4	.22
11	11	2	.06	21	14	.79	17	3	.14
12	11	7	.21	15	5	.20	15	2	.08
13	11	4	.12	17	7	.32	12	3	.10
14	10	2	.05	129	27	10	10	4	.11
15	9.6	3	.08	70	6	1.1	8.8	3	.07
16	9.6	3	.08	41	3	.33	10	2	.05
17	9.6	3	.08	31	6	.50	10	2	.05
18	9.6	6	.16	27	3	.22	8.1	3	.07
19	10	4	.11	57	8	1.2	8.8	3	.07
20	14	6	.23	38	11	1.1	13	3	.11
21	13	2	.07	25	4	.27	9.6	3	.08
22	14	1	.04	19	3	.15	8.5	4	.09
23	20	1	.05	16	7	.30	9.2	4	.10
24	18	2	.10	15	4	.16	8.5	3	.07
25	17	1	.05	13	1	.04	7.4	4	.08
26	16	1	.04	31	4	.33	6.5	4	.07
27	15	1	.04	72	6	1.2	5.7	4	.06
28	14	1	.04	39	9	.95	5.5	3	.04
29	13	1	.04	26	6	.42	5.0	3	.04
30	13	2	.07	24	6	.39	5.2	5	.07
31	---	---	---	22	5	.30	---	---	---
TOTAL	387.4	---	2.68	869	---	21.48	613.8	---	9.37

WHITE RIVER BASIN

07068540 LOGAN CREEK AT OXLY, MO--continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY				AUGUST			SEPTEMBER		
1	5.5	5	.07	4.8	1	.01	4.0	3	.03
2	5.5	4	.06	4.4	1	.01	3.9	2	.02
3	6.0	4	.06	4.0	1	.01	3.9	2	.02
4	6.2	3	.05	4.2	1	.01	3.6	1	.00
5	13	4	.14	5.0	2	.03	3.6	3	.03
6	10	3	.08	4.8	1	.01	3.4	3	.03
7	7.8	2	.04	4.6	1	.01	3.4	4	.04
8	6.8	2	.04	4.0	1	.01	3.3	9	.08
9	6.0	2	.03	4.0	1	.01	3.1	8	.07
10	5.2	4	.06	3.7	1	.00	3.0	2	.02
11	4.8	7	.09	3.6	1	.00	2.9	2	.02
12	4.8	8	.10	3.6	2	.02	3.0	2	.02
13	4.4	4	.05	3.4	2	.02	3.1	2	.02
14	4.2	2	.02	3.4	2	.02	3.3	3	.03
15	3.9	2	.02	10	7	1.5	3.3	2	.02
16	3.9	2	.02	64	25	6.0	3.1	3	.03
17	3.7	4	.04	11	4	.12	3.0	4	.03
18	3.6	12	.12	7.1	3	.06	2.9	3	.02
19	17	5	.23	5.7	2	.03	2.9	2	.02
20	6.5	3	.05	5.0	2	.03	2.9	2	.02
21	4.2	2	.02	4.6	3	.04	2.9	1	.00
22	3.9	4	.04	4.6	2	.02	2.8	1	.00
23	7.4	5	.10	4.2	2	.02	2.8	1	.00
24	17	3	.14	4.2	2	.02	2.7	1	.00
25	8.5	3	.07	5.0	10	.20	2.7	3	.02
26	36	2	.19	5.0	4	.05	2.9	2	.02
27	10	2	.05	4.2	2	.02	3.0	2	.02
28	7.8	3	.06	4.0	2	.02	3.0	3	.02
29	7.1	2	.04	3.9	1	.01	3.0	2	.02
30	6.0	2	.03	3.9	1	.01	2.9	1	.00
31	5.0	1	.01	3.7	2	.02	---	---	---
TOTAL	241.7	---	2.12	207.6	---	8.34	94.3	---	0.67
YEAR	4512.6		111.01						

WHITE RIVER BASIN

07068600 LITTLE BLACK RIVER AT SUCCESS, AR

LOCATION.--Lat 36°27'24", long 90°43'32", in NE¼NW¼NW¼ sec.23, T.21 N., R.3 E., Clay County, Hydrologic Unit 11010008, on road fill at the left downstream end of State Highway 211 bridge, 1 mile (1.6 km) downstream from Cypress Ditch and at the northwest corner of Success.

DRAINAGE AREA.--386 square miles (1000 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage is 265.89 feet (81.043 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1370 ft³/s (38.80 m³/s) May 16, 1981, gage height, 14.16 ft (4.316 m); minimum, 26 ft/s (0.074 m³/s) August 26, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1370 ft³/s (38.80 m³/s) May 16, gage height, 14.16 ft (4.316 m); minimum, 26 ft³/s (0.074 m³/s) August 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	75	79	65	90	206	132	95	292	105	39	43
2	46	69	80	63	152	242	125	89	281	100	39	50
3	45	62	80	63	147	236	121	84	265	74	36	51
4	44	57	81	63	129	310	117	81	235	78	33	51
5	42	53	81	62	113	577	116	79	222	152	36	49
6	42	50	79	62	103	546	115	81	568	290	38	42
7	42	48	77	62	96	432	115	80	1050	233	30	39
8	42	48	78	62	92	347	114	79	949	216	34	39
9	42	47	110	61	90	291	112	78	835	186	32	37
10	42	47	137	61	307	253	108	80	704	136	29	36
11	41	47	144	61	643	226	106	84	480	186	27	36
12	40	48	134	55	610	206	103	85	306	251	26	36
13	39	48	116	63	425	190	101	91	244	156	33	34
14	38	48	103	62	304	175	97	452	209	88	27	31
15	38	49	95	60	247	166	91	892	168	60	35	50
16	38	50	89	59	219	163	88	1220	145	46	220	30
17	44	55	84	55	206	158	86	1080	142	43	381	33
18	50	62	81	56	197	152	84	725	122	48	248	39
19	54	67	78	60	193	141	86	499	113	46	158	38
20	56	74	74	60	174	132	87	477	147	51	99	36
21	57	78	72	60	159	125	88	516	139	40	72	36
22	55	73	71	60	162	123	94	367	125	41	58	36
23	50	70	69	62	218	127	283	252	110	37	48	35
24	47	67	69	63	237	133	242	194	103	84	43	34
25	46	64	67	64	235	131	179	161	107	110	35	33
26	46	64	68	64	219	125	146	179	112	101	29	51
27	54	68	68	63	200	119	128	349	92	100	28	30
28	65	71	67	62	187	115	115	483	84	76	37	30
29	74	75	66	61	---	113	108	447	79	68	43	31
30	76	78	65	62	---	119	102	354	73	59	39	51
31	66	---	65	62	---	129	---	351	---	48	38	---
TOTAL	1508	1812	2627	1898	6155	6508	3593	10084	8500	5289	2070	1107
MEAN	48.6	60.4	84.7	61.2	220	210	120	325	283	106	66.8	36.9
MAX	76	78	144	65	643	577	283	1220	1050	290	381	51
MIN	38	47	65	55	90	113	84	78	73	37	26	30

WTR YR 1981 TOTAL 49151 MEAN 135 MAX 1220 MIN 26

WHITE RIVER BASIN
07068600 LITTLE BLACK RIVER AT SUCCESS, AR
WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1980 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: August 1980 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1980 to current year.

INSTRUMENTATION.--Water temperature recorder since August 1980.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum, 39.5°C on many days in August 1980; minimum, 6.5°C December 22, 25, 26, 27 and January 5, 1981.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 748 mg/L July 25, 1981; minimum daily mean, <1 January 14, 15 and 22, 1981.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 642 tons (582 metric tons) June 7, 1981; minimum daily, 0.16 tons (0.15 metric tons) January 15, 16, 19, 21 and 22, 1981.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 39.5°C on many days in August; minimum, 6.5°C December 22, 25, 26, 27 and January 5.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 748 mg/L July 25; minimum daily, mean, <1 January 14, 15 and 22.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 642 tons (582 metric tons) June 7; minimum daily, 0.16 tons (0.15 metric tons) January 15, 16, 19, 21 and 22.

WATER QUALITY DATA

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)
AUG , 1980											
06...	2.6	355	8.0	28.0	--	5.2	66	96	110	13	.16
OCT											
08...	42	400	7.7	15.0	--	9.0	89	68	140	--	.06
DEC											
02...	83	300	7.2	8.0	4.5	9.8	82	--	--	12	.00
APR , 1981											
02...	137	250	7.3	17.0	8.9	8.2	84	65	47	8	.06
JUN											
03...	344	200	7.4	22.0	36	6.2	70	120	200	27	.19
AUG											
12...	24	300	7.8	25.0	14	6.5	78	60	--	25	.17

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P) (70507)
AUG , 1980										
06...	.020	.18	.090	.44	.53	.71	3.1	.120	.37	.070
OCT										
08...	.000	.06	.000	.87	.87	.93	4.1	.050	.15	.020
DEC										
02...	.000	.00	.010	.76	.77	.77	3.4	.080	.25	.020
APR , 1981										
02...	.010	.07	.080	.51	.59	.66	2.9	.050	.15	.070
JUN										
03...	.010	.20	.090	.71	.80	1.0	4.4	.120	.37	.050
AUG										
12...	.030	.20	.090	.91	1.00	1.2	5.3	.070	.21	<.010

WHITE RIVER BASIN

07068600 LITTLE BLACK RIVER AT SUCCESS, AR--continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1							---	---	---	32.0	30.5	31.0
2							---	---	---	32.5	30.5	31.0
3							---	---	---	31.5	30.0	31.0
4							---	---	---	31.0	30.0	30.5
5							---	---	---	31.0	29.0	30.5
6							39.5	30.5	35.0	31.5	30.0	31.0
7							39.5	28.0	33.0	31.5	30.0	31.0
8							39.5	27.5	33.0	31.5	30.0	31.0
9							39.5	28.0	33.0	31.5	30.0	31.0
10							39.5	29.0	33.5	31.5	30.0	30.5
11							39.5	28.0	32.5	29.5	28.0	29.0
12							38.5	28.0	32.0	29.5	27.5	28.5
13							38.0	27.0	30.0	30.5	28.5	29.5
14							31.5	28.0	30.5	30.5	29.0	29.5
15							31.0	30.5	31.0	29.5	28.5	29.0
16							31.5	30.5	31.0	29.5	28.5	29.0
17							32.0	31.5	31.5	28.5	26.5	27.5
18							32.0	31.5	32.0	26.5	25.0	26.0
19							32.0	31.0	31.5	27.0	25.0	26.0
20							32.0	31.5	32.0	27.5	26.0	27.0
21							32.0	31.5	32.0	29.0	27.5	28.0
22							31.5	30.5	31.0	29.5	28.5	29.0
23							32.0	29.0	30.5	29.5	27.0	28.0
24							31.5	29.0	30.0	---	---	---
25							32.5	28.5	30.0	---	---	---
26							31.5	28.5	30.0	---	---	---
27							31.5	29.0	30.0	---	---	---
28							31.5	29.5	30.5	---	---	---
29							31.5	29.5	30.5	---	---	---
30							31.5	29.5	30.5	---	---	---
31							31.5	30.0	31.0	---	---	---
MONTH							39.5	27.0	31.5	32.5	25.0	29.5
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	15.0	13.5	14.0	12.5	10.5	11.5	9.5	8.5	9.0
2	---	---	---	15.5	14.0	15.0	12.5	11.5	12.0	9.5	8.0	8.5
3	---	---	---	16.0	14.5	15.5	11.0	10.5	10.5	9.5	8.0	8.5
4	---	---	---	16.0	15.0	15.5	11.0	10.5	10.5	9.0	7.5	8.0
5	---	---	---	16.0	15.0	15.5	11.5	11.0	11.5	7.5	6.5	7.0
6	---	---	---	15.5	14.5	15.0	12.5	11.5	12.0	7.5	7.0	7.5
7	---	---	---	16.5	15.0	16.0	14.0	12.5	13.0	7.5	7.0	7.5
8	20.5	19.0	20.0	17.0	16.0	16.5	14.0	14.0	14.0	7.5	7.0	7.5
9	22.0	20.0	21.0	18.5	17.0	17.5	14.0	13.0	13.5	11.0	10.5	11.0
10	22.0	20.5	21.5	17.5	16.5	16.5	12.5	12.0	12.5	13.0	10.5	12.0
11	21.5	19.5	20.5	16.5	15.0	16.0	12.0	11.0	11.5	11.5	10.5	11.0
12	19.5	18.0	18.5	15.5	14.5	15.0	12.0	11.0	11.5	12.0	10.5	11.5
13	18.5	16.5	17.0	15.5	14.0	14.5	12.0	11.5	12.0	12.0	10.5	11.5
14	18.0	16.5	17.0	15.0	14.5	14.5	11.5	11.0	11.0	13.0	11.0	12.0
15	19.0	17.0	18.0	14.5	14.0	14.5	11.5	11.0	11.5	13.5	11.5	12.5
16	20.0	18.5	19.5	14.0	13.0	13.5	12.0	11.0	11.5	13.5	11.5	12.5
17	20.5	20.0	20.0	13.0	12.0	12.5	11.0	10.0	10.5	14.0	12.5	13.0
18	20.0	19.5	20.0	12.5	11.5	11.5	11.5	10.5	11.0	14.0	12.5	13.0
19	19.5	18.5	19.0	11.5	10.5	11.0	11.0	9.0	10.5	13.5	12.0	12.5
20	18.5	17.0	17.5	11.0	10.0	10.5	9.0	7.5	8.0	13.5	11.5	12.5
21	19.0	17.0	18.0	11.0	10.0	10.5	7.5	7.0	7.0	14.0	12.0	13.0
22	19.0	18.0	18.5	11.0	10.0	10.5	7.5	6.5	7.0	14.0	12.5	13.5
23	19.0	18.0	18.5	11.5	11.0	11.0	7.5	7.0	7.5	13.0	11.5	12.5
24	19.0	17.0	18.0	12.5	11.5	11.5	8.5	7.5	8.0	13.5	11.5	12.5
25	17.0	16.0	16.0	11.0	10.0	10.5	7.5	6.5	7.0	13.0	12.5	12.5
26	16.0	15.0	15.5	10.0	8.5	10.0	7.5	6.5	7.0	12.5	12.0	12.5
27	16.5	15.0	15.5	8.5	8.0	8.0	7.5	6.5	7.0	13.5	11.0	12.5
28	16.0	14.5	15.5	9.0	8.0	8.5	7.5	7.0	7.0	14.0	12.0	13.5
29	14.5	13.5	14.0	9.5	8.0	9.0	8.0	7.5	7.5	14.0	13.0	13.5
30	14.0	12.5	13.5	10.5	8.5	9.5	8.5	7.5	8.0	15.0	13.0	14.0
31	14.0	12.5	13.5	---	---	---	9.5	8.0	9.0	16.5	14.5	15.5
MONTH	22.0	12.5	18.0	18.5	8.0	13.0	14.0	6.5	10.0	16.5	6.5	11.5

WHITE RIVER BASIN

07068600 LITTLE BLACK RIVER AT SUCCESS, AR--continued

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	47	29	3.7	75	18	3.6	79	24	5.1
2	46	28	3.5	69	20	3.7	80	22	4.8
3	45	32	3.9	62	29	4.9	80	21	4.5
4	44	17	2.0	57	27	4.2	81	21	4.6
5	42	10	1.1	53	20	2.9	81	20	4.4
6	42	15	1.7	50	24	3.2	79	22	4.7
7	42	22	2.5	48	19	2.5	77	31	6.4
8	42	26	2.9	48	33	4.3	78	45	9.5
9	42	44	5.0	47	28	3.6	110	82	24
10	42	40	4.5	47	26	3.3	137	36	13
11	41	44	4.9	47	25	3.2	144	40	16
12	40	27	2.9	48	25	3.2	134	44	16
13	39	32	3.4	48	28	3.6	116	41	13
14	38	45	4.6	48	19	2.5	103	17	4.7
15	38	32	3.3	49	19	2.5	95	15	3.8
16	38	35	3.6	50	34	4.6	89	26	6.2
17	44	52	6.2	55	33	4.9	84	18	4.1
18	50	49	6.6	62	12	2.0	81	18	3.9
19	54	36	5.2	67	14	2.5	78	20	4.2
20	56	35	5.3	74	16	3.2	74	22	4.4
21	57	40	6.2	78	14	2.9	72	27	5.2
22	55	38	5.6	73	12	2.4	71	31	5.9
23	50	46	6.2	70	13	2.5	69	34	6.3
24	47	39	4.9	67	16	2.9	69	34	6.3
25	46	26	3.2	64	17	2.9	67	30	5.4
26	46	30	3.7	64	22	3.8	68	16	2.9
27	54	79	12	68	19	3.5	68	22	4.0
28	65	50	8.8	71	24	4.6	67	16	2.9
29	74	33	6.6	75	21	4.3	66	10	1.8
30	76	24	4.9	78	24	5.1	65	8	1.4
31	66	26	4.6	---	---	---	65	13	2.3
TOTAL	1508	---	143.5	1812	---	103.3	2627	---	201.7
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
JANUARY			FEBRUARY			MARCH			
1	65	25	4.4	90	13	3.2	206	41	23
2	63	27	4.6	152	24	9.8	242	38	25
3	63	24	4.1	147	16	6.4	236	26	17
4	63	19	3.2	129	11	3.8	310	67	56
5	62	14	2.3	113	7	2.1	577	86	134
6	62	8	1.3	103	12	3.3	546	60	88
7	62	2	.33	96	6	1.6	432	37	43
8	62	1	.17	92	8	2.0	347	36	34
9	61	4	.66	90	5	1.2	291	32	25
10	61	2	.33	307	155	132	253	28	19
11	61	1	.16	643	105	182	226	30	18
12	55	4	.59	610	63	104	206	30	17
13	63	1	.17	426	32	37	190	37	19
14	62	<1	.17	304	21	17	175	32	15
15	60	<1	.16	247	13	8.7	166	26	12
16	59	1	.16	219	15	8.9	163	24	11
17	55	10	1.5	206	14	7.8	158	22	9.4
18	56	4	.60	197	16	8.5	152	29	12
19	60	1	.16	193	25	13	141	77	29
20	60	2	.32	174	63	30	132	27	9.6
21	60	1	.16	159	75	32	125	21	7.1
22	60	<1	.16	162	83	36	123	20	6.6
23	62	1	.17	218	55	32	127	21	7.2
24	63	1	.17	237	49	31	133	23	8.3
25	64	5	.86	235	40	25	131	25	8.8
26	64	4	.69	219	39	23	125	27	9.1
27	63	5	.85	200	40	22	119	24	7.7
28	62	4	.67	187	38	19	115	25	7.8
29	61	9	1.5	---	---	---	113	25	7.6
30	62	2	.33	---	---	---	119	31	10
31	62	1	.17	---	---	---	129	33	11
TOTAL	1898	---	31.11	6155	---	802.3	6508	---	707.2

07068600 LITTLE BLACK RIVER AT SUCCESS, AR--continued

SEDIMENT DISCHARGE, SUSPENDED (TJNS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
APRIL				MAY				JUNE	
1	132	37	13	95	55	14	292	104	82
2	128	47	16	89	64	15	281	105	80
3	121	37	12	84	82	19	265	89	64
4	117	47	15	81	65	14	233	118	74
5	116	47	15	79	59	13	222	129	77
6	115	49	15	81	57	12	568	238	365
7	115	55	17	80	53	11	1050	239	642
8	114	66	20	79	56	12	949	109	279
9	112	57	17	78	61	13	833	111	250
10	108	43	13	80	73	16	704	111	211
11	106	44	13	84	67	15	480	128	166
12	103	73	20	85	63	14	306	130	107
13	101	51	14	91	60	15	244	115	76
14	97	50	13	452	396	541	209	102	58
15	91	53	13	892	170	391	168	106	48
16	88	50	12	1220	76	250	145	111	43
17	86	56	13	1080	62	181	142	124	48
18	84	89	20	725	81	159	122	140	46
19	86	68	16	499	110	148	113	136	41
20	87	66	16	477	107	138	147	114	45
21	88	70	17	516	77	107	139	103	39
22	94	66	17	367	78	77	128	99	34
23	283	212	162	252	92	63	110	101	30
24	242	152	99	194	92	48	103	95	26
25	179	117	57	161	85	37	107	104	30
26	146	98	39	179	92	44	112	115	35
27	128	82	28	349	124	117	92	106	26
28	116	80	25	483	110	143	84	120	27
29	108	68	20	447	77	93	79	102	22
30	102	55	15	354	94	90	73	113	22
31	---	---	---	351	97	92	---	---	---
TOTAL	3593	---	782	10084	---	2902	8500	---	3093
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TJNS/DAY)
JULY				AUGUST				SEPTEMBER	
1	105	87	25	39	34	3.6	43	52	6.0
2	100	101	27	39	41	4.3	50	50	6.8
3	74	85	17	36	34	3.3	51	61	8.4
4	78	100	21	33	42	3.7	51	90	12
5	132	133	47	36	37	3.6	49	82	11
6	290	197	154	38	44	4.5	42	64	7.3
7	253	132	83	30	37	3.0	39	46	4.8
8	216	143	83	34	39	3.6	39	41	4.3
9	186	117	59	32	35	3.0	37	40	4.0
10	136	129	47	29	28	2.2	36	42	4.1
11	186	136	68	27	26	1.9	36	43	4.2
12	251	130	88	26	37	2.6	36	38	3.7
13	156	121	51	33	48	4.3	34	38	3.5
14	88	87	21	27	53	3.9	31	39	3.3
15	60	75	12	35	68	6.4	30	36	2.9
16	46	64	7.9	220	154	83	30	36	2.9
17	43	66	7.7	381	98	101	33	33	2.9
18	48	62	8.0	248	97	65	39	31	3.3
19	46	65	8.1	158	88	38	38	28	2.9
20	51	64	8.8	99	73	20	36	24	2.3
21	40	59	6.4	72	58	11	36	32	3.1
22	41	71	7.9	58	51	8.0	36	27	2.6
23	37	65	6.5	48	54	7.0	35	23	2.2
24	84	150	34	43	53	6.2	34	27	2.5
25	110	748	222	35	51	4.8	33	25	2.2
26	101	67	18	29	52	4.1	31	32	2.7
27	100	82	22	28	53	4.0	30	27	2.2
28	76	74	15	37	55	5.5	30	23	1.9
29	68	66	12	43	64	7.4	31	61	5.1
30	59	78	12	39	61	6.4	31	37	3.1
31	48	56	7.3	38	56	5.7	---	---	---
TOTAL	3289	---	1206.6	2070	---	431.0	1107	---	128.2
YEAR	49151		10531.91						

WHITE RIVER BASIN

07068863 FOURCHE RIVER NEAR POYNOR, MO

LOCATION.--Lat 36°30'43", long 90°56'52", in N½SE¼ sec.34, T.22 N., R.1 E., Ripley County, Hydrologic Unit 11010009, on right bank, 0.5 mi (0.8 km) downstream from West Fork Fourche Creek, and 2 mi (3.2 km) south-west of Poynor.

DRAINAGE AREA.--87.2 mi² (225.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 340 ft (104 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except for periods of no gage-height record which are poor.

AVERAGE DISCHARGE.--5 years, 90.3 ft³/s (2.56 m³/s), 14.06 in/yr (357 mm/yr), 65,400 acre-ft/yr (80.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,400 ft³/s (719 m³/s) Mar. 27, 1977, gage height, 15.91 ft (4.849 m); minimum, 4.0 ft³/s (0.11 m³/s) Sept. 16, 1980, gage height, 0.84 ft (0.256 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 480 ft³/s (13.6 m³/s) June 6, gage height, 3.18 ft (0.969 m), no other peak above 2,500 ft³/s (71 m³/s); minimum, 4.5 ft³/s (0.13 m³/s) Aug. 19, gage height, 0.80 ft (0.244 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	8.1	9.0	10	17	52	38	22	31	16	12	20
2	5.7	9.0	9.0	10	16	50	36	19	27	15	12	15
3	5.3	9.5	10	10	25	47	34	18	47	17	11	13
4	5.3	7.7	11	9.0	22	105	35	18	37	17	11	11
5	5.3	7.7	12	9.0	20	135	34	19	35	29	11	10
6	5.3	7.7	14	9.0	18	99	28	19	135	44	10	9.0
7	5.7	7.7	12	9.0	23	79	26	17	54	22	12	8.0
8	5.7	8.1	13	9.0	21	65	25	16	133	19	15	7.0
9	5.7	9.0	16	8.0	20	57	24	16	89	17	20	6.8
10	5.7	8.5	19	7.7	40	51	22	19	66	15	25	6.5
11	5.7	8.1	17	6.9	35	47	21	17	58	14	21	6.1
12	5.3	7.7	16	6.1	60	42	20	16	48	13	18	5.7
13	5.3	7.7	15	6.1	50	40	19	16	41	12	15	5.3
14	5.7	7.7	15	6.5	46	37	17	54	35	11	12	5.3
15	6.9	8.5	15	6.5	42	35	16	68	29	10	11	5.3
16	7.3	10	15	6.9	40	34	15	47	30	10	13	5.3
17	11	13	15	6.5	45	31	14	39	29	10	17	4.9
18	12	11	16	6.1	52	28	14	35	22	10	25	4.9
19	9.0	10	15	6.5	60	26	19	166	21	10	33	4.9
20	7.3	9.0	14	9.0	90	25	29	105	25	9.0	25	5.7
21	6.5	8.1	13	12	82	25	26	68	21	8.1	20	8.5
22	6.5	8.1	13	11	76	36	29	52	19	7.3	16	8.1
23	6.5	9.0	12	10	74	39	41	44	19	7.3	13	7.7
24	6.9	8.5	12	9.0	72	39	38	38	18	7.3	11	7.7
25	6.9	8.1	12	8.0	65	37	32	34	16	19	13	7.3
26	6.9	9.0	12	8.0	57	36	28	40	16	14	12	7.3
27	13	11	12	8.0	48	34	25	99	14	16	35	6.9
28	14	10	12	8.0	46	31	24	66	14	14	25	6.9
29	9.0	9.5	12	7.0	---	38	25	52	12	14	20	6.5
30	7.3	9.0	11	12	---	40	24	40	13	13	17	6.1
31	6.9	---	10	20	---	40	---	36	---	12	15	---
TOTAL	221.3	266.0	409.0	270.8	1262	1480	778	1315	1154	452.0	526	232.7
MEAN	7.14	8.87	13.2	8.74	45.1	47.7	25.9	42.4	38.5	14.6	17.0	7.76
MAX	14	13	19	20	90	135	41	166	135	44	35	20
MIN	5.3	7.7	9.0	6.1	16	25	14	16	12	7.3	10	4.9
CFSM	.08	.10	.15	.10	.52	.55	.30	.49	.44	.17	.20	.09
IN.	.09	.11	.17	.12	.54	.63	.33	.56	.49	.19	.22	.10
AC-FT	439	528	811	537	2500	2940	1540	2610	2290	897	1040	462
CAL YR 1980	TOTAL	15619.2	MEAN 42.7	MAX 903	MIN 4.2	CFSM .49	IN 6.66	AC-FT	30980			
WTR YR 1981	TOTAL	8366.8	MEAN 22.9	MAX 166	MIN 4.9	CFSM .26	IN 3.57	AC-FT	16600			

WHITE RIVER BASIN

07068863 FOURCHE RIVER NEAR POYNOR, MO.--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: January 1976 to current year.

INSTRUMENTATION.--Temperature recorder since January 1976.

REMARKS.--Temperature recorder inoperative Jan. 21, thru February 24.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 33.0°C July 15, 1977, July 7, 1980, July 20, 1981; minimum, 0.0°C Dec. 25, 27, 1980, Jan. 2, 4, 5, 6, 7, 8, 12, 16, 17, 1981.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 33.0°C July 20; minimum, 0.0°C, Dec. 25, 27, Jan. 2, 4, 5, 6, 7, 8, 12, 16, 17.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.5	16.5	12.0	9.0	8.5	6.5	2.0	1.0	---	---	13.0	10.5
2	20.0	17.0	13.0	9.5	8.5	6.5	1.5	.0	---	---	11.5	9.5
3	17.0	14.5	13.0	9.5	6.5	4.5	2.0	.5	---	---	10.5	8.5
4	18.0	14.5	12.0	10.0	6.0	4.0	1.0	.0	---	---	10.0	9.5
5	17.0	13.5	12.0	10.0	8.0	6.0	.0	.0	---	---	10.0	9.0
6	17.0	13.0	12.0	9.0	10.0	8.0	.5	.0	---	---	10.5	6.5
7	19.5	14.5	13.0	10.0	11.0	9.5	1.5	.0	---	---	10.5	8.5
8	20.5	15.5	13.5	10.5	10.5	10.0	3.0	.0	---	---	12.0	9.0
9	21.0	16.5	13.5	11.5	10.0	8.0	2.0	.5	---	---	12.0	8.5
10	20.5	16.5	12.0	10.0	8.0	5.5	1.5	.5	---	---	13.0	9.5
11	18.5	14.5	11.5	10.0	5.5	4.0	1.5	.5	---	---	13.5	9.5
12	16.5	13.0	11.0	9.0	6.5	4.0	1.0	.0	---	---	13.5	9.5
13	16.5	12.0	11.0	8.5	6.0	5.0	3.0	.5	---	---	14.0	10.5
14	17.0	13.0	10.0	9.0	5.5	3.5	4.0	.5	---	---	14.0	10.0
15	18.0	14.0	9.5	9.0	6.5	4.5	2.0	1.0	---	---	13.0	10.5
16	18.0	15.0	9.0	8.5	6.5	4.5	2.0	.0	---	---	14.0	9.5
17	17.0	16.0	9.0	6.5	6.0	4.0	2.0	.0	---	---	14.5	10.0
18	18.0	14.5	7.0	5.5	7.0	4.0	3.0	.5	---	---	14.0	11.5
19	15.0	13.5	7.0	4.5	6.5	3.0	4.0	1.0	---	---	13.5	9.5
20	15.5	12.0	7.0	4.5	3.0	1.0	3.5	2.0	---	---	14.0	9.5
21	16.0	13.0	7.0	4.5	2.0	1.0	---	---	---	---	12.0	11.5
22	16.5	13.5	6.5	5.0	2.0	1.0	---	---	---	---	11.5	10.5
23	16.0	13.0	7.0	6.5	3.0	1.5	---	---	---	---	14.0	9.0
24	15.0	12.0	8.5	7.0	3.0	.5	---	---	---	---	15.0	10.5
25	13.5	10.0	7.0	5.5	1.5	.0	---	---	13.0	9.5	14.0	12.0
26	13.0	10.0	6.5	4.0	1.5	.5	---	---	14.0	11.0	15.5	12.0
27	12.0	11.0	4.5	2.0	1.5	.0	---	---	14.5	13.0	18.5	14.0
28	11.0	10.0	5.5	3.5	2.0	.5	---	---	14.5	13.0	18.5	14.5
29	10.5	8.5	6.5	4.5	2.0	1.0	---	---	---	---	17.0	15.5
30	10.5	7.0	7.0	4.0	3.0	1.0	---	---	---	---	19.0	14.5
31	11.5	8.0	---	---	3.5	1.0	---	---	---	---	20.0	15.5
MONTH	21.5	7.0	13.5	2.0	11.0	.0	4.0	.0	14.5	9.5	20.0	6.5

WHITE RIVER BASIN

07071000 GREER SPRING AT GREER, MO

LOCATION.--Lat 36°47'11", long 91°20'53", in SE¼SW¼ sec.36, T.25 N., R.4 W., Oregon County, Hydrologic Unit 11010011, on right bank 300 ft (91 m) downstream from lower outlet of spring, 1 mi (1.6 km) north of Greer, and 1 mi (1.6 km) upstream from Eleven Point River.

PERIOD OF RECORD.--August to December 1904 (gage heights and discharge measurements only), October 1921 to current year. October to December 1921 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 564.00 ft (171.907 m) National Geodetic Vertical Datum of 1929. Aug. 10 to Dec. 31, 1904, nonrecording gage at site 250 ft (76 m) downstream at different datum. Nov. 17, 1921, to June 25, 1934, nonrecording gage at site 250 ft (76 m) downstream at datum 0.74 ft (0.226 m) lower than present datum.

REMARKS.--Records good. Occasional runoff from drainage area of 2.97 mi² (7.69 km²) included in records.

AVERAGE DISCHARGE.--60 years, 334 ft³/s (9.459 m³/s) 242,000 acre-ft/yr (298 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,510 ft³/s (42.8 m³/s) Nov. 17, 1958, includes about 900 ft³/s (25 m³/s) of surface runoff, gage height, 2.63 ft (0.802 m) from rating curve extended about 700 ft³/s (20 m³/s) maximum excluding surface runoff, 903 ft³/s (25.57 m³/s) May 26, 1927; minimum, 104 ft³/s (2.95 m³/s) Nov. 16-19, 1956, Jan. 18, 19, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 485 ft³/s (13.7 m³/s) May 15, gage height, 1.13 ft (0.344 m); minimum, 112 ft³/s (3.17 m³/s) Sept. 30, gage height, 0.25 ft (0.076 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	205	185	165	150	145	139	314	160	345	266	168	145
2	205	185	165	150	142	139	292	152	354	260	164	142
3	201	185	161	150	142	139	274	152	345	260	164	139
4	201	181	161	150	142	142	260	152	331	256	160	136
5	201	181	161	150	142	148	252	152	322	252	160	136
6	197	181	160	150	142	148	235	160	322	248	160	133
7	197	185	160	150	145	145	231	160	336	248	193	130
8	197	181	160	150	142	142	223	156	331	248	202	130
9	197	177	160	150	142	139	214	152	322	244	197	130
10	197	177	160	150	148	139	206	176	314	235	185	130
11	197	173	160	150	148	139	197	231	305	231	176	127
12	197	173	160	150	145	139	193	227	297	231	168	127
13	197	173	160	150	145	139	180	244	292	227	160	127
14	197	173	160	150	145	139	176	456	287	218	160	130
15	197	173	160	150	145	139	168	485	282	218	156	127
16	197	173	160	150	145	139	168	470	274	210	180	124
17	193	173	160	150	145	142	168	446	274	210	197	121
18	193	173	160	150	145	145	160	432	274	206	193	121
19	193	173	160	145	145	142	156	437	270	202	176	118
20	189	173	160	148	145	136	227	442	274	202	168	121
21	189	173	160	148	145	136	244	428	274	197	160	121
22	189	173	160	148	145	136	231	409	274	193	160	118
23	189	173	160	148	145	133	227	400	301	189	156	115
24	189	173	160	148	142	130	223	382	301	185	148	115
25	189	169	160	148	142	127	210	372	292	180	148	115
26	189	169	150	148	139	127	197	363	282	180	152	118
27	189	169	150	145	139	127	189	359	278	176	152	118
28	189	169	150	145	139	127	180	354	274	176	148	115
29	185	169	150	142	---	214	172	340	270	176	152	115
30	185	169	150	142	---	322	164	331	266	172	152	115
31	185	---	150	142	---	327	---	322	---	168	144	---
TOTAL	6015	5254	4913	4597	4021	4725	6331	9502	8963	6664	5159	3759
MEAN	194	175	158	148	144	152	211	307	299	215	166	125
MAX	205	185	165	150	148	327	314	485	354	266	202	145
MIN	185	169	150	142	139	127	156	152	266	168	144	115
AC-FT	11930	10420	9740	9120	7980	9370	12560	18850	17780	13220	10230	7460
CAL YR 1980	TOTAL	99368	MEAN 271	MAX 490	MIN 150	AC-FT	197100					
WTR YR 1981	TOTAL	69903	MEAN 192	MAX 485	MIN 115	AC-FT	138700					

CAL YR 1980	TOTAL	172840	MEAN 472	MAX 1200	MIN 224	CFSM .60	IN 8.11	AC-FT	342800
WIR YR 1981	TOTAL	113121	MEAN 310	MAX 1170	MIN 200	CFSM .39	IN 5.31	AC-FT	224400

ARKANSAS RIVER BASIN

07185700 SPRING RIVER AT LA RUSSELL, MO

LOCATION.--Lat 37°09'13", long 94°03'21", SW¼SW¼ sec.12, T.28 N., R.29 W., Lawrence County, Hydrologic Unit 11070207, on right bank on upstream side of Bower Mills Bridge, 0.8 mi (1.3 km) north of La Russell, and 2.5 mi (4.0 km) upstream from Cave Spring Branch.

DRAINAGE AREA.--306 mi² (793 km²).

PERIOD OF RECORD.--April 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1014.63 ft (309.259 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 18, 1961, nonrecording gage at same site and datum.

REMARKS.--Records good except periods of no gage-height record which are poor. Several observations of water temperature made during the year.

AVERAGE DISCHARGE.--24 years, 243 ft³/s (6.882 m³/s), 10.78 in/yr (274 mm/yr), 176,100 acre-ft/yr (217 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,500 ft³/s (637 m³/s) Nov. 1, 1972, gage height, 17.58 ft (5.358 m); minimum discharge, 15 ft³/s (0.425 m³/s) Dec. 21, 1963, result of ice conditions upstream; minimum gage height, 3.87 ft (1.180 m) Sept. 12, 13, 1959.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Apr. 20	2030	3,790	107	10.48	3.194
June 11	1000	*4,860	138	*11.53	3.514
June 20	2000	4,220	120	11.03	3.362

Minimum discharge, 28 ft³/s (0.79 m³/s) Feb. 12, minimum gage height, 4.31 ft (1.314 m) Feb. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	61	34	42	37	43	57	133	86	767	277	102
2	35	58	34	41	37	41	55	119	80	370	254	105
3	30	54	34	41	35	40	53	111	76	308	756	98
4	30	52	33	41	34	42	54	108	71	281	427	94
5	30	51	33	40	34	42	52	104	69	263	275	89
6	30	51	33	38	34	43	48	96	67	242	238	87
7	30	47	33	39	33	44	44	90	69	326	224	86
8	30	46	47	40	32	44	42	88	66	238	194	87
9	30	45	61	40	32	44	42	88	60	214	176	83
10	30	44	73	39	36	45	41	87	1480	198	168	80
11	30	43	74	39	35	45	39	81	3410	187	158	78
12	30	41	70	38	34	44	37	76	838	173	149	73
13	30	41	66	37	36	43	36	111	571	161	142	70
14	31	39	62	37	35	42	41	592	454	157	136	116
15	47	39	58	37	35	44	38	289	404	146	130	94
16	259	39	56	37	36	47	35	208	482	141	131	76
17	378	39	53	37	39	45	34	194	387	161	178	72
18	178	39	52	37	43	44	34	182	336	156	148	73
19	119	39	51	37	43	43	34	175	300	132	132	70
20	102	38	48	39	44	42	1770	156	2880	119	118	66
21	91	37	47	41	52	41	684	141	1610	111	113	63
22	82	37	47	40	51	41	327	130	740	126	106	60
23	76	37	47	39	49	41	267	121	709	121	102	60
24	71	37	47	39	47	39	219	116	548	108	98	55
25	66	36	44	38	46	37	194	111	468	98	95	55
26	62	36	44	36	45	37	174	103	419	92	148	55
27	69	36	44	36	44	36	158	98	379	87	142	55
28	78	36	44	36	44	35	146	93	341	103	113	50
29	76	36	43	35	---	42	149	88	305	98	108	50
30	69	35	42	34	---	53	148	88	440	91	102	50
31	65	---	42	34	---	58	---	86	---	126	99	---
TOTAL	2319	1269	1496	1184	1102	1327	5052	4263	18145	5901	5637	2252
MEAN	74.8	42.3	48.3	38.2	39.4	42.8	168	138	605	190	182	75.1
MAX	378	61	74	42	52	58	1770	592	3410	767	756	116
MIN	30	35	33	34	32	35	34	76	60	87	95	50
CFSM	.24	.14	.16	.13	.13	.14	.55	.45	1.98	.62	.60	.25
IN.	.28	.15	.18	.14	.13	.16	.61	.52	2.21	.72	.69	.27
AC-FT	4600	2520	2970	2350	2190	2630	10020	8460	35990	11700	11180	4470
CAL YR 1980	TOTAL	52923	MEAN 145	MAX 1590	MIN 30	CFSM .47	IN 6.43	AC-FT 105000				
WTR YR 1981	TOTAL	49947	MEAN 137	MAX 3410	MIN 30	CFSM .45	IN 6.07	AC-FT 99070				

ARKANSAS RIVER BASIN

07186000 SPRING RIVER NEAR WACO, MO

LOCATION.--Lat 37°14'44", long 94°33'58", on line between SE¼ sec. 7 and NE¼ sec.18, T.29 N., R.33 W., Jasper County, Hydrologic Unit 11070207, on left bank on downstream side of left pier of county highway bridge, 0.8 mi (1.3 km) downstream from Blackberry Creek, 1.5 mi (2.4 km) east of Waco, and 47.6 mi (76.6 km) upstream from mouth.

DRAINAGE AREA.--1,164 mi² (3,015 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1924 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 833.23 ft (253.969 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 23, 1935, nonrecording gage at same site and datum.

REMARKS.--Records good except during periods of no gage-height record, which are poor. Low flow slightly regulated by gristmills above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--57 years, 836 ft³/s (23.68 m³/s), 9.76 in/yr (248 mm/yr), 606,700 acre-ft/yr (748 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 103,000 ft³/s (2,920 m³/s) May 19, 1943, gage height, 30.94 ft (9.431 m), from floodmark; minimum discharge, 4.2 ft³/s (0.119 m³/s) Aug. 28, 1954; minimum gage height, 0.80 ft (0.244 m) July 24, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,640 ft³/s (245 m³/s) at 0545 June 21, gage height, 13.02 ft (3.968 m), no other peak above base of 13,000 ft³/s (368 m³/s); minimum discharge, 28 ft³/s (0.79 m³/s) Oct. 11-15; minimum gage height, 1.59 ft (0.485 m) Oct. 11-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	74	58	56	53	63	66	140	119	5990	228	120
2	34	70	56	56	51	63	69	129	115	5670	269	200
3	33	65	56	55	51	63	70	122	111	2880	291	160
4	32	61	57	53	49	60	68	117	104	962	732	140
5	31	59	58	53	49	60	66	113	111	750	570	130
6	31	58	58	55	49	60	64	108	137	761	339	120
7	31	55	58	53	49	60	63	100	130	789	272	110
8	31	56	86	52	50	60	62	97	109	652	240	100
9	31	56	102	52	50	60	66	101	95	511	209	150
10	30	56	91	52	54	60	64	115	110	424	189	131
11	30	54	96	52	54	60	61	98	4480	362	170	116
12	28	53	99	50	54	60	60	91	6550	318	152	104
13	30	53	96	50	55	60	57	444	2000	281	142	96
14	30	53	91	50	57	60	64	1420	1150	249	139	107
15	36	54	86	50	54	60	66	830	2720	226	136	92
16	70	54	82	49	53	60	60	473	4820	209	143	105
17	122	53	78	49	53	60	58	346	2840	678	550	85
18	194	54	77	47	53	61	56	403	1310	1010	336	81
19	155	55	72	49	54	61	59	2080	853	789	237	79
20	96	55	70	51	56	60	69	1030	2450	349	200	74
21	79	55	70	51	58	60	1190	543	8340	251	172	70
22	68	56	70	52	67	58	642	294	6090	216	149	68
23	63	60	65	51	78	59	325	234	5220	199	136	64
24	61	60	65	50	70	57	255	207	2790	298	130	62
25	58	57	62	49	76	57	215	192	2180	236	130	60
26	56	56	65	49	72	56	189	179	5460	171	300	62
27	65	55	68	48	69	56	169	182	2890	148	250	61
28	77	58	65	47	67	56	154	159	2610	147	180	57
29	70	58	61	47	---	60	143	144	1420	368	150	55
30	77	58	59	47	---	62	139	135	4080	315	140	54
31	82	---	58	49	---	61	---	128	---	216	130	---
TOTAL	1867	1721	2235	1574	1605	1853	4689	10754	71394	26425	7411	2913
MEAN	60.2	57.4	72.1	50.8	57.3	59.8	156	347	2380	852	239	97.1
MAX	194	74	102	56	78	63	1190	2080	8340	5990	732	200
MIN	28	53	56	47	49	56	56	91	95	147	130	54
CFSM	.05	.05	.06	.04	.05	.05	.13	.30	2.05	.73	.21	.08
IN.	.06	.06	.07	.05	.05	.06	.15	.34	2.28	.84	.24	.09
AC-FT	3700	3410	4430	3120	3180	3680	9300	21330	141600	52410	14700	5780
CAL YR 1980 TOTAL	120387			MEAN 329	MAX 5780	MIN 28	CFSM .28	IN 3.85	AC-FT 238800			
WTR YR 1981 TOTAL	134441			MEAN 368	MAX 8340	MIN 28	CFSM .32	IN 4.30	AC-FT 266700			

ARKANSAS RIVER BASIN

07186000 SPRING RIVER NEAR WACO, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD:--November 1965 to July 1975, July 1977 to Sept. 1978. Oct. 1980 to Sept. 1981; (Discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT											
15...	1028	29001	36	378	8.0	18.0	6.4	67	10	10	170
NOV											
18...	1028	29001	55	373	8.2	9.0	11.8	102	6	22	--
DEC											
10...	1028	29001	84	544	7.7	7.0	8.2	68	14	410	--
JAN											
14...	1028	29001	50	406	8.3	3.0	12.0	89	4	2	180
FEB											
18...	1028	29001	53	426	8.3	7.0	11.8	98	6	6	--
MAR											
18...	1028	29001	62	410	8.3	11.0	9.2	84	13	13	--
APR											
15...	1028	29001	63	379	8.2	18.0	7.4	77	14	50	170
MAY											
13...	1028	29001	125	362	8.0	17.0	6.2	64	4	590	--
JUN											
17...	1028	29001	2930	188	7.7	21.0	6.2	69	38	4300	--
JUL											
14...	1028	29001	253	454	8.2	27.5	7.4	92	<5	180	150
AUG											
12...	1028	29001	155	319	8.2	25.0	8.8	106	<5	100	--
SEP											
10...	1028	29001	131	287	8.0	22.5	10.6	120	12	49	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CO3) (00445)	ALKA- LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT											
15...	8	61	4.9	11	2.1	200	0	164	3.2	<10	14
NOV											
18...	--	--	--	--	--	208	0	171	2.1	--	--
DEC											
10...	--	--	--	--	--	160	0	131	5.1	--	--
JAN											
14...	27	62	6.3	12	2.2	188	0	154	1.5	32	2.3
FEB											
18...	--	--	--	--	--	184	0	151	1.5	--	--
MAR											
18...	--	--	--	--	--	180	0	148	1.4	--	--
APR											
15...	14	59	5.0	13	2.7	188	0	154	1.9	24	17
MAY											
13...	--	--	--	--	--	156	0	128	2.5	--	--
JUN											
17...	--	--	--	--	--	72	0	59	2.3	--	--
JUL											
14...	23	52	4.3	12	2.9	152	0	125	1.5	12	8.8
AUG											
12...	--	--	--	--	--	148	0	121	1.5	--	--
SEP											
10...	--	--	--	--	--	120	0	98	1.9	--	--

ARKANSAS RIVER BASIN

07186000 SPRING RIVER NEAR WACO, MO--continued

DATE	FLUORIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT 15...	.1	239	18	1.2	.020	.260	2	2	2	<1
NOV 18...	--	--	2	1.3	.010	.300	--	--	--	--
DEC 10...	--	--	8	1.1	.100	.280	--	--	--	--
JAN 14...	<.0	238	1	1.6	.020	.220	<2	<2	<5	<5
FEB 18...	--	--	--	1.5	.010	.250	--	--	--	--
MAR 18...	--	--	8	.52	.020	.250	--	--	--	--
APR 15...	<.0	234	8	.36	.010	.320	<2	<2	<5	<5
MAY 13...	--	--	31	1.9	.050	.240	--	--	--	--
JUN 17...	--	--	280	1.2	.010	.570	--	--	--	--
JUL 14...	<.1	--	10	1.9	.040	.020	<2	3	5	8
AUG 12...	--	--	7	2.1	.010	.040	--	--	--	--
SEP 10...	--	--	17	1.4	.040	.060	--	--	--	--

[illegible]

ARKANSAS RIVER BASIN

07186400 CENTER CREEK NEAR CARTERVILLE, MO

LOCATION.--Lat 37°08'26", long 94°22'57", in NW¼NW¼NW¼ sec.24, T.28 N., R.32 W., Jasper County, Hydrologic Unit 11070207, at downstream side of right pier of bridge on State Highway HH, 1.5 mi (2.4 km) downstream from Grove Creek, 3 mi (4.8 km) east of Carterville, and 17 mi (27.4 km) above mouth.

DRAINAGE AREA.--232 mi² (601 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 913.21 ft (278.346 m) National Geodetic Vertical Datum of 1929. (levels by Missouri State Highway Commission).

REMARKS.--Records fair except those of no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years, 183 ft³/s (5.183 m³/s), 10.71 in/yr (272 mm/yr), 132,600 acre-ft/yr (163 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,300 ft³/s (1,030 m³/s) July 3, 1976, gage height, 17.68 ft (5.388 m); minimum, 9.4 ft³/s (0.266 m³/s) Aug. 20, 21, 1972; minimum gage height, 0.28 ft (0.085 m) Oct. 20, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 2, 1959, reached a stage of 18.57 ft (5.660 m), from floodmark.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,540 ft³/s (43.61 m³/s) Apr. 20, gage height, 5.06 ft (1.542 m), no peak above base of 2,500 ft³/s (71 m³/s); minimum, 14 ft³/s (0.40 m³/s) Oct. 3-12, gage height, 0.30 ft (0.091 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	43	26	31	26	36	33	56	33	143	45	41
2	15	39	25	30	24	34	33	52	33	134	42	39
3	14	37	24	29	22	34	32	48	33	123	56	35
4	14	34	24	28	22	40	33	48	33	118	46	33
5	14	33	24	28	22	38	32	47	34	113	44	30
6	14	33	25	28	21	37	30	44	36	103	46	30
7	14	32	24	28	21	37	29	42	33	96	74	37
8	14	31	56	29	20	39	29	42	30	89	54	35
9	14	31	61	30	20	37	29	43	28	83	48	30
10	14	31	54	30	27	35	29	51	29	77	44	28
11	14	30	53	29	80	33	26	42	300	74	44	27
12	14	30	49	29	72	32	24	37	200	68	41	27
13	15	30	46	28	48	32	27	220	170	64	38	27
14	15	30	43	27	36	32	38	200	140	61	38	27
15	50	32	40	27	30	35	34	140	150	58	33	27
16	260	31	40	29	26	36	29	130	164	56	37	26
17	108	33	36	30	25	34	29	120	151	71	89	26
18	121	33	34	29	24	37	27	300	134	58	89	26
19	79	32	32	29	24	36	32	150	119	56	71	26
20	62	29	30	28	22	34	302	100	156	54	60	26
21	53	29	30	26	24	34	310	84	141	51	52	25
22	49	28	29	25	38	34	131	70	146	53	46	25
23	44	32	29	23	44	33	113	64	182	47	43	25
24	45	30	32	22	46	32	98	60	214	45	39	24
25	41	29	31	22	46	31	90	52	196	42	38	24
26	39	27	31	21	43	31	83	40	173	38	53	25
27	56	28	31	21	41	32	74	37	160	36	47	25
28	61	28	33	20	40	31	68	36	143	42	37	24
29	53	28	32	20	---	35	63	35	140	46	33	24
30	50	26	31	20	---	34	60	34	190	42	30	24
31	45	---	31	22	---	30	---	33	---	50	29	---
TOTAL	1417	939	1086	818	934	1065	1967	2457	3691	2191	1486	848
MEAN	45.7	31.3	35.0	26.4	33.4	34.4	65.6	79.3	123	70.7	47.9	28.3
MAX	260	43	61	31	80	40	310	300	300	143	89	41
MIN	14	26	24	20	20	30	24	33	28	36	29	24
CFSM	.20	.14	.15	.11	.14	.15	.28	.34	.53	.31	.21	.12
IN.	.23	.15	.17	.13	.15	.17	.32	.39	.59	.35	.24	.14
AC-FT	2810	1860	2150	1620	1850	2110	3900	4870	7320	4350	2950	1680
CAL YR 1980	TOTAL	33837	MEAN 92.5	MAX 1260	MIN 14	CFSM .40	IN 5.43	AC-FT 67120				
WTR YR 1981	TOTAL	18899	MEAN 51.8	MAX 310	MIN 14	CFSM .22	IN 3.03	AC-FT 37490				

ARKANSAS RIVER BASIN

07186400 CENTER CREEK NEAR CARTERVILLE, MO.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Aug. 1962 to Sept. 1975, Oct. 1979 to current year.

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 15...	1028	29001	16	632	7.1	17.5	3.8	40	11	160	240
NOV 18...	1028	29001	33	552	8.0	8.5	9.6	82	7	18	--
DEC 10...	1028	29001	55	458	7.6	6.5	7.8	63	<1	390	--
JAN 14...	1028	29001	27	570	8.1	2.5	13.0	96	2	2	200
FEB 18...	1028	29001	24	550	7.9	7.0	9.8	81	<1	10	--
MAR 18...	1028	29001	38	460	7.7	11.0	9.0	82	2	40	--
APR 15...	1028	29001	35	500	7.7	18.0	7.6	79	15	110	190
MAY 13...	1028	29001	60	486	7.8	17.0	7.2	74	16	570	--
JUN 16...	1028	29001	224	347	7.8	23.0	6.2	71	31	5500	--
JUL 14...	1028	29001	62	418	8.0	28.0	7.4	94	<5	230	180
AUG 12...	1028	29001	40	466	7.5	23.0	5.6	64	<5	230	--
SEP 10...	1028	29001	30	511	7.5	20.5	7.4	82	13	190	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CO3) (00445)	ALKA- LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 15...	120	86	5.6	17	2.1	144	0	118	18	114	17
NOV 18...	--	--	--	--	--	172	0	141	2.8	--	--
DEC 10...	--	--	--	--	--	160	0	131	6.4	--	--
JAN 14...	60	72	5.1	23	2.0	172	0	141	2.2	81	16
FEB 18...	--	--	--	--	--	156	0	128	3.1	--	--
MAR 18...	--	--	--	--	--	140	0	115	4.5	--	--
APR 15...	64	69	4.0	20	2.7	152	0	125	4.9	70	14
MAY 13...	--	--	--	--	--	136	0	112	3.4	--	--
JUN 16...	--	--	--	--	--	132	0	108	3.3	--	--
JUL 14...	63	65	3.8	12	2.2	140	0	115	2.2	35	12
AUG 12...	--	--	--	--	--	148	0	121	7.5	--	--
SEP 10...	--	--	--	--	--	144	0	118	7.3	--	--

DATE	FLUORIDE, DIS-SOLVED (MG/L) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L) AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L) AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L) AS CD) (01025)	COPPER, TOTAL RECOV- ERABLE (UG/L) AS CU) (01042)	COPPER, DIS-SOLVED (UG/L) AS CU) (01040)
OCT 15...	.4	--	10	15	7.20	.230	<2	2	6	4
NOV 18...	--	--	2	16	9.90	.150	--	--	--	--
DEC 10...	--	--	3	11	4.80	.330	--	--	--	--
JAN 14...	.4	313	3	14	5.10	1.40	<2	<2	8	5
FEB 18...	--	--	3	13	8.60	.400	--	--	--	--
MAR 18...	--	--	4	11	7.60	.390	--	--	--	--
APR 15...	.7	306	10	11	6.00	.540	<2	<2	<5	<5
MAY 13...	--	--	18	11	5.80	.190	--	--	--	--
JUN 16...	--	--	3	6.0	1.70	.490	--	--	--	--
JUL 14...	.3	251	4	7.2	.860	<.020	--	2	--	<5
AUG 12...	--	--	10	8.4	3.00	.130	--	--	--	--
SEP 10...	--	--	10	8.2	6.00	.070	--	--	--	--

[illegible]

ARKANSAS RIVER BASIN
07186480 CENTER CREEK NEAR SMITHFIELD, MO.

WATER-QUALITY RECORDS

LOCATION.--Lat 37°09'20", long 94°36'10", NW¼ sec.14, T.28 N., R.34 W., Jasper County, Hydrologic Unit 11070207, at bridge on county road 1 mi (1.6 km) south of Smithfield.

PERIOD OF RECORD.--October 1968 to July 1975, July 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 15...	1028	29001	27	662	7.5	17.0	5.4	56	8	150	270
NOV 18...	1028	29001	45	615	8.0	8.0	11.4	96	7	76	--
DEC 10...	1028	29001	80	598	7.6	7.0	11.0	91	7	>600	--
JAN 14...	1028	29001	50	452	8.1	3.0	12.6	93	<1	4	200
FEB 18...	1028	29001	56	682	7.8	7.5	10.4	87	2	18	--
MAR 18...	1028	29001	62	560	7.8	10.5	9.4	84	11	51	--
APR 15...	1028	29001	62	529	8.6	18.0	10.2	106	22	71	230
MAY 13...	1028	29001	92	482	7.7	17.0	8.6	89	9	1400	--
JUN 17...	1028	29001	366	528	7.9	20.0	6.0	65	1	610	--
JUL 14...	1028	29001	75	410	8.1	28.5	7.6	97	6	53	200
AUG 12...	1028	29001	60	535	8.2	23.0	5.8	67	<5	47	--
SEP 10...	1028	29001	45	570	8.0	22.5	11.2	127	36	41	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CO3) (00445)	ALKA- LINITY FIELD (MG/L CACO3) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 15...	160	98	5.4	23	2.1	136	0	112	6.9	138	13
NOV 18...	--	--	--	--	--	148	0	121	2.4	--	--
DEC 10...	--	--	--	--	--	136	0	112	5.5	--	--
JAN 14...	70	72	5.2	23	2.1	160	0	131	2.0	81	23
FEB 18...	--	--	--	--	--	144	0	118	3.7	--	--
MAR 18...	--	--	--	--	--	136	0	112	3.4	--	--
APR 15...	120	84	5.0	20	2.1	124	8	115	.6	118	15
MAY 13...	--	--	--	--	--	132	0	108	4.2	--	--
JUN 17...	--	--	--	--	--	128	0	105	2.6	--	--
JUL 14...	89	75	4.0	10	2.2	140	0	115	1.8	65	9.9
AUG 12...	--	--	--	--	--	136	0	112	1.4	--	--
SEP 10...	--	--	--	--	--	136	0	112	2.2	--	--

ARKANSAS RIVER BASIN

07187000 SHOAL CREEK ABOVE JOPLIN, MO

LOCATION.--Lat 37°01'23", long 94°30'58", in SE¼NE¼NE¼ sec.34, T.27 N., R.33 W., Newton County, Hydrologic Unit 11070207, on right bank 250 ft (76 m) upstream from mouth of Spring Creek, 1,400 ft (427 m) downstream from bridge on State Highway 86, 0.5 mi (0.8 km) south of city limits of Joplin and 13.2 mi (21.2 km) above mouth.

DRAINAGE AREA.--427 mi² (1,106 km²).

PERIOD OF RECORD.--October 1941 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 886.87 ft (270.318 m) National Geodetic Vertical Datum of 1929. Prior to July 21, 1966, water-stage recorder at site 1.8 mi (2.9 km) upstream, at datum 15.5 ft (4.72 m) higher.

REMARKS.--Records good except during periods of no gage-height record which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--40 years, 390 ft³/s (11.04 m³/s), 12.40 in/yr (315 mm/yr), 282,600 acre-ft/yr (348 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,100 ft³/s (1,730 m³/s) May 18, 1943, gage height, 16.8 ft (5.12 m) former site and datum; minimum, 12 ft³/s (0.340 m³/s) Sept. 7, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,980 ft³/s (84.4 m³/s) June 11, gage height, 6.47 ft (1.972 m), no peak above base of 6,000 ft³/s (170 m³/s); minimum, 28 ft³/s (0.79 m³/s) July 27, minimum gage height, 2.23 ft (0.680 m) July 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	109	68	74	79	83	111	194	88	148	50	145
2	66	100	66	74	81	78	105	180	86	137	75	135
3	61	95	65	74	78	76	98	167	82	119	135	110
4	59	89	64	73	61	88	98	158	78	110	552	100
5	59	85	66	72	61	89	92	155	76	107	295	95
6	59	80	68	70	66	91	82	148	73	98	209	93
7	57	77	69	70	61	94	78	138	72	103	224	97
8	55	76	124	74	60	95	74	135	68	93	184	101
9	54	75	150	72	60	93	77	137	61	85	156	93
10	51	74	175	72	64	86	80	139	69	76	136	86
11	50	69	155	69	72	84	77	134	1520	70	123	83
12	51	70	143	67	105	81	72	116	614	66	112	81
13	53	69	130	68	110	77	69	152	403	60	105	79
14	53	72	119	70	115	74	87	269	316	55	94	76
15	167	72	112	71	120	83	85	273	292	51	86	72
16	1320	74	105	69	140	99	79	236	356	52	93	70
17	716	78	100	68	124	96	72	213	343	170	217	67
18	377	79	100	68	110	102	70	198	291	94	433	63
19	281	79	95	70	105	97	87	180	264	85	240	63
20	226	78	88	73	100	93	1010	161	241	67	198	63
21	195	74	85	79	94	93	1390	146	275	58	175	61
22	172	72	80	77	130	93	494	131	225	67	158	61
23	156	79	81	72	102	90	403	124	210	59	145	59
24	149	78	83	69	90	84	347	120	194	50	134	59
25	139	72	82	69	88	78	307	120	171	43	121	57
26	132	69	80	65	86	76	277	122	158	37	136	53
27	161	71	78	64	83	76	251	111	147	30	135	50
28	178	75	78	61	82	72	229	100	140	55	120	50
29	165	72	77	61	---	82	220	100	125	68	106	50
30	124	69	74	61	---	91	215	98	144	61	100	50
31	114	---	73	63	---	118	---	95	---	57	95	---
TOTAL	5569	2331	2933	2159	2527	2712	6736	4750	7180	2431	5142	2322
MEAN	180	77.7	94.6	69.6	90.3	87.5	225	153	239	78.4	166	77.4
MAX	1320	109	175	79	140	118	1390	273	1520	170	552	145
MIN	50	69	64	61	60	72	69	95	61	30	50	50
CFSM	.42	.18	.22	.16	.21	.21	.53	.36	.56	.18	.39	.18
IN.	.49	.20	.26	.19	.22	.24	.59	.41	.63	.21	.45	.20
AC-FT	11050	4620	5820	4280	5010	5380	13360	9420	14240	4820	10200	4610
CAL YR 1980	TOTAL	68278	MEAN 187	MAX 1320	MIN 42	CFSM .44	IN 5.95	AC-FT	135400			
WTR YR 1981	TOTAL	46792	MEAN 128	MAX 1520	MIN 30	CFSM .30	IN 4.08	AC-FT	92810			

ARKANSAS RIVER BASIN

07189000 ELK RIVER NEAR TIFF CITY, MO

LOCATION.--Lat 36°37'50", long 94°35'12", in NE¼ sec.22, T.22 N., R.34 W., McDonald County, Hydrologic Unit 11070208, on downstream side of second pier from right bank 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 mi² (2,258 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 927: 1940. WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 750.61 ft (228.786 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Sept. 6, 1960, to Aug. 25, 1961, at site 100 ft (30.5 m) downstream.

REMARKS.--Records good.

AVERAGE DISCHARGE.--42 years, 745 ft³/s (21.10 m³/s), 11.60 in/yr (295 mm/yr), 539,800 acre-ft/yr (666 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 137,000 ft³/s (3,880 m³/s) Apr. 19, 1941, gage height, 28.4 ft (8.66 m), from floodmark, from rating curve extended above 60,000 ft³/s (1,700 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 5.1 ft³/s (0.14 m³/s), Sept. 5, 6, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,980 ft³/s (56.1 m³/s) June 30, gage height, 6.56 ft (1.999 m), no peak above base of 9,000 ft³/s (255 m³/s); minimum daily, 40 ft³/s (1.13 m³/s) Oct. 9-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	87	78	76	71	145	284	302	531	1730	116	118
2	45	85	80	69	82	148	266	302	556	1040	119	115
3	45	82	80	65	87	151	248	278	511	712	165	111
4	43	80	78	65	82	168	228	258	438	559	254	105
5	42	76	76	67	82	190	213	240	386	481	309	99
6	42	76	78	69	85	200	199	219	356	421	270	95
7	43	74	78	69	82	200	186	199	364	368	256	96
8	42	71	115	69	80	200	174	188	327	346	258	98
9	40	69	148	69	80	197	168	179	295	321	246	94
10	40	69	156	67	85	194	161	175	277	288	217	90
11	40	69	159	65	136	181	102	174	279	262	196	86
12	40	71	153	63	131	168	140	168	447	240	189	82
13	40	69	148	63	115	161	140	335	432	216	183	81
14	40	69	142	59	112	155	139	1260	374	195	175	86
15	45	69	133	53	107	150	138	1360	349	171	160	89
16	457	69	120	53	104	152	138	910	428	152	147	87
17	471	74	120	51	104	150	133	689	467	132	189	82
18	253	87	120	59	102	145	130	577	499	139	364	78
19	175	92	117	63	99	140	142	499	646	155	316	75
20	123	82	117	63	99	138	168	437	618	149	276	72
21	99	85	115	67	97	135	208	381	545	136	245	66
22	92	85	104	74	107	135	245	337	478	129	214	64
23	82	80	97	71	109	135	270	315	427	124	188	64
24	82	78	89	67	109	132	275	305	374	115	169	60
25	80	78	87	63	112	132	267	298	329	105	155	60
26	80	78	87	61	115	131	253	339	297	97	162	58
27	97	76	85	61	117	131	234	353	277	91	156	56
28	104	76	85	65	123	128	280	337	256	97	151	55
29	102	78	85	65	---	142	290	354	234	98	144	54
30	97	78	82	65	---	194	292	344	801	113	135	53
31	89	---	82	67	---	261	---	387	---	122	124	---
TOTAL	3113	2312	3294	2003	2814	4989	6111	12499	12598	9304	6248	2429
MEAN	100	77.1	106	64.6	101	161	204	403	420	300	202	81.0
MAX	471	92	159	76	136	261	292	1360	801	1730	364	118
MIN	40	69	76	51	71	128	102	168	234	91	116	53
CFSM	.12	.09	.12	.07	.12	.19	.23	.46	.48	.34	.23	.09
IN.	.13	.10	.14	.09	.12	.21	.26	.53	.54	.40	.27	.10
AC-FT	6170	4590	6530	3970	5580	9900	12120	24790	24990	18450	12390	4820
CAL YR 1980 TOTAL	133119				4020	38	CFSM .42	IN 5.68	AC-FT 264000			
WTR YR 1981 TOTAL	67714				1730	40	CFSM .21	IN 2.89	AC-FT 134300			

ARKANSAS RIVER BASIN

07189000 ELK RIVER NEAR TIFF CITY, MO--continued

WATER-QUALITY RECORDS

DRAINAGE AREA.--872 mi² (2,258 km²).

PERIOD OF RECORD.--August 1962 to June 1963; November 1965 to July 1975; Oct. 1980 thru Sept. 1981. (Discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 14...	1028	29001	139	288	8.1	21.5	8.0	90	4	28	130
NOV 19...	1028	29001	220	283	8.3	7.0	11.0	91	<1	46	--
DEC 10...	1028	29001	269	290	8.0	9.5	11.4	99	2	92	--
JAN 14...	1028	29001	112	280	8.5	4.0	14.4	110	<1	2	130
FEB 18...	1028	29001	250	281	8.1	10.0	10.8	96	<1	2	--
MAR 18...	1028	29001	288	275	8.6	12.0	11.0	102	<1	3	--
APR 15...	1028	29001	282	265	8.1	17.0	7.6	78	10	42	130
MAY 13...	1028	29001	377	270	7.9	18.0	7.4	77	1	490	--
JUN 17...	1028	29001	653	240	8.5	24.0	7.2	85	<1	78	--
JUL 14...	1028	29001	321	292	8.5	30.5	8.0	105	12	41	160
AUG 12...	1028	29001	46	302	8.0	24.0	7.6	89	--	140	--
SEP 10...	1028	29001	220	300	7.8	22.0	11.0	125	<1	48	--

DATE	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE FET-FLD (MG/L AS HCO3) (00440)	CAR- BONATE FET-FLD (MG/L AS CO3) (00445)	ALKA- LINITY FIELD (MG/L AS CACO3) (00410)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 14...	9	46	3.0	5.4	2.1	144	0	118	1.8	<10	8.4
NOV 19...	--	--	--	--	--	162	0	133	1.3	--	--
DEC 10...	--	--	--	--	--	148	0	121	2.4	--	--
JAN 14...	8	48	3.2	7.0	1.6	120	16	125	.8	6.0	11
FEB 18...	--	--	--	--	--	140	0	115	1.8	--	--
MAR 18...	--	--	--	--	--	124	8	115	.6	--	--
APR 15...	17	48	3.0	5.0	2.0	140	0	115	1.8	8.0	9.1
MAY 13...	--	--	--	--	--	144	0	118	2.9	--	--
JUN 17...	--	--	--	--	--	144	4	125	.8	--	--
JUL 14...	28	58	3.6	7.7	2.0	144	8	131	.8	4.0	5.7
AUG 12...	--	--	--	--	--	156	0	128	2.5	--	--
SEP 10...	--	--	--	--	--	160	0	131	4.1	--	--

DATE	FLUORIDE, DIS- SOLVED (MG/L) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L) AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L) AS N) (00610)	PHOS- PHORUS, TOTAL (MG/L) AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L) AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L) AS CD) (01025)	COPPER, TOTAL RECOV- ERABLE (UG/L) AS CU) (01042)	COPPER, DIS- SOLVED (UG/L) AS CU) (01040)
OCT 14...	.1	167	6	.48	.010	.110	1	1	3	2
NOV 19...	--	--	2	.86	.010	.120	--	--	--	--
DEC 10...	--	--	--	.98	.080	.070	--	--	--	--
JAN 14...	<.1	163	3	1.3	.160	.060	<2	<2	<5	<5
FEB 18...	--	--	--	1.3	.080	.090	--	--	--	--
MAR 18...	--	--	3	1.0	.030	.060	--	--	--	--
APR 15...	<.1	159	4	.85	.010	.100	<2	<2	<5	<5
MAY 13...	--	--	6	.86	.040	.070	--	--	--	--
JUN 17...	--	--	13	.90	.020	.150	--	--	--	--
JUL 14...	<.1	172	4	.54	.040	.020	<2	<2	<50	<5
AUG 12...	--	--	8	.73	.010	.040	--	--	--	--
SEP 10...	--	--	6	.62	<.010	.060	--	--	--	--

[illegible]

DISCHARGE AT PARTIAL-RECORD STATIONS

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, water year, 1981.

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual Date	Maximum Gage height (feet)	Dis-charge (ft ³ /s)
Fox River basin							
05495100	Big Branch Tributary near Wayland	Lat 40°18'52", long 91°34'34", in NW¼SE¼ sec.29, T.64 N., R.6 W., Clark County, at culvert under U.S. Highway 61 and 5.6 mi (9.0 km) south of Wayland.	0.70 (1.81)	1955-65 1966-69f 1970-81	+	6.54	78
Fabius River basin							
05497500	Middle Fabius River near Baring	Lat 40°19'55", long 92°12'50", in NW¼NW¼ sec.26, T.64 N., R.12 W., Scotland County, at bridge on State Highway 15, 1 mi (1.6 km) downstream from confluence of North and South Forks of Middle Fabius River, and 6 mi (9.7 km) north of Baring.	185 (479)	1931-60† 1961-81	12-8-80	22.93	7,100
North River basin							
05500500	North River at Bethel	Lat 39°52'29", long 92°01'26", in NE¼NW¼ sec. 33, R.59 N., R.10 W., Shelby County, on left downstream abutment of State Highway 15 bridge at Bethel.	58 (150)	1937-73† 1975-81	+	+	<40
Salt River basin							
05503000	Oak Dale Branch near Emden	Lat 39°45'30", long 91°55'08", in NW¼NW¼ sec. 9, T.57 N., R.9 W., Shelby County, 25' (7.62 m) upstream from highway culvert 4 miles (6.4 km) southwest of Emden.	2.64 (6.84)	1956-75† 1976-81	12-8-80	1.24	80
Platte River (Iowa-Missouri) basin							
06818900	Platte River at Ravenwood	Lat 40°20'24", long 94°41'09", in SE¼SE¼ sec.14, T.64 N., R.34 W., Nodaway County, on downstream side of left pier of U.S. Highway 136 bridge, 0.8 mile (1.3 km) west of Ravenwood.	486 (1259)	1922-71† 1972-81	+	+	<1,000
06821130	First Creek near Nashua	Lat 39°17'20", long 94°35'05", in NW¼SW¼ sec.26, T.52 N., R.33 W., Clay County, at culvert on farm road 150 ft (45.7 m) east of U.S. Highway 169, and 1 mi (1.6 km) south of Nashua.	0.55 (1.42)	1959-65 1966-74f 1975-81	5-18-81	10.78	150
06896000	Wakenda Creek at Carrollton	Lat 39°20'50", long 93°29'45", in NE¼SE¼ sec.5, T.52 N., R.23 W., Carroll County, on left bank near upstream side of U.S. Highway 65 bridge in Carrollton.	248 (642)	1948-70† 1972-81	5-18-81	25.09	10,100
Grand River basin							
06897700	Grand River Tributary near Utica	Lat 39°44'22", long 93°38'18", in SW¼NE¼ sec. 19, T.57 N., R.24 W., Livingston County, at culvert under U.S. Highway 36, 0.2 mi (0.3 km) west of Utica.	1.44 (3.73)	1958 1960-81	7-23-81	10.76	440
Chariton River basin							
06904300	Shoal Creek near Hartford	Lat 40°29'00", long 92°46'20", in NE¼NE¼ sec.35, T.66 N., R.17 W., Putnam County, at bridge on U.S. Highway 136, 3 mi (4.8 km) north-east of Hartford.	155 (401)	1963-81	4-14-81	19.48	1,400

DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum Date	maximum Gage height (feet)	Dis-charge (ft ³ /s)
Chariton River basin--Continued							
06905000	Chariton River at Elmer	Lat 39°57'08", long 92°39'54", in E½ sec.3, T.59 N., R.16 W., Macon County, at bridge on State Highway J, 0.8 mi (1.3 km) southwest of Elmer.	1,660 (4,300)	1921-30† 1961-81	7-23-81	25.73	19,000
Lamine River basin							
06907000	Lamine River at Clifton City	Lat 38°45'26", long 93°01'20", in NW¼ sec.16, T.46 N., R.19 W., Cooper County, on downstream side of highway bridge, 0.8 mi (1.28 km) east of Clifton City.	598 (1549)	1922-71† 1972-81	6-25-81	27.52	22,200
06908500	Shiloh Branch near Marshall	Lat 39°07'00", long 93°05'50", in NW¼ sec.15, T.50 N., R.20 W., Saline County, at culvert on State Highway 41, in front of Shiloh Church, 5.5 mi (8.8 km) east of Marshall.	2.87 (7.43)	1952-65 1981†	+	+	<100
Bonne Femme Creek basin							
06909400	Cottonwood Creek Tributary at Estill	Lat 39°02'55", long 92°44'38", in NW¼SW¼NE¼ sec.17, T.49 N., R.16 W., Howard County, at culvert under State Highway 5, 0.2 mi (0.03 km) north of Estill and 2 mi (3.2 km) north of New Franklin.	0.30 (0.78)	1958-81	+	+	<20
Moniteau Creek basin							
06909500	Moniteau Creek near Fayette	Lat 39°07'15", long 92°33'40", in SE¼SE¼ sec.14, T.50 N., R.15 W., Howard County, at "Buoy" bridge, 1 mi (1.6 km) downstream from Hungry Mother Creek, 7 mi (11.2 km) east of Fayette and 15 mi (24 km) upstream from mouth.	81 (210)	1948-60 1962-69† 1970-81	+	+	<900
Moreau River basin							
06910500	Moreau River near Jefferson City	Lat 38°31'44", long 92°11'31", in SE¼NW¼SE¼ sec.25, T.44 N., R.12 W., Cole County, on downstream side of bridge on Tanner Bridge Road, 3 mi (4.8 km) south of Jefferson City.	561 (1453)	1947-74† 1975-81	7-19-81	20.57	8,570
Osage River basin							
06918750	Franca Branch near Brighton	Lat 37°29'57", long 93°21'00", in SE¼NW¼SE¼ sec.16, T.32 N., R.22 W., Polk County, at culvert under State Highway 13, 3 mi (4.9 km) north of Brighton, and 8.7 mi (14.0 km) southeast of Bolivar.	0.59 (3.96)	1955-81	+	+	<30
06919200	Sac River Tributary near Caplinger Mills	Lat 37°48'22", long 93°51'00", in NE¼NE¼ sec.13, T.35 N., R.27 W., Cedar County, at culvert under State Highway 39, 6.2 mi (10 km) south of junction of U.S. Highway 54 and State Highway 39, 2.5 mi (4.0 km) west of Caplinger Mills and 10.5 mi (16.9 km) southeast of Eldorado Springs.	0.14 (0.36)	1955-62 1963-81	+	+	<20
06925200	Starks Creek at Preston	Lat 37°56'27", long 93°11'48", in SW¼NW¼ sec.24, T.37 N., R.21 W., Hickory County, attached to right downstream wingwall of U.S. Highway 54 bridge, 0.6 mi (1.0 km) east of Preston.	4.18 (10.83)	1956-76† 1977-81	6-19-81	7.08	560

DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual Date	Maximum Gage height (feet)	Dis- charge (ft ³ /s)
Osage River basin--Continued							
06927000	Maries River at Westphalia	Lat 38°25'55", long 91°59'23", in NE¼ sec.35, T.43 N., R.10 W., Osage County, at bridge on U.S. Highway 63, 0.8 mi (1.3 km) southeast of Westphalia, 1.2 mi (1.9 km) downstream from Little Maries Creek, and at mile 9.9 (15.8 km).	257 (666)	1947-70† 1971-81	7-23-81	16.75	17,100
Gasconade River basin							
06927600	Wheeler Branch near Mountain Grove	Lat 37°06'52", long 92°16'37", in SW¼NE¼ sec.17, T.28 N., R.12 W., Wright County, on State Highway D 0.8 mi (1.3 km) southwest of Mountain Grove.	1.34 (3.47)	1955-81	+	+	<30
06928000	Gasconade River near Hazlegreen	Lat 37°45'33", long 92°27'06", in SE¼SE¼ sec. 15, T.35 N., R.14 W., Laclede County, at bridge on South Access road, 400 ft (122 m) upstream from east bound lane of Interstate 44, 1.5 mi (2.4 km) west of Hazelgreen.	1250 (3240)	1929-71† 1973-81	6-20-81	11.92	10,000
Meramec River basin							
07011200	Love Creek near Salem	Lat 37°38'10", long 91°33'35", in W¼NE¼ sec.23, T.34 N., R.6 W., Dent County, at culvert under State Highways 32 and 72, 0.5 mi (0.8 km) west of Salem.	0.89 (2.13)	1955-59 1960-63f 1964-81	+	+	<40
07011600	Love Branch at Rolla	Lat 37°56'23", long 91°46'11", in NE¼NE¼SE¼ sec.11, T.37 N., R.8 W., Phelps County, at culvert under State Highway 72, 0.5 mi (0.8 km) from junction U.S. 63 & 72, in Rolla.	1.72 (4.45)	1978-81	6-21-81	3.79	1,090
07015800	Langenberg Branch near Rosebud	Lat 38°23'03", long 91°25'41", in SE¼NE¼ sec.13, T.42 N., R.5 W., Gasconade County, at culvert under State Highway 28, 1.7 mi west of Rosebud.	0.64 (1.66)	1960-64 1966-70f 1971-81	6-21-81	10.51	290
07017500	Dry Branch near Bonne Terre	Lat 37°55'46", long 90°27'40", at west-central edge of Survey 3062, T.37 N., R.5 E., St. Francois County, on bridge on State Highway K, 4.5 mi (7.2 km) east of Bonne Terre.	3.35 (8.68)	1956-75† 1976-81	2-12-81	2.44	205
07017700	Fountain Farm Branch near Potosi	Lat 37°58'20", long 90°43'40", in SE¼NE¼ sec.32, T.38 N., R.3 E., Washington County, at culvert under State Highway E, about 4 mi (6.4 km) northeast of Potosi.	2.16 (5.59)	1957-81	5-18-81	12.09	260
St. Francis River basin							
07035500	Barnes Creek near Fredericktown	Lat 37°34'20", long 90°23'00", in SW¼SE¼ sec.4, T.33 N., R.6 E., Madison County, on Highway 72 bridge, 5.3 mi (8.5 km) west of Fredericktown.	4.03 (10.44)	1956-75† 1976-81	5-18-81	6.58	620
White River basin							
07050800	Maple Grove Branch near Ozark	Lat 37°04'20", long 93°13'05", in SW¼NE¼ sec.3, T.27 N., R.21 W., Christian County, at culvert under State Highway NN, 3.4 mi (5.5 km) north of Ozark.	0.64 (1.66)	1967-65 1966-71f 1972-81	+	+	<60
07052050	North Fork Wilsons Creek at Springfield	Lat 37°12'19", long 93°20'52", in SE¼SE¼NE¼ sec.20, T.29 N., R.22 W., Greene County, on culvert wingwall on State Highway 13 & U.S. Highway 160 at Springfield.	5.12 (13.26)	1973-81	+	+	+
07068200	North Prong Little Black River at Hunter	Lat 36°53'25", long 90°50'30", in NE¼SE¼ sec.21, T.26 N., R.2 E., Carter County, at culvert under State Highway 21, at Hunter.	1.23 (3.18)	1958-64 1966-71f 1972-81	+	+	<10

+ Not determined.

† Operated as a continuous-record gaging station.

f Discharge measurements, daily gage-height, and rainfall records available.

g Figures of drainage area in parantheses are in square kilometers (km²).

< Less than.

Measurements of streamflow at low-flow partial-record stations are given in the following table. The "Period of Record" column shows the water years in which measurements were made at the station. The measurements were made during periods when streamflow is derived primarily from ground-water storage. The purpose of the measurements is to provide a relatively inexpensive means of defining, by regression analysis, some low-flow frequency characteristics at sites where continuous streamflow records have not been collected.

Discharge measurements made at low-flow partial-record stations during water year 1981

Station Number	Station Name	Location	Drainage area (square miles)	Period of Record	Measurements Date	Discharge (ft ³ /s)
OSAGE RIVER BASIN						
06916670	Miami Creek near Butler	Lat 40°15'30", long 94°30'59", on line between secs. 28 and 29, T.39 N., R.31 W., at bridge on U.S. Highway 71, 3 mi (4.8 km) north of Rich Hill, Bates County.	--	1943, 1945, 1947, 1949, 1954-55, 1962-64, 1981	10-21-80	0
06917030	Little Osage River at Stotesbury	Lat 37°58'28", long 94°33'45", in NE¼ sec. 21, T.37 N., R.33 W., at bridge on County Highway V, ½ mi (0.8 km) north of Stotesbury, Vernon County.	427	1929-32, 1960, 1962-64, 1967-68, 1981	10-22-80	0
06917060	Little Osage River at Horton	Lat 37°59'38", long 94°22'05", in NW¼ sec. 17, T.37 N., R.31 W., at bridge on U.S. Highway 71, 1 mi (1.6 km) north of Horton, Vernon County.	--	1960-1965, 1967, 1981	10-21-80	0.20
06918060	Marmaton River at Nevada	Lat 37°54'32", long 94°22'25", in NW¼ sec. 17, T.36 N., R.31 W., at Katon Bridge on County Highway, 4 mi (6.4 km) north of Nevada, Vernon County.	--	1962-65, 1967, 1970, 1981	10-21-80	5.85
MERAMEC RIVER BASIN						
07014800	Indian Creek near St. Clair	Lat 38°16'09", long 90°56'40", in NW¼ sec. 29, T.41 N., R.1 E., at bridge on County Highway K, 5.5 mi (8.8 km) southwest of St. Clair, Franklin County.	--	1967, 1969-71, 1981	10-7-80	19.4
07017650	Fourche a Renault Creek near Potosi	Lat 38°00'44", long 90°52'36", on line between secs. 13 and 24, T.38 N., R.1 E., at bridge on State Highway 185, 7 mi (11.3 km) northwest of Potosi, Washington County.	--	1971, 1981	10-8-80	4.68
07017900	Old Mines Creek near Potosi	Lat 38°04'40", long 90°44'20", in NE¼ Survey 3039, T.39 N., R.3 E., at bridge on State Highway 47, 7 mi (11.3 km) north of Potosi, Washington County.	--	1961-65, 1967, 1969, 1971, 1981	10-8-80	2.50
WHITE RIVER BASIN						
07050540	James River near Northview	Lat 37°15'40", long 93°00'15", in N¼ sec. 3, T.29 N., R.19 W., at bridge on County Highway B, 1.5 mi (2.4 km) south of Northview, Webster County.	--	1968-70, 1972, 1981	10-1-80	0.20
07050560	Panther Creek near Northview	Lat 37°12'59", long 93°02'37", in NW¼ sec. 17, T.29 N., R.19 W., at ford on County Highway B, 5.5 mi (8.8 km) southwest of Northview, Webster County.	--	1972, 1981	10-1-80	0
07052260	Finley Creek near Linden	Lat 37°02'36", long 93°05'43", in N¼ sec. 14, T.27 N., R.20 W., at bridge on County road, 2.5 mi (4.0 km) east of Linden, Christian County.	--	1969-70, 1972, 1981	10-1-80	2.67
07052360	Crane Creek near Galena	Lat 36°51'18", long 93°27'12", in SE¼ sec. 21, T.25 N., R.25 W., at bridge on County Highway AA, 4 mi (6.4 km) north of Galena, Stone County.	--	1968-70, 1972, 1981	10-1-80	23.1
07052900	Flat Creek near Cape Fair	Lat 36°45'30", long 93°33'38", in E¼ sec. 30, T.24 N., R.24 W., at bridge on county road, 3.5 mi (5.6 km) northwest of Cape Fair, Stone County.	--	1969-70, 1972, 1974, 1981	10-1-80	25.1
07053850	Swan Creek at Garrison	Lat 36°50'13", long 93°01'01", on line between secs. 27 and 28, T.25 N., R.19 W., at bridge on State Highway 125 at Garrison, Christian County.	--	1972, 1981	10-1-80	0

LOW-FLOW PARTIAL-RECORD STATIONS

Discharge measurements made at low-flow partial-record stations during water year 1980--continued

Station Number	Station Name	Location	Drainage area (square miles)	Period of Record	Measurements	
					Date	Discharge (ft ³ /s)
WHITE RIVER BASIN--continued						
07054040	Beaver Creek near Bradleyville	Lat 36°47'50", long 92°49'55", in W½ sec. 4, T.24 N., R.17 W., at bridge on State Highway 76, 4.5 mi (7.2 km) northeast of Bradleyville, Taney County.	--	1964-67, 1969-70, 1972, 1981	10-1-80	20.8
ARKANSAS RIVER BASIN						
07188650	Big Sugar Creek at Powell	Lat 36°37'15", long 94°10'48", in N½ sec. 21, T.22 N., R.30 W., at bridge on County Highway E at Powell, McDonald County.	--	1964-65, 1969-70, 1981	10-2-80	3.28
07188660	Mikes Creek at Powell	Lat 36°37'35", long 94°10'55", in S½ sec. 16, T.22 N., R.30 W., at bridge on County Highway E at Powell, McDonald County.	--	1972, 1981	10-2-80	1.46
07188840	Little Sugar Creek at Pineville	Lat 30°35'01", long 94°22'25", on line between secs. 2, 3, 34 and 35, T.21 N. and 22 N., R.32 W., at bridge on County Highway K at Pineville, McDonald County.	--	1972, 1981	10-2-80	11.6
07188860	Indian Creek at McNatt	Lat 36°43'55", long 94°18'43", in SE¼ sec. 7, T.23 N., R.31 W., at bridge on County Highway C at McNatt, McDonald County.	--	1968-70, 1972, 1981	10-2-80	16.5
07189090	Buffalo Creek near Tiff City	Lat 36°43'19", long 94°33'59", in SE¼ sec. 14, T.23 N., R.34 W., at ford on county road, 4.5 mi (7.2 km) northeast of Tiff City, McDonald County.	--	1969-70, 1972, 1981	10-2-80	3.49
07189100	Buffalo Creek at Tiff City	Lat 36°40'15", long 94°36'14", in SE¼ sec. 4, T.22 N., R.34 W., at bridge on State Highway 76, 0.5 mi (0.8 km) east of Tiff City, McDonald County.	--	1954, 1962-65, 1967-69, 1981	10-2-80	0

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

Water-quality partial-record stations are particular sites where chemical-quality, biological and or sediment data are collected systematically over a period of years for use in hydrologic analysis. The data are collected usually less than quarterly.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	BICAR- BONATE FET-FLD (MG/L AS HCU3) (00440)	CAR- BONATE FET-FLD (MG/L AS CO3) (00445)
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07064400 - MONTAUK SPRINGS AT MONTAUK, MO (LAT 37 27 36 LONG 091 40 59)

JUN , 1981										
09...	64	228	7.5	14.0	8.4	81	46	140	130	0
SEP										
21...	46	297	7.6	14.0	7.6	73	80	42	190	0

07064440 - CURRENT RIVER BELOW MONTAUK STATE PARK (LAT 37 27 01 LONG 091 29 41)

JUN , 1981										
09...	75	236	8.1	18.5	11.4	120	50	140	140	0
SEP										
21...	52	293	8.1	13.5	9.3	89	>1200	27	190	0

07064530 - WELCH SPRING NEAR AKERS MO (LAT 37 23 38 LONG 091 34 25)

JUN , 1981										
11...	144	254	7.5	14.0	9.2	88	56	260	160	0
SEP										
21...	111	320	7.5	14.0	8.5	82	84	110	210	0

07064555 - PULLTITE SPRING NEAR ROUND SPRING, MO (LAT 37 20 03 LONG 091 29 24)

JUN , 1981										
11...	98	224	7.6	14.0	8.8	85	40	350	130	0
SEP										
21...	9.8	306	7.5	14.0	8.2	79	32	39	200	0

07065000 - ROUND SPRING AT ROUND SPRING MO (LAT 37 16 57 LONG 091 24 27)

JUN , 1981										
09...	34	224	7.5	14.0	9.2	88	10	54	130	0
SEP										
23...	20	328	7.6	14.0	8.6	83	84	30	220	0

07065500 - ALLEY SPRING AT ALLEY MO (LAT 37 09 14 LONG 091 26 29)

JUN , 1981										
10...	137	208	7.4	14.0	9.2	88	18	25	120	0
SEP										
22...	82	295	7.7	14.0	8.2	79	88	54	190	0

07066110 - JACKS FORK ABOVE TWO RIVERS (LAT 37 10 53 LONG 091 17 36)

JUN , 1981										
10...	395	294	8.1	21.0	8.3	92	88	120	180	0
SEP										
22...	127	330	8.3	19.0	9.3	99	160	18	220	0

07066510 - CURRENT RIVER ABOVE POWDER MILL (LAT 37 10 32 LONG 091 12 48)

JUN , 1981										
10...	1190	282	8.2	22.5	8.1	91	42	66	170	0
SEP										
22...	462	322	8.3	18.0	8.6	90	240	16	220	0

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (UMHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	BICAR- BONATE FET-FLD AS HC03) (00440)	CAR- BONATE FET-FLD (MG/L AS CO3) (00445)
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07066550 - BLUE SPRING NEAR EMINENCE, MO. (LAT 37 09 58 LONG 091 09 47)

JUN , 1981										
10...	114	202	7.4	14.0	9.5	91	30	30	100	0
SEP										
22...	116	342	7.6	14.0	8.4	81	200	12	170	0

07067500 - BIG SPRING NEAR VAN BUREN MO (LAT 36 57 05 LONG 090 59 36)

JUN , 1981										
11...	385	246	7.4	14.0	9.5	91	24	66	140	0
SEP										
23...	330	335	7.5	14.5	8.5	83	32	17	230	0

07067800 - CURRENT RIVER BELOW HAWES CAMPGROUND (LAT 36 49 08 LONG 090 56 48)

JUN , 1981										
11...	1860	272	8.2	20.5	9.2	102	6	20	170	0
SEP										
23...	1050	328	8.1	17.5	9.2	96	230	12	220	0

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
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07064400 - MONTAUK SPRINGS AT MONTAUK, MO (LAT 37 27 36 LONG 091 40 59)

JUN , 1981									
09...	.70	.030	.85	1.6	.020	0	9	0	20
SEP									
21...	.71	.090	.46	1.3	.010	0	49	0	30

07064440 - CURRENT RIVER BELOW MONTAUK STATE PARK (LAT 37 27 01 LONG 091 29 41)

JUN , 1981									
09...	.61	.080	1.2	1.9	.090	0	7	0	30
SEP									
21...	.63	.000	.47	1.1	.030	0	13	0	10

07064530 - WELCH SPRING NEAR AKERS MO (LAT 37 23 38 LONG 091 34 25)

JUN , 1981									
11...	.84	.010	1.3	2.1	.190	0	9	0	10
SEP									
21...	.79	.090	.20	1.1	.020	0	8	0	20

07064555 - PULLTITE SPRING NEAR ROUND SPRING, MO (LAT 37 20 03 LONG 091 29 24)

JUN , 1981									
11...	.00	.010	.99	1.0	.020	0	9	0	10
SEP									
21...	.51	.100	--	--	.020	0	12	0	20

07065000 - ROUND SPRING AT ROUND SPRING MO (LAT 37 16 57 LONG 091 24 27)

JUN , 1981									
09...	1.7	.000	.33	2.0	.030	0	8	0	10
SEP									
23...	.37	.090	.20	.68	.010	0	9	0	20

07065500 - ALLEY SPRING AT ALLEY MO (LAT 37 09 14 LONG 091 26 29)

JUN , 1981									
10...	1.1	.000	.92	2.0	.020	1	5	0	10
SEP									
22...	.60	.090	.33	1.0	.010	0	8	0	20

07066110 - JACKS FORK ABOVE TWO RIVERS (LAT 37 10 53 LONG 091 17 36)

JUN , 1981									
10...	.79	.010	.92	1.7	.010	1	7	0	10
SEP									
22...	.31	.100	.17	.60	.020	0	9	1	10

07066510 - CURRENT RIVER ABOVE POWDER MILL (LAT 37 10 32 LONG 091 12 48)

JUN , 1981									
10...	.54	.050	.78	1.4	.010	0	7	0	20
SEP									
22...	.28	.100	.19	.59	.010	0	9	0	10

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)
07066550 - BLUE SPRING NEAR EMINENCE, MO. (LAT 37 09 58 LONG 091 09 47)									
JUN , 1981									
10...	.00	.010	1.1	1.1	.010	0	7	0	10
SEP									
22...	--	.090	.33	1.1	<.010	0	7	1	40
07067500 - BIG SPRING NEAR VAN BUREN MO (LAT 36 57 05 LONG 090 59 36)									
JUN , 1981									
11...	.42	.010	.96	1.4	.140	1	7	0	10
SEP									
23...	.37	.090	.13	.61	.020	0	7	0	20
07067800 - CURRENT RIVER BELOW HAWES CAMPGROUND (LAT 36 49 08 LONG 090 56 48)									
JUN , 1981									
11...	1.1	.020	.97	2.1	.020	0	3	0	10
SEP									
23...	.26	.100	--	--	.010	0	7	0	30

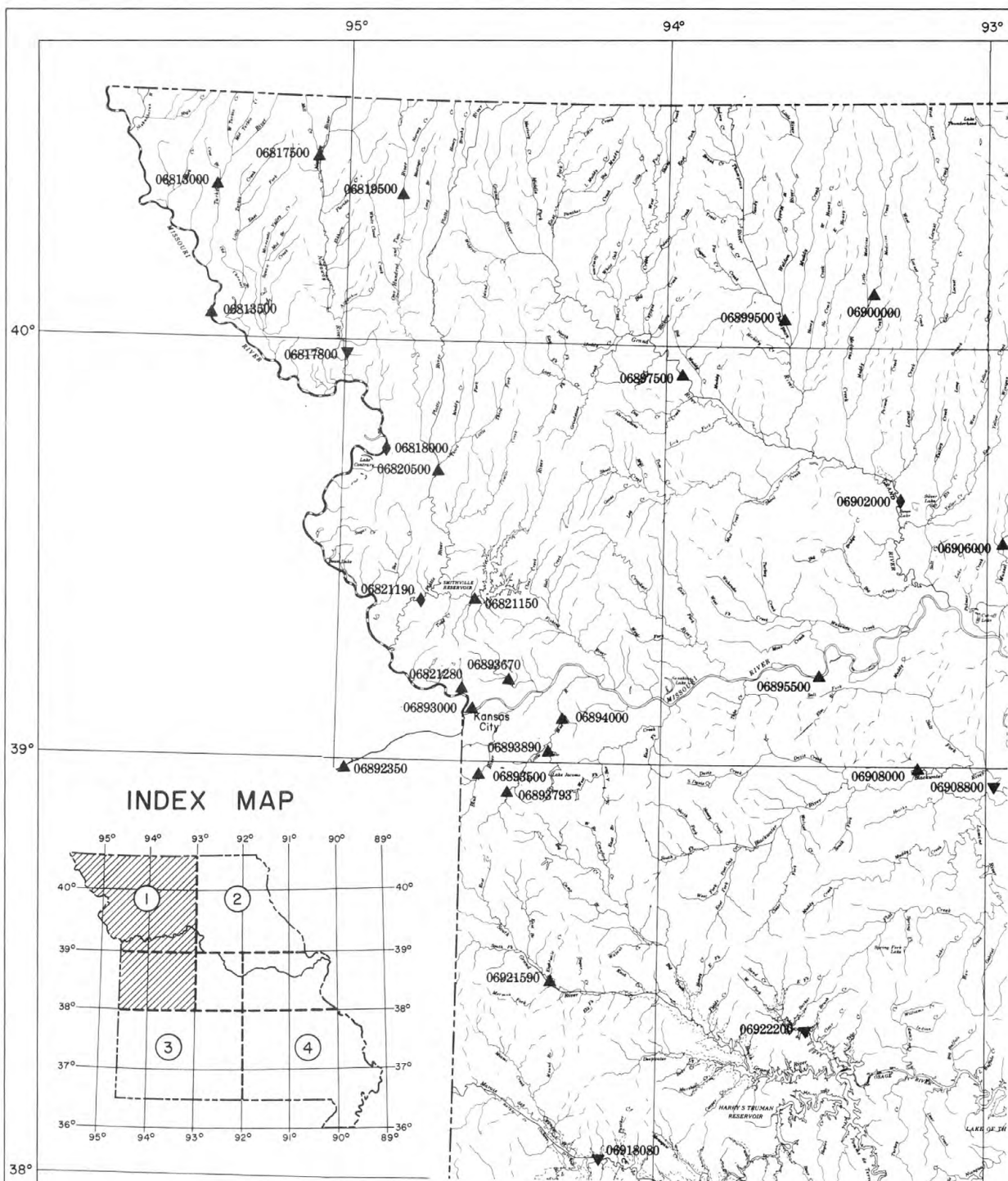
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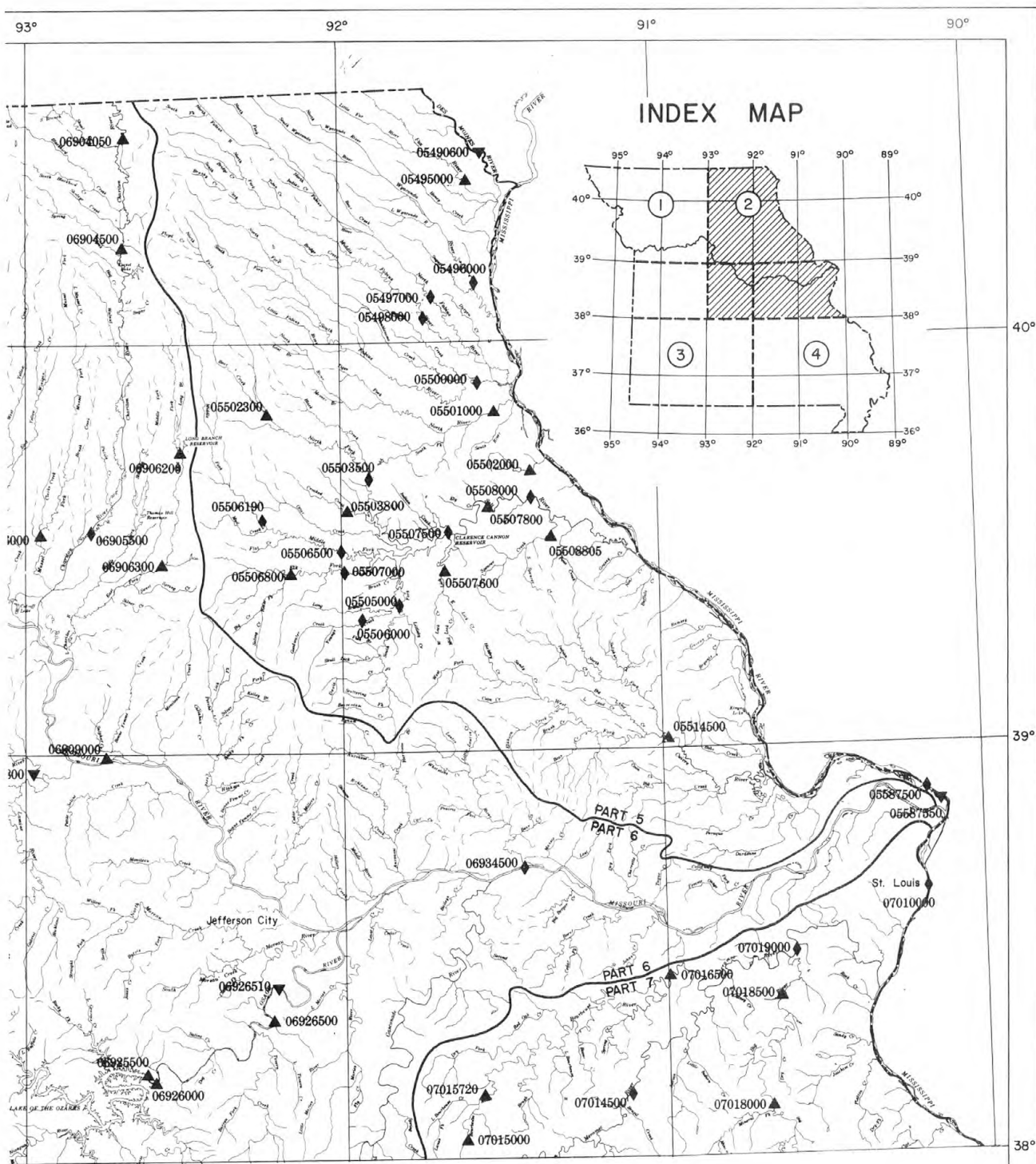
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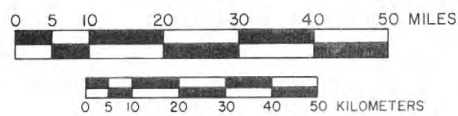
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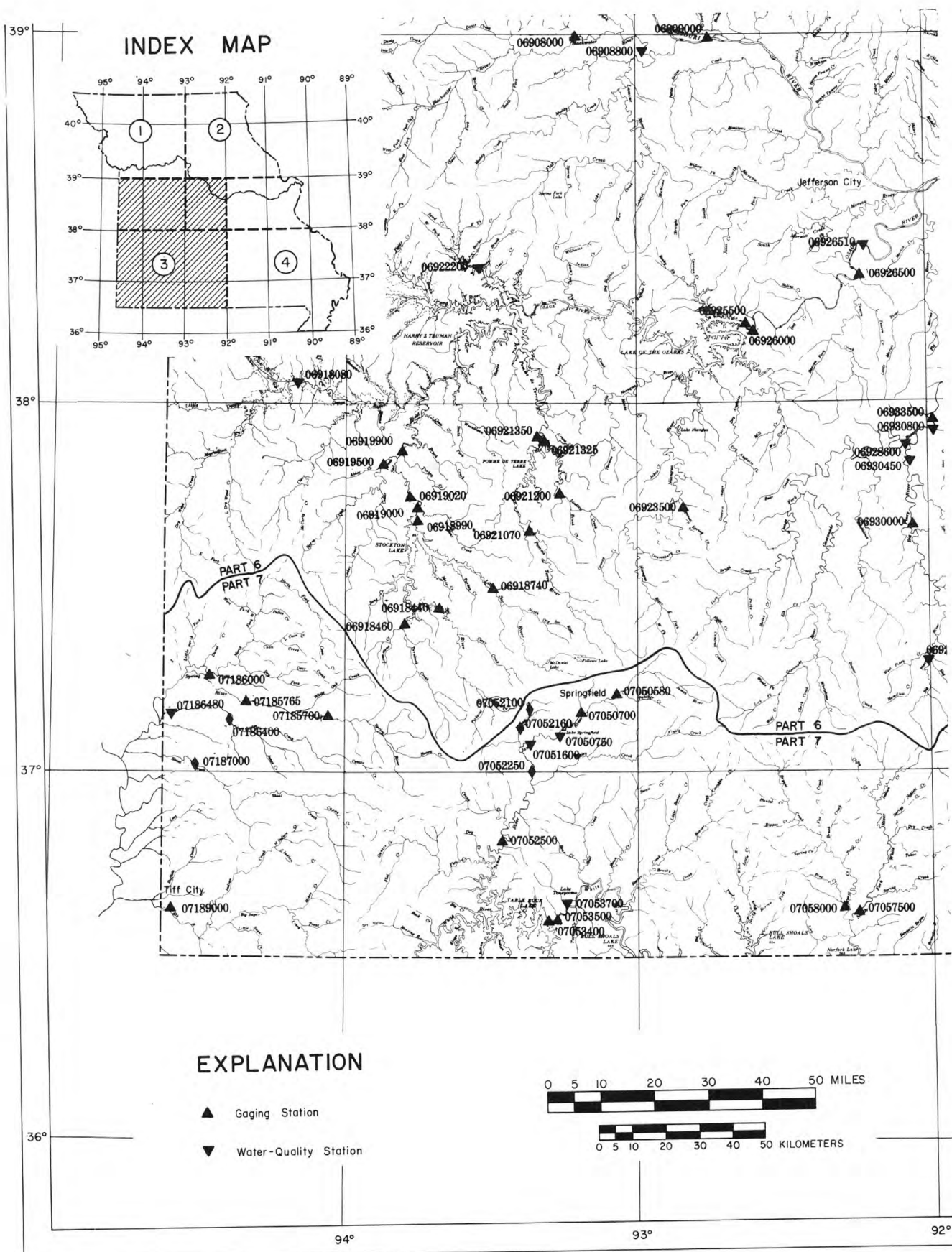




EXPLANATION

- ▲ Gaging Station
- ▼ Water-Quality Station





FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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