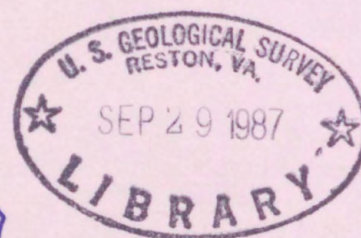
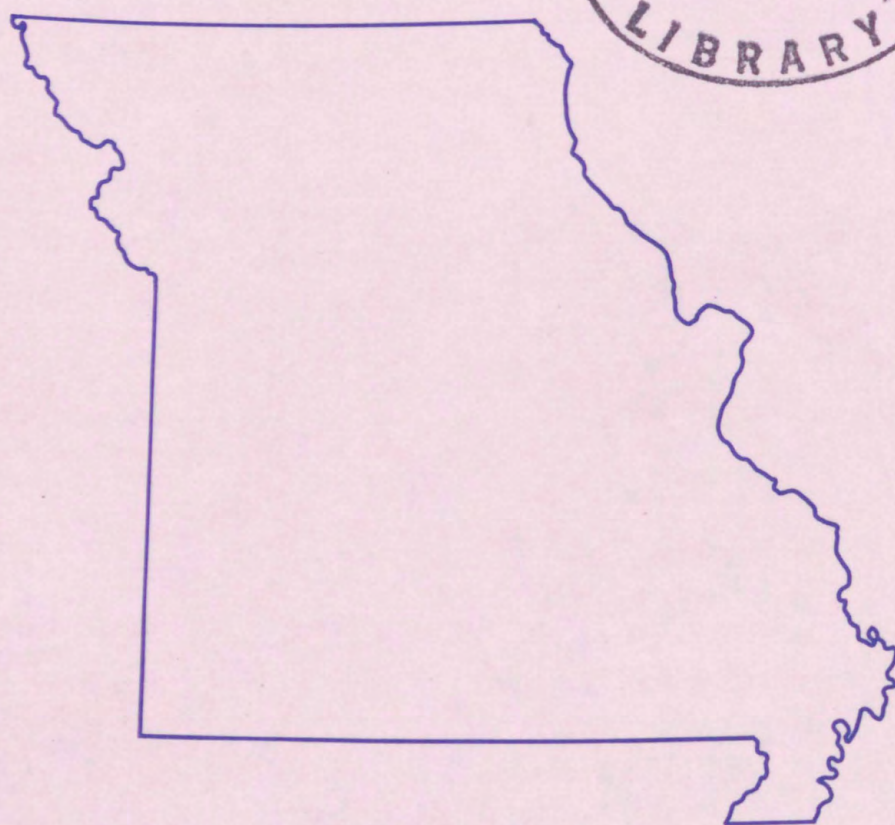


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Water Resources Data Missouri Water Year 1986



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MO-86-1
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 1996

1995

OCTOBER							NOVEMBER							DECEMBER						
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1996

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Water Resources Data Missouri

Water Year 1986

by L.A. Waite, J.V. Davis, H.L. Reed, D.O. Hatten, and T.J. Perkins



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MO-86-1
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

DEPARTMENT OF THE INTERIOR
Donald Paul Hodel, Secretary
U.S. 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
1400 Independence Road - Mail Stop 200
Rolla, Missouri 65401

PREFACE

This hydrologic-data report for Missouri is one of a series of annual reports that document hydrologic data collected from the U.S. Geological Survey's surface- and ground-water data collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by local, State, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources.

This report is the culmination of a concerted effort by personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data and who typed, edited, and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

Gary L. Alexander
Wayne R. Berkas
Suzanne R. Femmer
Frankie B. Franco
George L. Gray

Lester L. Grayson
Henry S. Hauck
Leonard G. Huber
Larry J. Lumpkin
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Roger N. Nygaard
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Charles E. Watts
Robert E. Whitaker

Felicia D. Headrick assembled the text of the report.

This report was prepared in cooperation with the State of Missouri and with other agencies under the general supervision of Daniel P. Bauer, District Chief, Missouri.

iii

The agency name for one of the most important sources of ground-water information and funding for ground-water data networks in the State, the Missouri Division of Geology and Land Survey, was omitted from the information paragraph following "Selected References" on the back page. Please use the enclosed adhesive-backed insert to complete the listing of agencies providing information on technical reports and data related to ground water in Missouri.

Further clarification of a statement concerning Division of Geology and Land Survey responsibility in the "Ground-Water Management" section of the fact sheet also is needed. Division of Geology and Land Survey is responsible for administration of state laws concerning major water users and water-well permits. There is no single comprehensive water law for the state.

The name of one cooperator at the end of the "Ground-Water Management" section is incorrect. The Missouri Division of Health should have been listed as the Missouri Department of Health.

Director
Department of Natural Resources
Div. of Geology and Land Survey
P. O. Box 250
Rolla, Missouri 65401

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15. Supplementary Notes Prepared in cooperation with the State of Missouri and other agencies.		14.	
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(Letter after station name designates type of data: (d) discharge, (c) chemical, (m) microbiological, (t) water temperature, (s) sediment, (r) radiochemical, and (e) elevation and contents)

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WATER RESOURCES DATA FOR MISSOURI, 1986

INTRODUCTION

The U.S. Geological Survey, in cooperation with local, State, and Federal agencies and organizations, obtains a large quantity of data pertaining to the water resources of Missouri each water year (October 1 to September 30). 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 107 gaging stations; stage and contents at 10 lakes and reservoirs; water quality at 67 sampling stations (including 2 lakes); and data for 20 crest-stage stations.

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 temperature, 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 are in the libraries of the principal cities in the United States or may be purchased from the U.S. Geological Survey, Books and Open-File Reports, Federal Center, Bldg. 41, Box 25425, Denver CO 80225.

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-86-1." For archiving and general distribution, the reports for water year 1971-74 also are 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 (703) 487-4650.

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 a cooperative agreement with the Survey are:

Missouri Department of Conservation,
Larry Gale, Director.

Missouri Department of Health,
Dr. John Bagby, Director.

Missouri Department of Natural Resources,
Dr. Frederick A. Brunner, Director.

Division of Geology and Land Survey,
Dr. James H. Williams, Director.

Division of Environmental Quality,
William C. Ford, Director.

Missouri State Highway and Transportation Commission,
Wayne Muri, Chief Engineer.

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

The following Federal and State agencies and organizations assisted in collection of records published in this report by providing funds or services:

U.S. Army Corps of Engineers, in collecting records for
90 gaging stations, 2 water-quality stations, and 9 sediment stations.

U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service.

National Park Service, Midwest Region.

Little River Drainage District.

Union Electric Company of Missouri.

Missouri Park Board.

WATER USE

Listed below are general water-use facts for the state of Missouri. Figures 1 and 2 show the major water uses and percentages of surface and ground water for 1985.

MISSOURI WATER-USE FACT SHEET

1. Total offstream water use was 6,110 million gallons per day (Mgal/d).
2. Ground-water use was 640 Mgal/d, 10 percent of total offstream use. The largest ground-water use was for irrigation in southeast Missouri.
3. Offstream surface-water use was 5,470 Mgal/d, 90 percent of total offstream use. The largest use was in the St. Louis and Kansas City metropolitan areas.
4. Consumptive use of fresh water was 498 Mgal/d, which was 8 percent of the total use. Irrigation consumptive use was 44 percent of total consumptive use.
5. The largest use of water in Missouri was for onstream hydroelectric power generation, about 20,100 Mgal/d.
6. Total population was 5.03 million persons, an increase of 2.3 percent from 1980.
7. Per capita water use for all offstream uses was 1,210 gallons per day.
8. Public water supplied was 645 Mgal/d: 27 percent ground water and 73 percent surface water.
9. Domestic water use was 408 Mgal/d: 13 percent self-supplied and 87 percent public-supplied.
10. Commercial water use was 77.6 Mgal/d: 22 percent self-supplied and 78 percent public-supplied.
11. Industrial water use was 221 Mgal/d: 40 percent self-supplied and 60 percent public-supplied.
12. Mining water use was 27.6 Mgal/d, mostly from dewatering of active and inactive lead mines.
13. The largest offstream use of water was 4,930 Mgal/d (mostly surface water) to produce 48,500 gigawatt hours of electricity. This was 81 percent of the total offstream water use.
14. Non-irrigation agricultural water use was 40.8 Mgal/d for fish culture and livestock use.
15. The largest use of ground water was 283 Mgal/d for irrigation. Total irrigation water use was 306 Mgal/d.
16. About 2,230 municipal and other sewage-treatment facilities released 885 Mgal/d of effluent.

SURFACE WATER

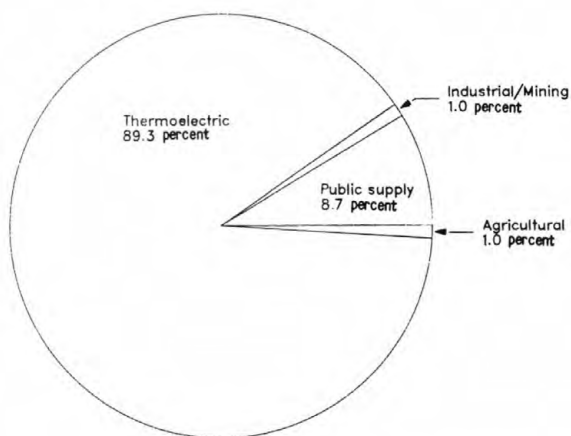


Figure 1.--Major water use categories and percentages of surface water used in Missouri during 1986.

GROUND WATER

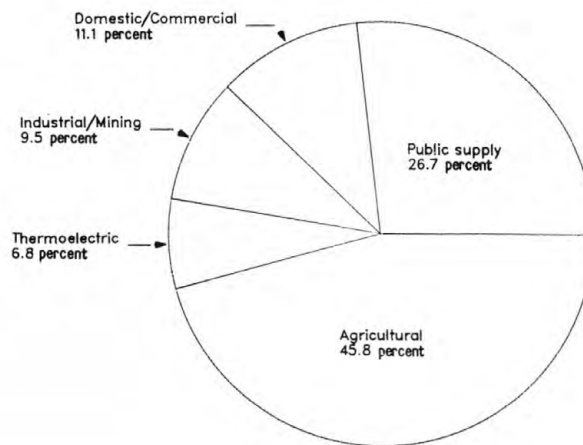


Figure 2.--Major water use categories and percentages of ground water used in Missouri during 1986.

PHYSIOGRAPHY

Missouri has three distinct physiographic areas--the Central Lowland in the north and west, the Mississippi Alluvial Plain, and between them the Ozark Plateau (fig. 3).

The Central Lowland includes most of the area north of the Missouri River and a large part of the area south of the river in the western part of the State. Elevations range from about 450 to 1,000 feet above sea level. The area has numerous, wide, flat valleys incised by rivers.

The Ozark Plateau in the southern part of the State is wooded, rugged, and has deep, narrow valleys with sharp ridges separating the valleys. Elevations range from about 1,000 to 1,600 feet above sea level.

The Mississippi Alluvial Plain is a relatively flat area of about 3,000 square miles and is located in the extreme southeast part of the State. Elevations range from about 200 to 300 feet above sea level. The area is well drained and contains excellent farmland.

HYDROLOGIC CONDITIONS

Precipitation was greater than normal across the entire State except the Bootheel during the 1986 water year. The normal precipitation for the standard period 1951-80 was about 36 inches in the northwest to 47 inches in the southeast. Precipitation data for the six National Weather Service divisions in Missouri are listed in table 1.

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

National Weather Service Division (fig. 2)	October-March		April-September		Water Year 1986	
	Precipitation	Departure from normal	Precipitation	Departure from normal	Precipitation	Departure from normal
Northwest Prairie	13.95	+2.57	31.23	+6.53	45.18	+9.10
Northeast Prairie	20.64	+7.11	24.75	+2.16	45.39	+9.27
West Central Plains	20.86	+6.85	31.18	+6.71	52.04	+13.56
West Ozarks	21.60	+5.59	28.45	+4.26	50.05	+9.85
East Ozarks	20.50	+2.26	25.02	+1.79	45.52	+4.05
Bootheel	19.49	-3.23	25.18	+1.12	44.67	-2.11

Streamflow

Streamflow generally reflects precipitation patterns unless a stream is regulated. Both monthly mean discharges during water year 1986 and long-term monthly mean discharges at representative stations are shown in figure 4. Streamflow during many months was greater than long-term means reflecting the greater-than-normal precipitation (table 1). Mean annual discharges were greater than long-term annual discharges statewide.

Listed in table 2 are 17 selected gaging stations for which the peak discharge for the period of record and the peak discharge for water year 1986 are compared. The 7-day low flow for water year 1986 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.

Table 2.--Comparisons of peak discharge for the 1986 water year with those for period of record for selected stations

Station identification		Peak discharge during 1986 water year		Peak discharge for period of record	
		Cubic feet per second	Date	Cubic feet per second	Date
05508000	Salt River near New London	19,100	Nov. 18	107,000	Apr. 22, 1973
05587500	Mississippi River at Alton, Ill.	308,000	May 23	535,000	Apr. 29, 1973
06818000	Missouri River at St. Joseph	153,000	May 17	397,000	Apr. 22, 23, 1952
06893000	Missouri River at Kansas City	212,000	Oct. 11	573,000	July 14, 1951
06893890	East Fork Little Blue River near Blue Springs	559	Sept. 23	11,000	Aug. 13, 1982
06894000	Little Blue River near Lake City	6,730	Sept. 23	42,300	Aug. 13, 1982
06895500	Missouri River at Waverly	213,000	Oct. 11	549,000	July 16, 1951
06897500	Grand River near Gallatin	39,100	May 19	69,100	June 24, 1947
06905500	Chariton River near Prairie Hill	28,700	Oct. 10	31,900	Apr. 23, 1973
06909000	Missouri River at Boonville	283,000	Oct. 13	550,000	July 17, 1951
06934500	Missouri River at Hermann	329,000	Nov. 20	676,000	June 6-7, 1903
07010000	Mississippi River at St. Louis	589,000	Nov. 22	1,019,000	June 10-11, 1903
07016500	Bourbeuse River at Union	24,400	Nov. 21	73,300	Dec. 5, 1982
07018500	Big River at Byrnesville	43,000	Nov. 21	43,000	Nov. 21, 1985
07019000	Meramec River near Eureka	84,600	Nov. 22	145,000	Dec. 6, 1982
07020500	Mississippi River at Chester, Ill.	620,000	Nov. 23	886,000	July 3, 1947 Apr. 30, 1973
07022000	Mississippi River at Thebes, Ill.	664,000	Nov. 24	893,000	May 27, 1943

Table 3.--Comparisons of 1986 7-day low flows to 7-day, 2-year low flows and minimum daily flows for the period of record at selected stations.

[Flows in cubic feet per second]

Station identification and period of record (water years) used	Average 7-day low flows		Minimum daily flows for period of record used	
	1986	2-year	Discharge	Years of occurrence
05495000 Fox River at Wayland (1922-81)	13	1.3	0	Several years
06813000 Tarkio River at Fairfax (1922-81)	38	9.0	0	Several years
06921070 Pomme de Terre River near Polk (1968-81)	5.8	3.0	0.3	1980
07016500 Bourbeuse River at Union (1921-81)	40	32	11	1956
07067000 Current River at Van Buren (1912-81)	1061	700	473	1956
07187000 Shoal Creek above Joplin (1941-81)	90	92	12	1954

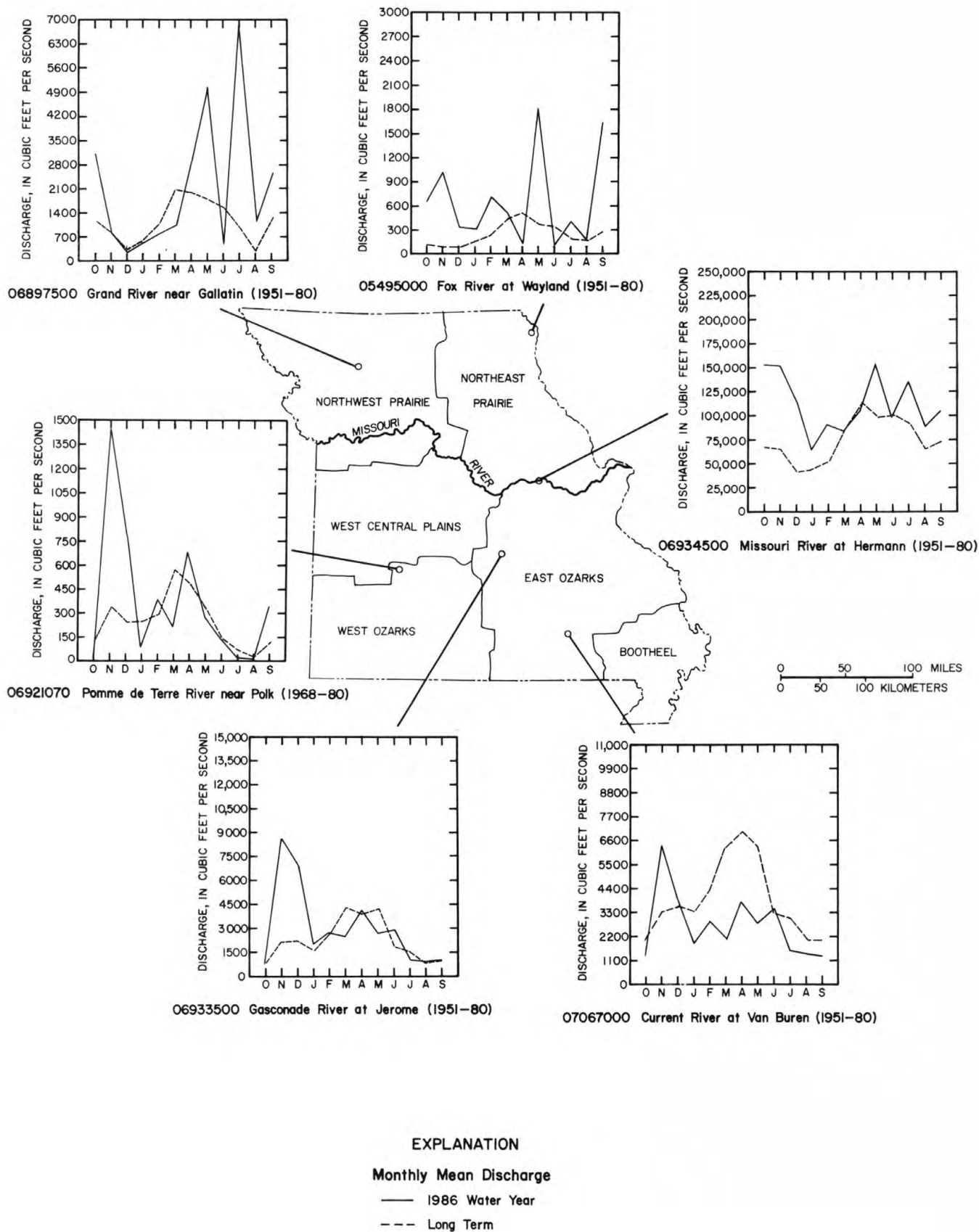


Figure 4.--Comparison of 1986 water-year streamflow to long-term means.

Chemical Quality of Streamflow

Samples for determining the chemical quality of streamflow were collected at 67 stations in Missouri. Data collected at these stations, in addition to streamflow data, include some or all of the following properties or constituents: water temperature, specific conductance, dissolved oxygen, pH, alkalinity, inorganic constituents, nutrients, trace metals, biota, and sediment. Water-quality data did not indicate unusual changes during the year.

Missouri streams for the most part are not contaminated by industrial wastes. Localized stream pollution does occur near urban areas, industrialized centers, agricultural-chemical-use areas, and waste-dump sites. Ranges in dissolved-solids concentrations in selected streams are given in the following table:

Station identification	Dissolved-solids concentration	
	(milligrams per liter)	
	Minimum	Maximum
Missouri River at Hermann	154	456
Missouri River at St. Joseph	325	525
Des Moines River at St. Francisville	41	420
Grand River near Sumner	90	293
Center Creek near Cartersville	141	231

Daily suspended-sediment samples were collected at 11 stations in Missouri. At 9 of these stations data on the particle-size of suspended sediment also were obtained. Suspended-sediment concentration in streams generally is greater in the Mississippi Alluvial Plain agricultural area than in the Ozark Plateau wooded area (fig. 3). The following table lists two selected stations in the Central Lowland followed by two selected stations in the Ozark Plateau and their respective daily mean suspended-sediment concentrations:

Station identification	Daily mean suspended-sediment concentration	
	(milligrams per liter)	
	Minimum	Maximum
Middle Fork Salt River at Paris	34	2,730
Salt River near New London	7	1,600
Meramec River near Eureka	2	3,380
Little Black River below Fairdealing	1	318

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 mainstream station are listed before that station. A station on a tributary that enters between two mainstream 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. The 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 5 below.

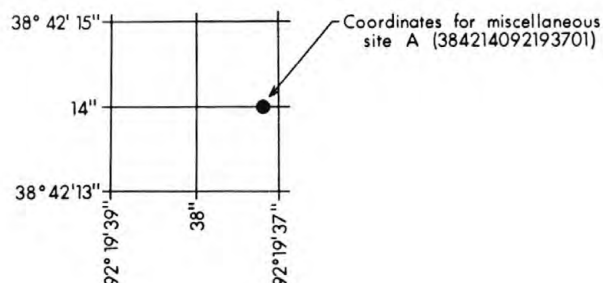


Figure 5. System for numbering miscellaneous sites (latitude and longitude).

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.

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 period 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 tabulation 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.

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, location, 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 14.

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 discharges 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 records, 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.

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 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 discharge 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 cost 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 Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperature 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 time 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.

The daily suspended sediment concentrations at Mississippi River at St. Louis are derived from turbidity reading from the Howard Bend water treatment plant and the East St. Louis water treatment plant. Approximately once a week two depth integrated verticals are taken to adjust the relationship between suspended sediment and turbidity.

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 Inch-Pound 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.

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 $44.5^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$ 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 $35^{\circ}\text{C} \pm 1.0^{\circ}\text{C}$ 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.

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.

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.

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 body of impounded surface water together with all tributary surface streams and bodies of impounded water.

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

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of 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 earth (principally calcium and magnesium) and is expressed as equivalent calcium carbonate (CaCO_3).

Hydrologic unit is a geographic area representing part of 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 a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

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."

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).

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 - 2.0	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.

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 yield 3.7×10^{12} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Recurrence interval as applied to floods, is the average number of years within which a given flood peak will be equaled or exceeded once. For example, a 100-year flood discharge will be exceeded on the average of once in 100 years. In terms of probability, there is a 1 percent chance that such a flood will occur in any year.

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 stream are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, 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 bedload 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 microsiemens 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 microsiemens). 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.

Surface area of a lake is that area outlined on the latest USGS 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 planimeted. All areas shown are those for the stage when the planimeted 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 -0.45 micrometer filter.

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 in bottom material is the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

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.

Total recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1980, is called "1980 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

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.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting 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) pertains to 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, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for 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-A9. *Measurement of time of travel and dispersion in streams by dye tracing*, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 pages.
- 3-A10. *Discharge ratings at gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 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-A13. *Computation of continuous records of streamflow*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.
- 3-A14. *Use of flumes in measuring discharge*, by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 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-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.

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DES MOINES RIVER BASIN

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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, in SW¼NW¼ sec.4, T.65 N., R.6 W., Hydrologic Unit 07100009, at bridge on County Highway B at St. Francisville, and 8 mi upstream from Sugar Creek.

DRAINAGE AREA.--14,300 mi².

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1973 to September 1974, October 1975 to September 1981.

WATER TEMPERATURE: October 1973 to September 1974, October 1975 to September 1981.

SEDIMENT RECORDS: April 1978 to September 1982, April 1983 to current year.

REMARKS.--The number of missing days of record exceeds 20 percent of the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

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

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 8,010 mg/L, Apr. 13, 1981; minimum daily mean, 11 mg/L, Nov. 23, 1980.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 765,000 tons, Mar. 20, 1982; minimum daily, 41 tons, Apr. 6, 1981.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,050 mg/L, May 17; minimum daily mean, 89 mg/L, Oct. 8, 9.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 541,000 tons, May 17, 18; minimum daily, 713 tons, Sept. 16.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV										
20...	0900	13200	417	7.70	6.0	160	12.4	95	6200	18000
JAN										
08...	0915	1630	66	8.40	0.0	32	14.2	97	110	270
MAR										
11...	0900	19000	519	8.40	3.0	190	12.8	96	420	760
MAY										
14...	0900	22600	641	8.40	19.5	20	7.8	87	2200	650
JUL										
09...	0915	35700	342	8.00	25.0	360	6.8	84	14000	24000
SEP										
17...	0845	6260	618	8.70	19.0	25	8.3	91	140	K72

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD 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)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
NOV										
20...	200	61	53	16	8.7	9	0.3	3.7	132	55
JAN										
08...	28	3	7.4	2.3	2.2	14	0.2	1.0	23	9.2
MAR										
11...	220	36	60	18	12	10	0.4	4.5	183	67
MAY										
14...	330	98	86	27	10	6	0.2	3.1	222	72
JUL										
09...	160	42	44	13	5.1	6	0.2	3.1	115	32
SEP										
17...	290	65	73	27	14	9	0.4	3.5	214	83

K--Results based on colony count outside the acceptable range (non-ideal colony count).

DES MOINES RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
NOV 20...	11	0.30	13	241	260	0.33	8590	2.70	0.060
JAN 08...	3.7	0.10	0.8	41	42	0.06	180	0.530	0.210
MAR 11...	18	--	13	318	340	0.43	16300	3.70	0.350
MAY 14...	20	0.40	14	413	400	0.56	25200	7.50	0.050
JUL 09...	8.8	0.30	10	207	190	0.28	20000	4.40	0.040
SEP 17...	21	0.40	12	420	430	0.57	7100	3.30	0.030

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 20...	0.08	1.9	0.360	1.1	0.150	0.080	452	16100	96
JAN 08...	0.27	0.90	0.130	--	0.030	0.030	170	748	71
MAR 11...	0.45	1.7	0.330	1.0	0.130	0.100	1170	60000	65
MAY 14...	0.06	1.2	0.190	--	0.150	0.120	57	3480	80
JUL 09...	0.05	1.0	0.300	--	0.100	0.090	1160	112000	87
SEP 17...	0.04	1.4	0.260	--	0.070	0.060	33	558	85

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 20...	120	1	66	<0.5	<1	<1	<3	3	120	<1
JAN 08...	10	<1	14	<0.5	<1	3	<3	5	12	1
MAY 14...	<10	2	99	<0.5	<1	<1	<3	2	<3	2

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 20...	10	11	<0.1	<10	2	1	<1	160	<6	21
JAN 08...	<4	13	<0.1	<10	2	<1	<1	26	<6	6
MAY 14...	22	<1	<0.1	<10	1	3	<1	240	<6	8

DES MOINES RIVER BASIN

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

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

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)	SEDI- MENT, SUS- PEN- DED (MG/L) (80154)
NOV 14...	11900	33	39	47	57	80	82	85	91	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)
MAR 25...	2	7	15	35	62	82	94	99	100
JUN 04...	3	5	14	62	83	93	97	99	100

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	15800	1010	43000	5740	95	1470			
2	12400	497	16700	6140	120	1990			
3	7980	288	6200	5920	105	1680			
4	7550	230	4680	6020	96	1570			
5	7720	215	4470	5210	306	4300			
6	7740	162	3380	5860	276	4370			
7	7740	224	4690	6760	123	2240			
8	7930	461	9860	6370	103	1780			
9	9090	797	19600	5160	93	1300			
10	11900	1170	37400	4450	81	968			
11	17700	1510	72100	4530	108	1320			
12	19100	1270	65400	8650	333	7790			
13	15700	764	32400	10900	735	21600			
14	14100	467	17800	12000	1170	37700			
15	11000	328	9730	---	---	---			
16	8240	353	7850	---	---	---			
17	7620	1000	20600	---	---	---			
18	9060	1240	30400	---	---	---			
19	11900	1140	36700	---	---	---			
20	15000	1080	43700	---	---	---			
21	13100	855	30300	---	---	---			
22	10100	537	14600	---	---	---			
23	9170	400	9900	---	---	---			
24	8240	297	6610	---	---	---			
25	7500	200	4050	---	---	---			
26	7020	129	2440	---	---	---			
27	6560	89	1580	---	---	---			
28	6520	213	3750	---	---	---			
29	6830	237	4370	---	---	---			
30	7020	158	2990	---	---	---			
31	6240	123	2080	---	---	---			
TOTAL	313570	---	569330	93710	---	---			

DES MOINES RIVER BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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				---	---	---	---	---	---
2				---	---	---	12500	244	8210
3				---	---	---	11700	378	12000
4				---	---	---	10600	352	10100
5				---	---	---	11900	335	10800
6				---	---	---	12600	415	14100
7				---	---	---	12700	353	12100
8				---	---	---	13300	653	23500
9				10500	975	27700	13400	338	12200
10				7620	205	4210	12600	1100	37600
11				4710	183	2330	17800	2440	117000
12				---	---	---	---	---	---
13				---	---	---	---	---	---
14				---	---	---	---	---	---
15				---	---	---	---	---	---
16				---	---	---	---	---	---
17				---	---	---	---	---	---
18				---	---	---	---	---	---
19				---	---	---	---	---	---
20				---	---	---	---	---	---
21				---	---	---	---	---	---
22				---	---	---	---	---	---
23				---	---	---	---	---	---
24				---	---	---	---	---	---
25				---	---	---	---	508	---
26				3580	112	1080	---	---	---
27				---	---	---	---	---	---
28				---	---	---	---	---	---
29				---	---	---	---	---	---
30				---	---	---	---	---	---
31				---	---	---	---	---	---
TOTAL				26410	---	---	129100	---	---
APRIL			MAY			JUNE			
1	---	---	---	31100	2360	198000	22600	372	22700
2	---	---	---	25100	3240	219000	22500	313	19000
3	---	---	---	19700	2050	109000	22600	344	21000
4	---	---	---	21000	628	35500	22700	351	21500
5	---	---	---	21800	780	45800	24400	579	38100
6	---	---	---	21700	612	35900	25600	758	52400
7	---	---	---	24600	1740	115000	23000	444	27500
8	---	---	---	22200	1310	78300	22600	347	21200
9	---	---	---	22400	678	41000	22600	244	14900
10	---	---	---	21300	446	25600	22700	285	17500
11	---	---	---	21400	302	17500	23000	213	13300
12	---	---	---	21800	376	22200	23000	260	16100
13	---	---	---	22100	591	35300	22700	318	19500
14	---	---	---	22400	689	41700	22700	299	18300
15	---	---	---	23300	541	34100	22700	240	14700
16	---	---	---	34700	2120	199000	22600	227	13800
17	---	---	---	49500	4050	541000	22500	203	12300
18	6680	170	3060	59500	3370	541000	22200	185	11100
19	9450	325	8300	34200	2710	250000	22000	439	26100
20	16200	366	16000	19800	805	43000	22100	851	50800
21	21200	338	19300	15000	1050	42700	21900	545	32200
22	21300	453	26000	19700	638	33900	22400	400	24200
23	21700	506	29700	21400	646	37400	22400	501	30300
24	21700	485	28400	21700	783	45900	21800	216	12700
25	21100	297	16900	21900	457	27000	21900	170	10000
26	21100	318	18100	22900	588	36300	21900	451	26700
27	21800	460	27100	22800	879	54000	21900	450	26500
28	21800	440	25900	23200	639	40000	21700	314	18400
29	21800	368	21600	24700	433	28900	21900	307	18200
30	22500	476	28900	26500	756	54200	21900	434	25600
31	---	---	---	23800	597	38400	---	---	---
TOTAL	248330	---	---	783200	---	3066600	676500	---	676600

DES MOINES RIVER BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	24100	860	56000	22500	198	12000	3810	155	1590
2	23900	1550	100000	22500	137	8330	3640	173	1700
3	22500	490	29700	22200	145	8720	3980	183	1970
4	22400	176	10600	21900	179	10600	4440	158	1890
5	22700	164	10100	21800	176	10400	4250	132	1520
6	22800	273	16800	23000	174	10800	3920	137	1450
7	23700	294	18800	17700	185	8840	3890	122	1280
8	25100	460	31200	12700	166	5690	3980	127	1360
9	34900	2010	190000	15600	176	7410	3960	122	1300
10	29200	1230	97100	16000	181	7840	3820	103	1070
11	23700	751	48000	16000	212	9140	3280	111	986
12	22700	561	34400	15700	207	8750	2610	111	783
13	34000	1640	151000	15100	173	7050	3130	119	1010
14	26100	1070	75200	17100	250	11500	3810	106	1090
15	20000	449	24200	22200	1740	104000	2800	101	764
16	20600	290	16100	13300	1990	71700	2540	104	713
17	20800	199	11200	16900	798	36300	3430	123	1140
18	20900	176	9950	21200	463	26500	2350	229	1450
19	21900	258	15300	20700	330	18400	1920	299	1550
20	22000	249	14800	16900	394	18000	20600	3120	173000
21	22100	199	11900	13300	211	7570	27800	2460	184000
22	22500	190	11600	11100	145	4320	14000	1470	55400
23	22300	173	10400	8460	133	3040	20000	1530	82900
24	22300	167	10100	6780	135	2480	41400	2160	242000
25	22200	240	14400	6780	131	2400	35900	1660	160000
26	22000	180	10700	5860	123	1940	22000	802	47600
27	21800	177	10400	4490	112	1360	19400	521	27200
28	21600	154	8990	4320	107	1250	21300	381	21900
29	22000	156	9300	4670	126	1580	29600	821	65500
30	22700	157	9640	4670	130	1630	43200	1160	135000
31	22500	219	13300	4370	133	1560	---	---	---
TOTAL	728000	---	1081180	445800	---	431100	360760	---	1219116

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 downstream from bridge on U.S. Highway 136, 0.8 mi west of Wayland, and 5.0 mi downstream from Brush Creek, and at mile 15.2.

DRAINAGE AREA.--400 mi², 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 above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1929, nonrecording gage at bridge 2.8 mi upstream at different datum; Oct. 1, 1929 to June 11, 1936, nonrecording gage, at bridge 90 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Oct. 9-17, May 22 to June 25, and Dec. 3 to Feb. 4. Records good except for estimated daily discharges and period of ice effect Dec. 3 to Feb. 4, which are fair. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Two discharge measurements furnished by U.S. Army Corps of Engineers.

AVERAGE DISCHARGE.--64 years, 261 ft³/s, 8.86 in/yr, 189,100 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 1	2230	4,100	12.19	May 19	0245	*13,200	*18.80
Nov. 14	0815	5,160	13.53	Sept. 22	0630	11,400	18.17
Nov. 19	2030	4,200	12.34	Sept. 25	0530	6,350	14.73
Feb. 27	1145	5,690	14.08	Sept. 30	0315	5,950	14.34
May 7	2130	4,120	12.21				

Minimum daily discharge, 12 ft³/s, Sept. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	2340	1310	57	83	2160	83	2190	269	128	134	16
2	120	2920	1630	63	101	1210	77	1980	173	1970	53	16
3	97	811	1220	91	124	590	91	414	133	523	34	14
4	56	375	948	90	756	426	316	225	119	211	25	14
5	36	244	939	80	1370	380	355	151	153	103	23	13
6	26	188	619	67	1180	362	407	433	494	66	35	13
7	20	517	555	52	812	284	189	2630	214	53	29	14
8	18	628	442	44	605	194	129	2380	135	389	103	13
9	44	331	296	39	564	200	103	1070	104	1190	63	12
10	1900	590	239	39	360	554	86	953	92	1110	44	12
11	2700	534	189	50	235	1460	78	456	88	648	51	22
12	1170	576	130	125	170	891	74	299	85	535	210	23
13	2180	2220	137	175	155	1730	71	728	60	1900	91	18
14	797	3830	107	231	142	1450	70	1280	48	1110	129	22
15	359	2310	104	319	125	623	75	847	55	475	1200	18
16	198	1700	88	279	119	394	77	2680	51	335	862	15
17	127	730	88	628	117	292	69	6380	47	175	267	16
18	343	1330	84	1860	122	321	66	10800	40	105	130	14
19	2800	3920	78	2130	354	667	64	11600	37	74	79	14
20	2040	2660	76	1530	1020	447	64	2050	31	57	54	3760
21	878	653	76	649	887	254	64	645	29	42	40	9340
22	402	379	79	396	639	187	61	425	25	36	33	9830
23	266	296	85	218	480	163	57	320	31	31	29	2280
24	982	233	93	131	425	145	55	247	123	27	24	3790
25	1040	174	78	81	385	131	53	212	67	26	21	5350
26	375	173	76	66	503	123	50	250	39	23	20	4120
27	213	182	75	78	4560	116	47	718	34	24	18	1040
28	141	156	70	85	3820	107	45	624	34	42	18	441
29	112	105	61	83	---	102	42	1610	33	175	18	2450
30	99	109	56	66	---	96	45	873	38	556	17	5300
31	91	---	57	69	---	89	---	466	---	182	17	---
TOTAL	19652	31214	10085	9871	20213	16148	3063	55936	2881	12321	3871	48000
MEAN	634	1040	325	318	722	521	102	1804	96.0	397	125	1600
MAX	2800	3920	1630	2130	4560	2160	407	11600	494	1970	1200	9830
MIN	18	105	56	39	83	89	42	151	25	23	17	12
CAL YR 1985		TOTAL	159305.5	MEAN	436	MAX	11100	MIN	4.4			
WTR YR 1986		TOTAL	233255	MEAN	639	MAX	11600	MIN	12			

WYACONDA RIVER BASIN

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05496000 WYACONDA RIVER ABOVE CANTON, MO

LOCATION.--Lat 40°08'32", 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 upstream from Sugar Creek, and 2.5 mi west of Canton, and at mile 16.7.

DRAINAGE AREA.--393 mi².

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 ft above National Geodetic Vertical Datum of 1929. Prior to May 1, 1939, nonrecording gage 500 ft downstream at datum 2.00 ft lower. Sept. 25, 1975, to Sept. 17, 1979, nonrecording gage at present site and at datum 2.00 ft lower.

REMARKS.--Estimated daily discharges: Dec. 10 to Feb. 28. Records fair except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Two discharge measurements furnished by U.S. Army Corps of Engineers.

AVERAGE DISCHARGE.--47 years, (water years 1933-72, 1980-current year) 258 ft³/s, 8.92 in/yr, 186,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,700 ft³/s, June 30, 1933, maximum gage height, 31.33 ft, Sept. 22, 1986; no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 15	1500	4,490	18.74	July 10	1130	4,100	17.99
Nov. 20	1245	4,530	18.81	July 11	0530	4,020	17.81
May 19	1215	11,100	26.10	Sept. 22	0345	*17,300	*31.33

Minimum daily discharge, 4.5 ft³/s, Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	2270	2060	37	65	2120	78	1620	247	44	76	6.0
2	15	3450	1430	45	71	1790	67	1020	166	360	44	6.0
3	22	2070	464	61	84	1970	82	334	122	653	23	5.9
4	31	576	322	91	832	1230	181	201	91	239	16	5.3
5	26	298	263	86	2490	695	267	147	91	144	28	5.4
6	16	224	245	59	1940	492	416	105	220	90	48	5.6
7	12	268	172	42	1030	373	246	1830	253	65	30	5.2
8	9.6	701	165	29	788	242	158	2480	116	145	20	6.3
9	9.6	331	171	24	587	237	104	1300	101	488	24	7.2
10	2280	1120	155	24	394	453	79	1030	191	3070	21	4.5
11	2870	1510	485	26	394	1680	52	409	115	2590	19	22
12	1180	1070	367	65	366	1190	43	260	74	798	32	26
13	1900	2780	279	279	304	2090	41	237	54	910	47	21
14	1080	3530	264	331	247	1580	42	1110	58	655	22	31
15	363	4080	198	267	212	736	44	619	175	312	156	15
16	152	3780	132	181	200	443	56	2590	145	216	370	5.6
17	97	1900	95	545	212	318	52	3720	76	140	135	6.8
18	324	1870	75	1510	258	317	46	7450	66	89	74	11
19	2680	3710	56	1890	533	704	46	10700	63	63	42	14
20	2840	4280	43	1590	1450	544	50	6780	51	48	29	6410
21	1010	2000	39	920	1180	285	49	1280	44	36	28	14500
22	408	520	37	743	778	224	47	502	36	30	27	16500
23	250	304	58	503	634	212	47	288	40	26	21	11000
24	686	244	92	319	482	193	43	230	42	21	20	6560
25	1330	191	84	280	608	164	41	367	45	20	18	4770
26	521	195	60	216	630	166	38	511	42	21	9.0	4360
27	234	224	48	152	2130	150	36	778	44	19	8.7	1650
28	136	165	45	133	2900	133	35	542	54	111	8.1	787
29	104	120	38	121	---	124	29	2710	37	320	8.5	2830
30	94	96	35	84	---	92	33	2020	32	147	9.0	5730
31	131	---	34	67	---	85	---	638	---	174	6.8	---
TOTAL	20825.2	43877	8011	10720	21799	21032	2548	53808	2891	12044	1420.1	75306.8
MEAN	672	1463	258	346	779	678	84.9	1736	96.4	389	45.8	2510
MAX	2870	4280	2060	1890	2900	2120	416	10700	253	3070	370	16500
MIN	9.6	96	34	24	65	85	29	105	32	19	6.8	4.5
CAL YR 1985		TOTAL	186669.4	MEAN	511	MAX	10200	MIN	4.5			
WTR YR 1986		TOTAL	274282.1	MEAN	751	MAX	16500	MIN	4.5			

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 south of Monticello, and 19.0 mi upstream from Middle Fabius River.

DRAINAGE AREA.--452 mi².

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 above National Geodetic Vertical Datum of 1929. Prior to Nov. 22, 1930, nonrecording gage at site 400 ft downstream at datum 0.03 ft lower. Nov. 22, 1930 to Nov. 28, 1967, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Jan. 17-20, Feb. 4-19, 27, Mar. 27 to Apr. 3, 9-30, May 7-8, 16-20, June 16-25, June 27 to July 1, 7, 10, 19-22, and Sept. 20-22, 30. Records fair except for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Two discharge measurements furnished by U.S. Army Corps of Engineers.

AVERAGE DISCHARGE.--64 years, 295 ft³/s, 8.86 in/yr, 213,700 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 10	1730	5,810	20.11	May 18	Unknown	*14,100	*28.13
Nov. 19	1330	5,540	19.68	Sept. 21	Unknown	11,700	26.27
May 7	Unknown	5,100	18.96	Sept. 25	1000	6,310	20.02

Minimum daily discharge, 4.2 ft³/s, Sept. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	3310	1230	66	54	502	90	2570	324	43	50	4.8
2	107	3220	1440	72	76	486	85	914	254	1470	35	4.7
3	59	868	864	104	101	551	110	324	210	636	27	4.5
4	53	435	622	120	780	414	183	203	176	290	22	4.5
5	40	295	667	116	1730	375	345	154	174	185	25	4.5
6	28	227	473	110	729	358	500	134	283	142	59	5.4
7	23	518	405	87	342	289	219	3490	286	120	49	6.7
8	20	665	375	66	262	220	152	2150	181	848	51	5.1
9	142	319	338	53	158	199	118	1840	173	669	41	4.2
10	5420	1100	300	50	159	435	103	1200	215	2520	38	4.2
11	3460	1010	766	58	214	1660	90	441	162	1530	35	66
12	1840	859	426	146	165	1000	84	298	124	818	49	43
13	2720	2650	279	376	139	2350	79	394	114	1550	47	34
14	866	3690	204	456	130	1420	77	1110	109	693	32	30
15	402	3390	179	332	122	607	80	764	194	537	62	17
16	237	2980	142	259	113	406	82	4230	105	362	154	11
17	169	1040	120	588	106	328	75	7940	84	203	126	19
18	372	1500	100	1300	114	332	70	13200	72	140	68	16
19	4290	5220	85	1640	284	609	68	6430	63	104	44	30
20	1760	3060	76	1190	1090	445	71	1780	57	83	31	5880
21	669	828	71	593	487	277	64	873	50	68	23	10600
22	378	477	71	460	277	229	63	649	46	51	18	4610
23	265	379	98	282	244	211	62	538	47	49	15	3580
24	2040	301	139	192	212	190	56	445	135	43	12	4090
25	1080	229	120	168	251	169	53	404	93	40	9.9	5480
26	397	236	97	148	324	160	51	625	57	36	9.3	1510
27	243	255	82	115	2880	142	49	747	44	34	8.9	629
28	170	192	75	95	1180	131	47	572	39	158	7.4	477
29	129	139	69	70	---	122	45	882	37	108	6.8	2920
30	106	109	64	58	---	113	288	1490	32	73	5.9	7640
31	135	---	67	50	---	103	---	496	---	89	4.8	---
TOTAL	27656	39501	10044	9420	12723	14833	3459	57287	3940	13692	1166.0	47730.6
MEAN	892	1317	324	304	454	478	115	1848	131	442	37.6	1591
MAX	5420	5220	1440	1640	2880	2350	500	13200	324	2520	154	10600
MIN	20	109	64	50	54	103	45	134	32	34	4.8	4.2
CAL YR 1985		TOTAL	181287.9	MEAN	497	MAX	9450	MIN	9.0			
WTR YR 1986		TOTAL	241451.6	MEAN	662	MAX	13200	MIN	4.2			

FABIUS RIVER BASIN

25

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 southwest of Monticello, 8 mi downstream from Radish Branch, and 17 miles upstream from mouth.

DRAINAGE AREA.--393 mi².

WATER-DISCHARGE RECORDS

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

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

REMARKS.--Estimated daily discharges: Dec. 1 to Feb. 5. Water discharge records good except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Two discharge measurements furnished by U.S. Army Corps of Engineers.

AVERAGE DISCHARGE.--41 years, 280 ft³/s, 9.68 in/yr, 202,900 acre-ft/yr.

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

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 12	2230	5,370	17.41	May 19	2200	*9,880	*22.07
Oct. 21	0730	3,620	14.43	July 11	0230	4,840	16.71
Nov. 15	1745	5,270	17.28	Sept. 20	1745	6,330	18.61
Nov. 19	2130	4,670	16.44	Sept. 30	0100	7,740	20.14
May 9	1415	4,230	15.63				

Minimum daily discharge, 8.1 ft³/s, Sept. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	2710	835	23	63	554	80	445	120	24	40	8.5
2	132	3370	1120	28	73	452	75	1080	89	79	27	8.7
3	80	2050	337	73	89	506	97	235	70	106	22	8.8
4	61	487	158	85	835	415	134	127	60	116	19	8.9
5	60	284	160	76	1840	328	208	92	55	56	19	8.7
6	36	200	299	79	951	318	417	78	238	35	43	8.1
7	32	174	345	54	433	264	200	719	404	25	56	8.4
8	24	489	583	46	284	196	125	2690	77	27	27	8.2
9	20	307	373	54	199	169	96	3790	79	91	21	8.3
10	2160	897	350	46	170	440	76	1700	88	2280	27	8.8
11	4290	1400	323	49	173	1260	63	500	54	2590	25	70
12	5010	1250	270	102	168	1140	57	266	46	848	21	89
13	3070	2770	254	161	142	1510	53	208	44	968	17	31
14	2550	3150	206	628	118	1480	53	1060	66	848	19	17
15	672	4410	158	388	103	579	53	659	200	374	20	28
16	298	4600	145	230	91	365	70	1570	118	445	17	25
17	168	2530	96	503	92	268	65	4810	65	161	16	24
18	544	1640	69	1170	119	275	59	6600	42	98	14	24
19	2180	3770	62	1480	294	514	59	8930	33	69	15	33
20	3230	4190	52	1120	1010	478	58	8100	29	52	14	3920
21	2540	1470	39	539	709	263	61	829	24	38	13	2890
22	505	486	36	349	356	185	55	370	25	31	12	1040
23	302	353	65	400	246	169	52	232	28	26	12	1700
24	577	291	121	347	207	157	51	178	34	24	11	2100
25	1330	225	100	229	190	143	47	151	38	22	11	1830
26	561	207	72	175	433	134	44	200	37	21	10	1840
27	244	230	75	155	2000	122	42	224	29	19	11	524
28	173	206	46	121	2200	111	41	273	31	215	9.6	309
29	140	146	36	97	---	101	37	462	24	89	9.2	2700
30	117	124	33	72	---	95	39	1050	21	51	9.0	6780
31	168	---	28	59	---	87	---	182	---	46	8.7	---
TOTAL	31305	44416	6846	8938	13588	13078	2567	47810	2268	9874	595.5	26059.4
MEAN	1010	1481	221	288	485	422	85.6	1542	75.6	319	19.2	869
MAX	5010	4600	1120	1480	2200	1510	417	8930	404	2590	56	6780
MIN	20	124	28	23	63	87	37	78	21	19	8.7	8.1
CAL YR 1985		TOTAL	194236.8	MEAN	532	MAX	8250	MIN	4.8			
WTR YR 1986		TOTAL	207344.9	MEAN	568	MAX	8930	MIN	8.1			

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 September 1982, April 1983 to September 1986 (discontinued).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATION: Maximum daily mean, 5,660 mg/L, Apr. 17, 1982; minimum daily mean, 2 mg/L, Nov. 17, 19, 27, 1980, Jan. 8, 1981.

SUSPENDED-SEDIMENT LOAD: Maximum daily, 81,600 tons, June 12, 1984; minimum daily, 0.02 tons, Oct. 10, 11, 12, 13, 1983.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 5,420 mg/L, July 10; minimum daily mean, 28 mg/L, Dec. 28.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 38,400 tons, May 9; minimum daily, 0.56 tons, Jan. 10.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	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)
NOV 13...	1500	2470	33	39	46	58	77	80	84	89	100
FEB 05...	1645	1610	34	40	49	63	87	91	95	99	100
JUL 17...	1145	158	70	80	--	96	99	--	--	--	--

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)
OCT 02...	1	2	10	41	89	98	100	100	--	--
DEC 19...	0	1	5	77	98	99	99	100	--	--
MAR 25...	1	3	13	23	27	29	32	39	51	100
JUN 04...	0	1	2	10	17	25	35	49	72	87

FABIUS RIVER BASIN

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05498000 MIDDLE FABIUS RIVER NEAR MONTICELLO, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	31	48	4.0	2710	981	7180	835	100	225
2	132	56	20	3370	871	7930	1120	130	394
3	80	67	15	2050	471	2610	337	160	145
4	61	74	12	487	243	319	158	399	170
5	60	75	12	284	137	105	160	264	114
6	36	64	6.1	200	102	55	299	113	91
7	32	61	5.2	174	105	49	345	110	103
8	24	61	4.0	489	378	499	583	205	323
9	20	51	2.8	307	400	332	373	197	198
10	2160	840	4890	897	710	1720	350	190	180
11	4290	594	6880	1400	805	3040	323	251	219
12	5010	487	6600	1250	1970	6650	270	222	162
13	3070	842	6970	2770	1100	8220	254	90	61
14	2550	581	4000	3150	618	5250	206	72	40
15	672	381	691	4410	496	5910	158	70	30
16	298	214	172	4600	722	8960	145	71	28
17	168	152	69	2530	584	3990	96	69	18
18	544	627	920	1640	1180	5240	69	100	19
19	2180	1190	6980	3770	1170	11900	62	91	15
20	3230	695	6060	4190	705	7980	52	57	8.0
21	2540	354	2420	1470	273	1090	39	95	9.9
22	505	244	332	486	226	297	36	71	6.9
23	302	182	148	353	112	106	65	57	10
24	577	537	837	291	90	71	121	43	14
25	1330	1110	3980	225	96	58	100	38	10
26	561	579	876	207	96	53	72	32	6.2
27	244	227	149	230	88	55	75	45	9.2
28	173	122	57	206	79	44	46	28	3.5
29	140	100	38	146	71	28	36	45	4.3
30	117	74	23	124	150	50	33	54	4.9
31	168	171	78	---	---	---	28	45	3.5
TOTAL	31305	---	53251.1	44416	---	89791	6846	---	2625.4
JANUARY			FEBRUARY			MARCH			
1	23	53	3.3	63	37	6.4	554	494	739
2	28	57	4.3	73	37	7.3	452	411	502
3	73	42	8.2	89	54	13	506	430	588
4	85	50	12	835	559	1260	415	338	379
5	76	54	11	1840	1960	9720	328	225	199
6	79	109	23	951	1010	2600	318	194	166
7	54	68	9.9	433	266	311	264	151	108
8	46	50	6.2	284	247	189	196	119	63
9	54	39	5.7	199	99	53	169	109	50
10	46	47	5.8	170	70	32	440	555	659
11	49	48	6.3	173	65	30	1260	3010	10200
12	102	65	18	168	67	31	1140	2500	7710
13	161	75	33	142	78	30	1510	2070	8440
14	628	94	159	118	93	30	1480	1930	7710
15	388	97	101	103	93	26	579	920	1440
16	230	74	46	91	86	21	365	316	311
17	503	67	91	92	66	16	268	238	172
18	1170	283	894	119	119	38	275	235	174
19	1480	346	1380	294	490	388	514	542	753
20	1120	257	778	1010	678	1860	478	523	674
21	539	167	242	709	445	852	263	274	194
22	349	106	100	356	352	338	185	156	78
23	400	84	90	246	100	66	169	125	57
24	347	61	57	207	75	42	157	93	40
25	229	54	33	190	153	78	143	85	33
26	175	51	24	433	222	259	134	105	38
27	155	52	22	2000	995	5370	122	125	41
28	121	40	13	2200	1300	7730	111	117	35
29	97	40	10	---	---	---	101	89	24
30	72	37	7.3	---	---	---	95	74	19
31	59	35	5.7	---	---	---	87	74	18
TOTAL	8938	---	4199.7	13588	---	31396.7	13078	---	41614

FABIUS RIVER BASIN

05498000 MIDDLE FABIUS RIVER NEAR MONTICELLO, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	80	89	19	445	742	891	120	207	67
2	75	99	20	1080	2410	7030	89	197	47
3	97	87	23	235	899	570	70	139	26
4	134	61	22	127	420	144	60	90	15
5	208	248	139	92	256	64	55	88	13
6	417	789	887	78	174	37	238	342	220
7	200	775	418	719	1300	2520	404	1230	1340
8	125	413	139	2690	2940	21400	77	223	46
9	96	213	55	3790	3750	38400	79	130	28
10	76	146	30	1700	2960	13600	88	381	91
11	63	95	16	500	892	1200	54	228	33
12	57	74	11	266	482	347	46	121	15
13	53	99	14	208	482	270	44	139	17
14	53	59	8.5	1060	1250	3580	66	663	118
15	53	36	5.2	659	2420	4310	200	726	393
16	70	70	13	1570	2520	10700	118	514	164
17	65	74	13	4810	2940	38100	65	307	54
18	59	88	14	6600	1230	21900	42	220	25
19	59	83	13	8930	850	20500	33	170	15
20	58	90	14	8100	566	12400	29	143	11
21	61	98	16	829	650	1450	24	137	8.9
22	55	83	12	370	383	383	25	112	7.6
23	52	100	14	232	225	141	28	98	7.5
24	51	83	11	178	166	80	34	92	8.4
25	47	84	11	151	168	69	38	99	10
26	44	73	8.7	200	313	169	37	124	12
27	42	90	10	224	380	230	29	122	9.6
28	41	94	10	273	435	321	31	116	9.7
29	37	94	9.3	462	649	810	24	104	6.7
30	39	94	9.8	1050	2260	6400	21	87	5.0
31	---	---	---	182	561	276	---	---	---
TOTAL	2567	---	1985.5	47810	---	208292	2268	---	2823.4
JULY			AUGUST			SEPTEMBER			
1	24	84	5.5	40	90	9.8	8.5	108	2.5
2	79	93	20	27	89	6.6	8.7	91	2.1
3	106	203	58	22	91	5.4	8.8	96	2.3
4	116	187	59	19	86	4.3	8.9	116	2.8
5	56	152	23	19	126	6.5	8.7	115	2.7
6	35	124	12	43	162	19	8.1	101	2.2
7	25	99	6.7	56	160	24	8.4	115	2.6
8	27	94	6.8	27	116	8.5	8.2	116	2.6
9	91	130	32	21	106	5.9	8.3	104	2.3
10	2280	5420	33400	27	74	5.4	8.8	113	2.7
11	2590	2130	14900	25	73	4.9	70	358	67
12	848	1490	3400	21	74	4.2	89	278	67
13	968	1910	4980	17	66	3.1	31	166	14
14	848	1770	4040	19	60	3.0	17	137	6.2
15	374	1050	1060	20	106	5.6	28	125	9.3
16	445	1100	1320	17	98	4.6	25	113	7.5
17	161	701	304	16	77	3.3	24	110	7.3
18	98	254	67	14	100	3.8	24	128	8.3
19	69	252	47	15	94	3.7	33	744	66
20	52	150	21	14	73	2.8	3920	2880	30500
21	38	86	8.9	13	70	2.4	2890	1270	9930
22	31	72	5.9	12	86	2.8	1040	1210	3400
23	26	70	4.8	12	89	2.8	1700	1450	6670
24	24	72	4.6	11	86	2.6	2100	1520	8640
25	22	68	4.1	11	72	2.1	1830	1520	7530
26	21	90	5.2	10	92	2.6	1840	1020	5070
27	19	139	7.0	11	114	3.3	524	540	764
28	215	1680	978	9.6	108	2.8	309	642	536
29	89	611	147	9.2	109	2.7	2700	986	7190
30	51	264	36	9.0	120	2.9	6780	780	14300
31	46	176	22	8.7	128	3.0	---	---	---
TOTAL	9874	---	64985.5	595.5	---	164.4	26059.4	---	94807.4
YEAR	207344.9		595936.1						

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 county highway bridge, 4.5 mi southwest of Taylor, 5.0 mi downstream from Grassy Creek, and 5.3 mi upstream from confluence with North Fabius River.

DRAINAGE AREA.--620 mi².

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 above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to May 14, 1936, nonrecording gage at bridge 4.0 mi downstream at datum 21.94 ft lower. May 14, 1936 to Dec. 2, 1940, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 11 to Jan. 11. Water discharge records good except for period of ice effect Dec. 11 to Jan. 11, which are fair. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--One discharge measurement furnished by U.S. Army Corps of Engineers.

AVERAGE DISCHARGE.--52 years, 418 ft³/s, 9.16 in/yr, 302,800 acre-ft/yr.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1928 reached a stage of 18.49 ft, from floodmarks, at present site and datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 1	1815	5,590	9.49	Nov. 18	2130	9,400	12.50
Nov. 13	0615	7,380	10.98	May 19	1300	10,100	13.00
Nov. 15	1915	*11,500	*13.98	Sept. 24	1100	5,320	9.07

Minimum discharge, 5.5 ft³/s, Sept. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	4180	3590	48	87	1500	122	89	353	44	60	7.3
2	41	4620	2970	44	89	758	114	73	197	65	46	6.9
3	134	3780	1330	63	97	739	124	67	134	71	36	6.7
4	128	1020	741	149	626	708	152	94	107	45	30	6.0
5	174	455	598	193	1770	538	193	89	114	59	26	5.6
6	76	318	469	166	1610	502	206	82	431	60	27	6.0
7	55	260	413	109	754	463	185	161	1070	45	26	6.1
8	74	236	390	88	437	360	170	155	472	37	37	6.0
9	62	592	363	58	291	290	134	748	215	32	39	6.0
10	280	2250	496	30	249	332	113	540	319	67	45	6.0
11	2270	2070	1810	22	281	984	103	396	226	1360	34	10
12	3520	3290	1420	18	250	1300	97	177	125	2140	26	16
13	4160	6390	726	58	222	1620	92	124	95	777	24	64
14	3760	6580	347	203	185	1890	91	128	80	3250	22	86
15	2090	9660	320	302	167	997	89	507	119	4030	20	55
16	667	9840	231	177	138	552	88	1160	670	2100	20	37
17	348	6160	135	124	111	404	85	4320	298	569	19	50
18	763	5900	134	773	123	374	86	7840	154	242	17	59
19	3620	8190	117	1440	954	835	87	9680	101	148	16	32
20	3300	7090	75	1090	1380	827	85	8040	77	105	15	249
21	2480	5410	60	691	1080	520	81	4270	63	78	13	2610
22	836	1420	42	433	692	336	76	1030	55	62	12	1870
23	397	639	79	297	445	257	78	723	50	51	12	2290
24	917	468	362	263	349	224	88	439	45	44	11	4780
25	1110	369	254	203	273	203	78	901	41	40	9.9	3010
26	709	459	217	177	891	188	71	747	67	36	9.6	1060
27	364	499	155	325	3060	178	68	403	60	36	9.4	492
28	231	379	110	161	3220	171	71	332	85	117	9.1	256
29	176	323	83	161	---	159	65	1020	65	57	8.4	1710
30	147	248	65	134	---	145	70	823	46	55	7.8	8740
31	154	---	47	108	---	133	---	834	---	73	7.3	---
TOTAL	33082	93095	18149	8108	19831	18487	3162	45992	5934	15895	694.5	27538.6
MEAN	1067	3103	585	262	708	596	105	1484	198	513	22.4	918
MAX	4160	9840	3590	1440	3220	1890	206	9680	1070	4030	60	8740
MIN	39	236	42	18	87	133	65	67	41	32	7.3	5.6
CAL YR 1985		TOTAL	318728.3	MEAN	873	MAX	16000	MIN	6.3			
WTR YR 1986		TOTAL	289968.1	MEAN	794	MAX	9840	MIN	5.6			

FABIUS RIVER BASIN

05500000 SOUTH FABIUS RIVER NEAR TAYLOR, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1972 to August 1973, October 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CAO3) (00900)
OCT										
16...	1615	667	236	7.80	14.5	8.4	80	43	1400	100
NOV										
20...	1120	6840	140	7.40	7.0	11.1	87	51	9400	--
DEC										
10...	1645	452	374	7.80	2.0	11.9	83	53	270	--
JAN										
08...	1100	82	368	7.00	0.0	13.2	91	30	K8	160
FEB										
12...	0840	271	376	6.90	0.0	13.5	92	60	K4	--
MAR										
11...	1200	1090	346	8.20	7.0	13.4	112	46	K90	--
APR										
09...	0830	133	471	8.40	15.0	10.4	104	11	K22	210
MAY										
14...	1140	111	282	7.90	21.0	7.5	86	58	K1700	--
JUN										
11...	0830	251	250	7.80	24.5	6.8	84	78	K6800	--
JUL										
09...	1140	32	395	8.30	27.5	6.4	82	38	96	210
AUG										
26...	0830	9.5	448	8.30	26.0	7.0	88	25	240	--
SEP										
17...	1115	48	364	8.30	19.0	7.2	79	40	>6000	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CAO3 (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)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CAO3 (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										
16...	21	30	6.0	5.1	5.8	81	2.4	29	6.9	0.20
NOV										
20...	--	--	--	--	--	50	4.2	--	--	--
DEC										
10...	--	--	--	--	--	141	4.4	--	--	--
JAN										
08...	34	49	10	12	5.6	125	25	45	9.9	0.20
FEB										
12...	--	--	--	--	--	122	32	--	--	--
MAR										
11...	--	--	--	--	--	129	1.6	--	--	--
APR										
09...	41	63	14	17	3.3	169	1.1	73	9.7	0.20
MAY										
14...	--	--	--	--	--	92	2.3	--	--	--
JUN										
11...	--	--	--	--	--	85	2.6	--	--	--
JUL										
09...	28	65	12	13	4.1	179	1.8	50	8.6	0.30
AUG										
26...	--	--	--	--	--	184	1.8	--	--	--
SEP										
17...	--	--	--	--	--	149	1.5	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[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 upstream from City Waterworks dam, 1,000 ft upstream from upstream bridge on dual U.S. Highways 24 and 61, 0.5 mi north of Palmyra, and 7.0 mi upstream from mouth.

DRAINAGE AREA.--373 mi².

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

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

REMARKS.--Estimated daily discharges: June 18-24. Records good. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--One discharge measurement furnished by U.S. Army Corps of Engineers.

AVERAGE DISCHARGE.--51 years, 263 ft³/s, 9.58 in/yr, 190,500 acre-ft/yr.

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

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 13	0815	11,400	19.69	Dec. 1	0745	9,410	18.63
Nov. 14	0945	8,610	18.13	May 17	1915	8,910	18.32
Nov. 15	2215	17,700	22.12	Sept. 24	1315	11,300	19.63
Nov. 19	0345	*21,800	*23.33	Sept. 30	1500	11,100	19.53
Nov. 20	0045	12,300	20.14				

Minimum daily discharge, 1.9 ft³/s, Aug. 30, 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	4940	6930	68	40	399	66	30	169	39	8.6	2.9
2	39	1770	1230	74	45	291	63	32	113	129	6.4	2.2
3	27	765	1150	101	51	262	76	27	99	48	6.1	2.2
4	39	302	377	147	1150	238	107	24	91	27	7.2	2.7
5	180	202	292	132	914	210	94	23	138	17	8.8	2.9
6	73	159	193	90	496	220	90	23	682	11	13	2.8
7	45	143	185	52	276	196	72	30	404	8.7	15	4.3
8	41	130	173	51	204	153	62	38	315	8.0	16	3.7
9	34	487	183	40	151	136	57	72	199	7.0	13	3.1
10	934	2300	456	39	111	180	53	50	303	46	13	3.6
11	1160	929	3560	40	95	406	50	39	204	228	11	6.3
12	641	2400	997	44	81	336	49	32	152	84	6.7	9.8
13	514	7380	730	46	72	476	50	34	113	128	6.6	13
14	715	5540	515	74	70	435	51	31	107	1040	7.4	6.7
15	1730	10200	342	70	57	258	51	51	275	580	10	4.5
16	410	8200	189	67	68	183	52	335	367	291	10	3.3
17	203	1400	156	66	67	148	50	5090	234	121	8.0	6.2
18	1270	6710	102	213	105	147	51	7410	120	69	6.8	61
19	3650	14500	115	336	668	483	52	3130	80	47	5.4	67
20	887	5430	99	217	757	333	50	2630	56	38	4.3	74
21	387	1130	88	155	330	195	49	1790	43	26	6.4	80
22	224	533	82	114	290	146	48	793	34	17	6.6	111
23	164	379	199	87	201	127	46	346	29	12	5.8	448
24	802	293	502	88	161	109	42	143	24	11	3.9	8430
25	604	241	180	70	144	100	42	125	22	10	3.3	1120
26	252	1160	159	58	705	94	38	162	18	7.7	3.8	323
27	149	679	155	28	1770	92	29	129	14	6.7	4.0	156
28	109	366	100	47	875	85	30	137	14	10	2.7	111
29	89	265	87	41	---	81	28	518	13	9.3	2.0	2810
30	79	223	78	36	---	76	28	370	11	9.5	1.9	10200
31	83	---	69	36	---	71	---	349	---	9.7	1.9	---
TOTAL	15560	79156	19673	2727	9954	6666	1626	23993	4443	3095.6	225.6	24071.2
MEAN	502	2639	635	88.0	356	215	54.2	774	148	99.9	7.28	802
MAX	3650	14500	6930	336	1770	483	107	7410	682	1040	16	10200
MIN	26	130	69	28	40	71	28	23	11	6.7	1.9	2.2
CAL YR 1985		TOTAL	225053.8	MEAN	617	MAX	16000	MIN	5.7			
WTR YR 1986		TOTAL	191190.4	MEAN	524	MAX	14500	MIN	1.9			

MISSISSIPPI RIVER MAIN STEM

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05501600 MISSISSIPPI RIVER AT HANNIBAL, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 39°43'26", long 91°21'44", Marion County, Hydrologic Unit 07110004, at railroad bridge upstream from Highway 36 bridge at Hannibal, Mo.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)
OCT										
17...	0800	394	8.30	13.5	8.4	80	38	310	180	57
NOV										
20...	1240	220	7.60	8.0	11.8	95	49	6400	--	--
DEC										
11...	0800	418	8.00	1.0	12.8	88	43	2700	--	--
JAN										
08...	1305	510	7.60	3.0	10.5	78	21	K44	250	51
FEB										
12...	1030	463	7.10	0.5	15.0	104	38	K30	--	--
MAR										
11...	1330	460	8.20	2.5	14.3	106	37	K36	--	--
APR										
09...	1015	428	8.10	13.5	9.4	91	47	K90	200	43
MAY										
13...	1630	495	8.40	21.0	5.9	67	27	K150	--	--
JUN										
11...	1015	490	8.00	24.0	6.3	77	28	390	--	--
JUL										
09...	1430	445	8.10	26.0	6.6	83	18	K500	210	41
AUG										
26...	1020	419	8.20	25.0	7.3	90	18	K20	--	--
SEP										
17...	1315	417	8.20	20.0	7.7	86	22	240	--	--

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)	ALKA- LINITY WH WAT TOTAL 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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
OCT										
17...	44	17	9.1	3.3	123	1.2	35	13	0.20	231
NOV										
20...	--	--	--	--	79	4.2	--	--	--	--
DEC										
11...	--	--	--	--	157	3.2	--	--	--	--
JAN										
08...	59	26	11	2.5	197	9.9	40	20	0.20	306
FEB										
12...	--	--	--	--	196	33	--	--	--	--
MAR										
11...	--	--	--	--	187	2.3	--	--	--	--
APR										
09...	51	17	8.1	3.3	148	2.4	30	14	0.20	254
MAY										
13...	--	--	--	--	171	0.9	--	--	--	--
JUN										
11...	--	--	--	--	172	3.4	--	--	--	--
JUL										
09...	54	19	8.0	2.6	169	2.7	41	12	0.30	266
AUG										
26...	--	--	--	--	160	2.0	--	--	--	--
SEP										
17...	--	--	--	--	160	2.1	--	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
7...	61	2.10	0.130	0.260	2	1	9	2	3800
0...	310	1.30	0.140	0.240	--	--	--	--	--
1...	158	3.80	0.180	0.180	--	--	--	--	--
8...	27	3.10	0.270	0.110	<1	<1	4	4	780
2...	23	2.70	0.580	0.250	--	--	--	--	--
1...	100	2.60	0.500	0.190	--	--	--	--	--
9...	58	4.20	--	0.240	<1	<1	10	4	4100
3...	182	3.60	0.080	0.170	--	--	--	--	--
1...	170	5.10	0.040	0.260	--	--	--	--	--
9...	113	4.10	0.040	0.190	<1	<1	14	4	3500
6...	19	2.00	0.050	0.180	--	--	--	--	--
7...	41	1.10	0.100	0.120	--	--	--	--	--

[illegible]

BEAR CREEK BASIN

35

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 upstream from upstream bridge on dual U.S. Highway 61 at Hannibal, and 4.65 mi upstream from mouth.

DRAINAGE AREA.--31.0 mi².

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 above 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 datum 2.00 ft higher. Oct. 1, 1953 to Oct. 30, 1961, water-stage recorder, present site and datum. Oct. 31, 1961, to Sept. 5, 1972, water-stage recorder 400 ft downstream at present datum. Sept. 6, 1972, to July 2, 1986, water-stage recorder 525 ft upstream at present datum. July 2, 1986, to present, water-stage recorder 525 ft downstream at present datum.

REMARKS.--Estimated daily discharges: June 30 to July 2. Records good. High flow regulated by Bear Creek flood control reservoir, 1.0 mi upstream, since Aug. 7, 1961. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--43 years, 20.8 ft³/s, 15,070 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,270 ft³/s, Nov. 14, gage height, 9.18 ft; minimum daily, 1.4 ft³/s, Sept. 7-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	82	167	9.5	7.1	29	6.7	9.4	5.5	2.2	1.6	1.5
2	3.5	60	119	10	7.7	28	6.7	4.5	4.6	2.3	1.6	1.5
3	3.3	59	112	12	15	30	10	4.2	4.4	2.1	1.6	1.5
4	5.6	57	102	11	41	34	8.5	4.7	4.3	2.0	1.5	1.5
5	5.8	55	105	10	37	33	7.6	3.4	12	1.9	1.5	1.5
6	4.9	52	97	8.9	40	32	6.9	3.9	23	1.9	1.7	1.5
7	4.1	50	83	11	41	29	6.7	3.3	23	1.9	1.7	1.4
8	3.6	49	74	7.5	38	28	6.0	3.2	58	1.9	1.6	1.4
9	4.0	28	21	6.5	37	26	5.3	3.3	11	1.9	1.5	1.4
10	21	43	52	6.7	36	25	5.3	3.3	12	1.9	1.5	1.4
11	31	42	70	7.5	35	18	5.7	3.5	7.2	2.1	1.5	1.6
12	33	120	57	8.8	33	16	5.7	3.8	5.9	2.2	1.5	1.7
13	18	344	54	8.2	31	19	5.8	4.1	4.7	2.3	1.6	1.5
14	43	700	53	7.5	29	18	7.5	3.8	4.4	6.3	1.5	1.5
15	73	448	51	6.6	20	14	6.6	3.3	5.0	4.1	1.9	1.5
16	68	455	51	7.9	12	12	6.0	4.3	4.3	2.1	2.0	1.5
17	63	381	49	9.9	11	12	5.7	200	3.5	1.9	1.7	1.6
18	56	361	40	9.9	26	14	5.8	121	3.2	1.8	1.6	1.8
19	61	156	14	9.9	35	16	5.9	18	3.0	1.7	1.5	1.6
20	59	398	12	9.9	32	12	5.3	12	3.0	1.7	1.5	1.7
21	55	671	14	9.4	31	9.9	6.5	9.6	2.7	1.7	1.5	1.8
22	29	596	13	9.3	31	9.3	5.7	8.1	2.7	1.6	1.5	2.2
23	11	537	29	9.3	30	9.3	4.8	7.3	2.6	1.6	1.6	16
24	11	424	35	8.8	29	9.0	4.4	6.7	2.4	1.6	1.5	277
25	9.2	46	42	8.2	29	8.6	5.1	6.6	2.2	1.6	1.5	215
26	8.7	125	19	9.9	31	10	4.0	6.7	2.2	1.6	1.5	6.1
27	7.9	147	12	18	30	8.9	4.1	6.0	2.2	1.6	2.0	4.5
28	7.7	136	14	7.5	29	8.2	4.7	8.2	2.2	1.7	1.7	2.6
29	7.3	78	11	7.2	---	8.1	4.0	18	2.2	1.7	1.6	2.8
30	7.2	42	12	8.5	---	8.1	5.4	8.5	2.2	1.6	1.5	22
31	15	---	9.9	6.7	---	7.5	---	6.5	---	1.6	1.5	---
TOTAL	734.4	6742	1593.9	282.0	803.8	541.9	178.4	509.2	225.6	64.1	49.5	580.6
MEAN	23.7	225	51.4	9.10	28.7	17.5	5.95	16.4	7.52	2.07	1.60	19.4
MAX	73	700	167	18	41	34	10	200	58	6.3	2.0	277
MIN	3.3	28	9.9	6.5	7.1	7.5	4.0	3.2	2.2	1.6	1.5	1.4
CAL YR 1985	TOTAL		18143.6	MEAN		49.7	MAX		700	MIN		1.8
WTR YR 1986	TOTAL		12305.4	MEAN		33.7	MAX		700	MIN		1.4

SALT RIVER BASIN

05502300 NORTH FORK SALT RIVER AT HAGERS GROVE, MO

LOCATION.--Lat 39°49'40", long 92°14'10", in NE¼SW¼ sec.15, T.58 N., R.12 W., Shelby County, Hydrologic Unit 07110005, at bridge on State Highway 151, 200 ft downstream from old channel carrying Bear Creek, 0.25 mi west of Hagers Grove, 2.5 mi upstream from Ten Mile Creek, and at mile 143.8.

DRAINAGE AREA.--365 mi².

PERIOD OF RECORD.--September 1974 to current year. (Prior to October 1983 published as Salt River at Hagers Grove, Mo.). September 1939 to August 1974, gage height and miscellaneous measurements published by U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 702.30 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 29 to Feb. 18. Records fair. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--12 years, 316 ft³/s, 11.76 in/yr, 228,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,900 ft³/s, June 6, 1947, gage height, 19.7 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1928 reached a stage of 19.1 ft, according to information furnished by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 11	0730	9,820	17.24	Nov. 19	1830	5,290	13.37
Oct. 19	0630	6,810	15.18	May 18	0830	*13,900	*18.32
Nov. 13	0230	6,530	14.92	July 14	1830	6,470	14.84
Nov. 15	2030	8,010	16.16	Sept. 30	0445	9,660	17.18
Nov. 18	2315	6,120	14.41				

Minimum daily discharge, 7.7 ft³/s, Sept. 6, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	507	4130	1500	112	22	425	52	35	93	71	16	8.4
2	171	1950	956	122	25	241	46	85	64	228	15	8.4
3	51	407	380	586	38	242	76	53	56	159	15	8.4
4	65	161	226	460	1390	198	163	38	41	96	14	8.8
5	86	79	198	221	1430	184	174	31	35	56	19	8.4
6	87	40	145	125	446	190	142	141	67	41	26	7.7
7	23	49	123	93	233	157	98	692	43	192	19	8.1
8	16	112	126	81	144	110	71	468	71	590	22	8.7
9	226	55	217	69	112	108	57	275	56	209	16	8.4
10	6230	1150	260	66	283	295	51	487	74	1360	15	7.7
11	7230	1290	854	69	159	1150	49	192	75	1860	15	43
12	3410	2090	509	428	104	666	44	135	60	855	13	58
13	2900	4680	306	557	75	1840	43	227	87	1000	13	67
14	1360	3070	187	355	90	728	44	793	204	3660	14	29
15	488	5760	105	281	71	338	48	912	747	2170	13	13
16	221	4320	61	188	76	233	52	1510	227	1620	13	13
17	120	1400	43	714	82	189	47	8770	104	280	13	16
18	1630	2660	55	934	125	262	45	13000	54	132	12	10
19	5460	4950	54	715	771	661	54	5090	34	94	11	12
20	1820	2600	49	313	881	300	55	1070	20	61	12	154
21	437	483	42	213	301	172	54	412	23	45	12	266
22	216	295	34	165	167	144	48	287	17	34	11	130
23	134	220	84	97	360	137	40	204	135	22	11	2310
24	2390	144	314	78	134	125	36	158	94	40	9.8	2420
25	770	86	278	63	136	112	33	258	34	40	9.8	879
26	217	116	226	49	1020	109	29	289	13	23	9.2	227
27	102	166	178	61	2590	104	25	173	9.1	21	9.1	145
28	50	88	145	60	600	89	24	139	55	23	9.1	241
29	23	63	117	49	---	79	28	100	14	24	8.4	2900
30	18	161	94	38	---	67	30	84	12	26	8.4	7640
31	203	---	102	41	---	60	---	139	---	19	8.4	---
TOTAL	36661	42775	7968	7403	11865	9715	1758	36247	2618.1	15051	412.2	17656.0
MEAN	1183	1426	257	239	424	313	58.6	1169	87.3	486	13.3	589
MAX	7230	5760	1500	934	2590	1840	174	13000	747	3660	26	7640
MIN	16	40	34	38	22	60	24	31	9.1	19	8.4	7.7

CAL YR 1985	TOTAL	175692.7	MEAN	481	MAX	12100	MIN	4.5
WTR YR 1986	TOTAL	190129.3	MEAN	521	MAX	13000	MIN	7.7

SALT RIVER BASIN

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05502300 NORTH FORK SALT RIVER AT HAGERS GROVE, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.16	11.84	---	.75	.22	2.01	.25	.13	.46	.78	.47	.28
2	1.33	7.69	---	.78	.22	1.48	.20	.56	.30	.17	.46	.28
3	.78	2.60	2.25	---	.31	1.49	.31	.26	.25	1.00	.56	.28
4	.80	1.46	1.18	---	4.42	1.16	.64	.18	.14	.65	.41	.30
5	.90	.97	1.30	---	6.34	1.02	1.01	.19	.11	.34	.56	.28
6	.98	.67	.91	.86	2.74	1.12	.80	.04	.53	.15	.59	.27
7	.53	.66	.89	.70	1.34	.92	.51	.83	.12	.10	.55	.27
8	.38	1.19	.79	.60	.86	.56	.36	2.84	.31	3.28	.60	.28
9	.26	.72	1.18	.55	---	.53	.28	1.42	.28	1.17	.50	.28
10	14.96	1.67	1.25	.50	1.96	.94	.23	2.64	.33	.81	.49	.27
11	17.19	5.52	4.69	.48	---	5.60	.23	1.16	.21	8.05	.47	.53
12	9.31	2.37	---	---	.48	2.47	.19	.73	.27	4.43	.44	.92
13	9.45	13.93	---	---	.33	7.28	.18	.86	.38	6.43	.44	.97
14	5.77	9.82	---	---	.33	3.88	.18	4.62	.12	4.48	.45	.67
15	2.93	13.03	---	---	.32	2.05	.21	1.65	4.14	7.32	.42	.48
16	1.74	12.93	---	---	.37	1.40	.24	6.43	1.47	6.72	.42	.45
17	1.22	6.88	---	---	.39	1.08	.22	15.83	.54	2.00	.42	.47
18	.93	4.07	.65	---	.48	1.13	.18	18.29	.24	1.30	.41	.39
19	15.09	12.04	.48	---	4.54	3.77	.26	13.63	.14	1.08	.38	.38
20	7.06	9.49	.44	---	4.58	1.89	.26	4.87	.03	.88	.38	.50
21	2.68	2.75	.38	---	1.81	1.01	.26	2.48	.11	.77	.37	1.74
22	1.71	1.62	.32	---	.79	.77	.23	1.65	.09	.68	.36	.99
23	1.26	1.29	.34	---	1.10	.72	.17	1.27	.02	.56	.34	9.21
24	9.28	.99	1.52	.55	.67	.64	.14	.93	.64	.53	.32	9.43
25	4.25	.60	1.51	.44	.54	.57	.12	.58	.13	.85	.32	4.69
26	1.73	.67	1.35	.33	1.95	.52	.10	1.75	.04	.55	.31	1.82
27	1.12	1.12	1.03	.50	9.46	.53	.07	.91	.10	.59	.31	1.44
28	.79	.64	.92	.55	3.21	.44	.05	.74	.52	.53	.30	2.63
29	.57	---	.80	.43	---	.40	.16	.50	.05	.61	.29	2.03
30	.49	.69	.65	.36	---	.34	.10	.39	.08	.71	.29	16.96
31	.40	---	.76	.40	---	.29	---	.87	---	.56	.29	---

SALT RIVER BASIN

05503500 NORTH FORK SALT RIVER NEAR HUNNEWELL, MO

LOCATION.--Lat 39°40'05", long 91°54'11", in SE¼SE¼NE¼ sec.9, T.56 N., R.9 W., Shelby County, Hydrologic Unit 07110005, on right bank near downstream end of bridge on U.S. Highway 36, 1.5 mi downstream from Black Creek and 2 mi west of Hunnewell, at mile 105.8.

DRAINAGE AREA.--626 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1931 to September 1940, October 1979 to current year. 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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 18 to Dec. 25, Jan. 20-31, and Aug. 26 to Sept. 3. Water discharge records good except for period of estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--16 years (water years 1932-40, 1980 to current year), 466 ft³/s, 10.11 in/yr, 337,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,560 ft³/s, April 23, 1973, gage height, 25.16 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 12	2000	8,100	16.56	Nov. 20	2100	10,400	18.68
Nov. 17	0530	10,700	18.96	May 19	1645	*14,400	*21.12

Minimum daily discharge, 8.8 ft³/s, Aug. 29, Sept. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	442	3720	1180	321	99	741	91	38	160	64	26	9.1
2	357	5560	2480	341	112	456	84	38	140	118	24	8.8
3	172	3220	1800	395	169	413	103	50	106	234	22	11
4	144	631	714	747	975	388	144	70	88	178	20	11
5	192	365	585	693	2660	332	234	46	76	101	20	11
6	148	278	525	436	1390	335	224	36	291	68	25	10
7	142	234	442	303	552	317	188	106	442	49	31	10
8	96	243	425	250	423	257	147	735	1060	316	31	10
9	62	483	442	217	328	210	114	374	457	442	27	10
10	2010	1930	500	201	212	306	96	395	390	242	30	10
11	5360	2430	2040	201	178	1100	83	311	264	1930	25	15
12	7420	2090	1540	207	158	1080	77	182	167	1490	19	20
13	6950	5840	950	411	129	1510	69	127	139	1440	19	63
14	4220	8550	679	693	112	1780	68	371	115	1270	17	49
15	2840	9690	508	491	83	681	70	588	566	3780	18	52
16	916	10000	442	385	85	409	68	1440	646	3000	18	32
17	377	10200	382	414	88	308	70	3720	290	1180	18	26
18	1140	5650	353	1530	111	287	72	8890	172	274	16	38
19	4440	7740	310	1770	357	724	66	13900	115	156	15	34
20	6020	9000	265	1570	1680	742	72	11500	85	101	14	26
21	2910	5280	205	796	944	364	80	3110	66	72	14	124
22	596	883	184	484	457	242	76	566	54	55	12	217
23	379	711	355	311	354	202	66	355	49	45	12	1210
24	1250	583	679	195	294	184	58	279	96	40	12	5560
25	2970	442	827	163	249	169	53	230	139	38	11	4360
26	950	420	679	140	808	157	52	380	88	50	10	1030
27	389	474	543	115	3320	146	48	373	60	43	11	337
28	274	411	442	111	2830	137	42	277	48	34	9.4	333
29	210	380	382	109	---	124	41	220	53	29	8.8	2640
30	176	184	341	95	---	114	39	176	67	27	9.1	8450
31	214	---	303	92	---	102	---	140	---	25	9.1	---
TOTAL	53766	97622	21502	14187	19157	14317	2695	49023	6489	16891	553.4	24716.9
MEAN	1734	3254	694	458	684	462	89.8	1581	216	545	17.9	824
MAX	7420	10200	2480	1770	3320	1780	234	13900	1060	3780	31	8450
MIN	62	184	184	92	83	102	39	36	48	25	8.8	8.8
CAL YR 1985		TOTAL	347764	MEAN	953	MAX	18300	MIN	11			
WTR YR 1986		TOTAL	320919.3	MEAN	879	MAX	13900	MIN	8.8			

SALT RIVER BASIN

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

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.53	10.78	14.49	4.15	3.10	5.74	3.20	2.66	3.25	2.57	2.53	2.14
2	4.39	13.69	15.99	4.24	3.18	4.70	3.15	2.65	3.28	2.99	2.51	2.13
3	3.73	12.15	15.08	4.31	3.36	4.51	3.24	2.64	3.06	3.08	2.47	2.15
4	3.34	5.28	14.02	5.50	5.52	4.47	3.40	2.99	2.94	3.51	2.42	2.21
5	3.86	4.40	13.39	5.43	9.71	4.25	3.69	2.75	2.84	3.04	2.41	2.19
6	3.56	4.07	12.67	4.66	7.47	4.24	3.82	2.64	4.21	2.81	2.46	2.17
7	3.60	3.88	12.03	4.12	5.02	4.22	3.65	2.57	3.38	2.63	2.59	2.18
8	3.29	3.84	11.36	3.93	4.68	4.00	3.45	5.98	4.93	2.54	2.62	2.17
9	3.00	4.11	10.67	3.74	4.38	3.79	3.26	4.53	4.63	4.60	2.56	2.17
10	3.04	8.07	10.18	3.68	3.70	3.84	3.12	3.80	3.92	3.72	2.60	2.16
11	13.30	9.42	12.48	3.66	3.42	5.40	3.02	4.19	3.90	8.30	2.52	2.29
12	15.55	7.30	12.38	3.68	3.27	6.69	3.00	3.66	3.36	7.61	2.41	2.42
13	15.94	13.90	10.89	3.85	3.17	6.49	2.94	3.34	3.30	6.02	2.39	3.14
14	12.17	16.85	10.05	5.40	3.22	8.63	2.92	3.24	3.00	6.25	2.37	2.79
15	10.54	17.55	9.36	4.78	2.93	5.43	2.94	5.24	3.69	11.07	2.39	2.91
16	6.14	18.15	8.67	4.45	3.02	4.55	2.92	7.17	5.35	10.80	2.38	2.65
17	4.58	18.92	7.89	4.24	3.05	4.19	2.92	9.20	3.99	7.57	2.38	2.50
18	4.09	12.43	7.13	7.13	3.10	4.01	2.94	15.41	3.45	4.11	2.35	2.59
19	12.15	15.58	6.31	7.77	3.94	4.97	2.91	20.91	3.13	3.60	2.32	2.66
20	14.23	18.35	5.51	7.57	8.45	5.75	2.93	20.13	2.92	3.30	2.28	2.54
21	11.18	18.37	4.83	5.81	6.36	4.43	3.02	11.02	2.78	3.09	2.30	2.56
22	5.16	14.96	4.43	4.88	4.87	3.94	2.99	5.08	2.68	2.92	2.24	3.87
23	4.46	14.60	4.39	4.21	4.47	3.77	2.92	4.27	2.60	2.79	2.22	4.93
24	4.17	14.17	5.37	4.00	4.29	3.68	2.85	3.89	2.60	2.71	2.23	13.70
25	10.84	13.76	5.62	3.80	3.85	3.61	2.80	3.71	3.29	2.71	2.19	13.61
26	6.29	13.42	5.32	3.67	4.49	3.56	2.78	3.60	2.96	2.81	2.16	6.57
27	4.50	13.73	4.91	3.43	10.32	3.51	2.77	4.19	2.73	2.77	2.19	4.32
28	4.06	13.59	4.63	3.16	10.96	3.47	2.70	3.86	2.62	2.65	2.15	3.85
29	3.82	13.16	4.44	3.33	---	3.40	2.67	3.65	2.55	2.58	2.13	4.63
30	3.65	12.61	4.24	3.17	---	3.35	2.66	3.45	2.81	2.55	2.11	16.58
31	3.56	---	4.11	3.06	---	3.28	---	3.25	---	2.53	2.14	---

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 DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,460 mg/L, Sept. 30, 1986; minimum daily mean, 1 mg/L, Nov. 29, 30, Dec. 3, 1980.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 78,900 tons, Sept. 30, 1986; minimum daily, 0.03 tons, Nov. 29, 30 Dec. 3, 1980.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,460 mg/L, Sept. 30; minimum daily mean, 25 mg/L, Jan. 27.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 78,900 tons, Sept. 30; minimum daily, 1.1 tons, Sept. 2.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	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)
OCT 02...	0915	371	68	79	89	96	99	--	--	--	--
NOV 13...	1120	5920	52	59	67	76	89	91	97	100	--
FEB 05...	1500	2720	37	44	55	72	97	99	100	100	--
JUL 16...	1325	2550	16	18	20	23	27	28	59	93	99
SEP 30...	1445	8400	53	61	--	74	82	86	95	100	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

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 02...	14	24	54	83	89	91	92	94	95	100
MAR 24...	0	0	1	23	41	43	43	44	45	93
JUN 03...	0	0	1	4	6	11	13	18	25	74

SALT RIVER BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	442	523	624	3720	932	9360	1180		
2	357	505	487	5560	572	8590	2480		
3	172	271	126	3220	421	3660	1800		
4	144	213	83	631	164	280	714		
5	192	179	93	365	98	96	585		
6	148	139	56	278	87	65	525		
7	142	118	45	234	60	38	442		
8	96	117	30	243	54	35	425		
9	62	116	19	483	113	320	442		
10	2010	1080	9390	1930	1060	5560	500		
11	5360	960	13900	2430	1040	6830	2040		
12	7420	442	8850	2090	736	4150	1540		
13	6950	326	6120	5840	619	9750	950		
14	4220	551	6270	8550	380	8760	679		
15	2840	570	4370	9690	413	10800	508		
16	916	353	873	10000	270	7300	442		
17	377	161	164	10200	230	6320	382		
18	1140	336	1930	5650	477	7280	353		
19	4440	1190	14300	7740	481	10000	310		
20	6020	512	8320	9000	304	7390	265		
21	2910	418	3290	5280	207	2950	205		
22	596	198	319	883	197	470	184		
23	379	130	133	711	135	260	355		
24	1250	357	1870	583	82	129	679		
25	2970	762	6100	442	69	82	827		
26	950	348	893	420	104	118	679		
27	389	69	72	474	161	206	543		
28	274	69	51	411	103	114	442		
29	210	68	39	380	79	81	382		
30	176	47	23	184	43	21	341		
31	214	139	80	---	---	---	303		
TOTAL	53766	---	88920	97622	---	111015	21502		
JANUARY			FEBRUARY			MARCH			
1	321	---	---	99	---	---	741	463	926
2	341	---	---	112	33	9.9	456	245	302
3	395	---	---	169	91	41	413	157	175
4	747	---	---	975	938	4150	388	142	149
5	693	---	---	2660	1740	12500	332	136	122
6	436	---	---	1390	678	2540	335	108	97
7	303	---	---	552	303	451	317	74	63
8	250	---	---	423	168	192	257	100	69
9	217	---	---	328	106	94	210	106	60
10	201	---	---	212	99	57	306	101	84
11	201	---	---	178	---	---	1100	691	2600
12	207	---	---	158	---	---	1080	1460	4270
13	411	---	---	129	---	---	1510	1000	4100
14	693	---	---	112	---	---	1780	1490	7160
15	491	---	---	83	---	---	681	577	1060
16	385	---	---	85	---	---	409	248	274
17	414	---	---	88	---	---	308	157	131
18	1530	---	---	111	---	---	287	88	68
19	1770	---	---	357	---	---	724	375	732
20	1570	---	---	1680	---	---	742	668	1340
21	796	109	235	944	---	---	364	315	310
22	484	62	81	457	---	---	242	140	92
23	311	39	33	354	---	---	202	102	56
24	195	35	18	294	111	88	184	91	45
25	163	33	15	249	115	77	169	169	77
26	140	28	11	808	649	2810	157	140	59
27	115	25	7.8	3320	2250	20200	146	100	39
28	111	---	---	2830	1020	7820	137	104	38
29	109	---	---	---	---	---	124	109	36
30	95	---	---	---	---	---	114	97	30
31	92	---	---	---	---	---	102	80	22
TOTAL	14187	---	---	19157	---	---	14317	---	24586

SALT RIVER BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	91	63	16	38	87	8.9	160	124	53
2	84	80	18	38	77	7.9	140	108	41
3	103	55	15	50	73	9.8	106	92	26
4	144	80	31	70	73	14	88	92	22
5	234	81	51	46	103	13	76	120	24
6	224	79	48	36	224	22	291	1300	1320
7	188	64	33	106	2230	639	442	1570	1870
8	147	49	19	735	1030	2050	1060	2110	6050
9	114	53	16	374	617	623	457	986	1220
10	96	57	15	395	2590	3520	390	513	541
11	83	43	9.6	311	1000	842	264	601	429
12	77	23	4.9	182	567	279	167	463	209
13	69	28	5.2	127	437	150	139	323	121
14	68	41	7.6	371	307	308	115	287	89
15	70	59	11	588	1370	2170	566	920	2060
16	68	54	9.8	1440	2420	9360	646	2580	4500
17	70	53	10	3720	2980	36200	290	1260	987
18	72	61	12	8890	2670	68100	172	721	334
19	66	47	8.4	13900	1050	39400	115	549	171
20	72	60	12	11500	445	13800	85	419	97
21	80	67	15	3110	636	5340	66	270	48
22	76	54	11	566	385	589	54	335	49
23	66	52	9.2	355	229	219	49	381	50
24	58	63	9.8	279	171	129	96	262	68
25	53	54	7.8	230	153	95	139	173	65
26	52	75	11	380	202	208	88	109	26
27	48	82	11	373	720	726	60	116	19
28	42	46	5.3	277	680	509	48	80	10
29	41	54	6.0	220	397	236	53	85	12
30	39	90	9.5	176	253	121	67	95	17
31	---	---	---	140	164	62	---	---	---
TOTAL	2695	---	448.1	49023	---	185750.6	6489	---	20528
JULY			AUGUST			SEPTEMBER			
1	64	171	30	26	55	3.8	9.1	61	1.5
2	118	301	95	24	50	3.3	8.8	46	1.1
3	234	246	156	22	54	3.2	11	64	1.9
4	178	310	149	20	52	2.8	11	44	1.3
5	101	341	93	20	56	3.0	11	45	1.3
6	68	552	101	25	55	3.8	10	56	1.5
7	49	539	72	31	62	5.1	10	53	1.5
8	316	1120	1850	31	62	5.2	10	52	1.4
9	442	1650	1970	27	55	4.0	10	57	1.5
10	242	827	540	30	57	4.6	10	64	1.8
11	1930	4080	22400	25	45	3.0	15	83	3.4
12	1490	1590	6420	19	52	2.7	20	84	4.5
13	1440	1050	4100	19	43	2.2	63	65	11
14	1270	1670	5730	17	61	2.9	49	62	8.2
15	3780	2400	24400	18	70	3.4	52	59	8.3
16	3000	901	7290	18	70	3.5	32	63	5.4
17	1180	522	1660	18	65	3.1	26	64	4.5
18	274	285	211	16	49	2.1	38	66	6.8
19	156	143	60	15	68	2.8	34	56	5.1
20	101	128	35	14	48	1.8	26	82	5.8
21	72	114	22	14	47	1.8	124	89	30
22	55	101	15	12	50	1.6	217	274	160
23	45	86	10	12	60	2.0	1210	1370	6120
24	40	67	7.3	12	75	2.4	5560	1370	20600
25	38	73	7.5	11	54	1.6	4360	538	6340
26	50	62	8.4	10	58	1.6	1030	474	1320
27	43	59	6.9	11	47	1.4	337	274	250
28	34	56	5.1	9.4	56	1.4	333	325	292
29	29	62	4.8	8.8	49	1.2	2640	1460	18700
30	27	65	4.7	9.1	61	1.5	8450	3460	78900
31	25	71	4.8	9.1	55	1.3	---	---	---
TOTAL	16891	---	77458.5	553.4	---	84.1	24716.9	---	132789.8
YEAR	320919.3		693010.8						

SALT RIVER BASIN

43

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 county road bridge, 7 mi north of Paris, 1.4 mi north of State Route 15, and at mile 8.9.

DRAINAGE AREA.--80.0 mi².

PERIOD OF RECORD.--October 1979 to current year. March 1966 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 above National Geodetic Vertical Datum of 1929. Prior to Nov. 8, 1967 wire-weight gage and Nov. 9, 1967 to Sept. 1979 recording gage at datum 50 ft lower.

REMARKS.--Estimated daily discharges: Oct. 1-16 and Dec. 1-4. Records good except for periods of no gage height record, which are poor. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--7 years, 69.5 ft³/s, 11.80 in/yr, 50,400 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 19	0015	1,430	6.86	Nov. 20	0330	2,550	9.08
Nov. 1	1415	1,540	7.09	Dec. 1	0545	1,670	7.35
Nov. 14	0745	2,450	8.90	May 17	1315	1,470	6.94
Nov. 16	1615	2,470	8.95	Sept. 24	1215	1,280	6.56
Nov. 18	2330	2,630	9.19	Sept. 30	1215	*4,040	*10.94

Minimum daily discharge, 0.12 ft³/s, Aug. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	1280	1000	7.5	4.0	54	8.0	2.0	4.1	5.5	.44	.39
2	7.0	942	245	17	6.4	43	6.9	2.1	2.8	5.8	.36	.30
3	5.5	128	59	15	31	41	15	1.8	2.2	16	.31	.27
4	4.5	44	45	34	399	38	19	1.7	1.5	9.2	.29	.27
5	10	24	38	17	280	33	20	1.4	1.6	4.1	.26	.24
6	8.0	15	28	9.2	89	32	14	1.4	5.7	1.6	.59	.20
7	4.0	13	24	5.8	55	31	9.9	1.4	30	1.0	1.1	.20
8	3.0	10	27	3.1	37	24	7.8	1.4	98	.80	.56	.17
9	2.5	8.6	40	2.7	28	21	6.1	1.6	92	.55	1.7	.16
10	12	293	159	2.7	24	93	5.3	32	33	.47	3.2	.15
11	105	451	728	2.8	17	145	5.0	39	30	.43	1.7	.24
12	68	191	347	3.4	13	69	5.0	16	12	120	1.1	.28
13	72	1200	115	4.1	10	78	4.2	7.4	6.8	50	.63	.32
14	90	1820	43	5.5	10	62	4.1	6.1	4.5	64	.50	.35
15	220	1510	22	6.4	9.5	35	4.1	33	6.3	185	.43	.31
16	79	2200	17	6.3	9.4	26	4.1	96	14	100	.43	.25
17	33	473	15	9.2	9.9	23	4.1	873	8.2	21	.42	.27
18	386	577	11	62	24	29	4.1	1160	4.5	9.6	.37	.31
19	977	2070	8.5	91	143	103	4.7	155	2.1	5.9	.30	.36
20	354	1970	8.1	46	231	54	2.4	35	1.3	3.3	.27	.43
21	61	391	7.8	26	90	25	4.7	21	.94	1.7	.22	.40
22	30	62	9.5	21	49	18	6.0	14	.74	.97	.18	.46
23	20	47	57	14	41	16	4.8	10	.74	.77	.16	.18
24	35	36	128	12	33	14	4.0	7.7	.64	.54	.15	768
25	47	30	83	8.1	52	13	3.2	6.6	.50	1.1	.14	624
26	33	374	29	7.0	313	12	2.6	6.7	.48	1.3	.12	41
27	14	192	14	4.8	504	12	2.2	6.1	1.9	.65	.22	20
28	7.3	68	11	3.4	133	10	1.5	5.9	9.5	.54	1.3	41
29	6.0	40	13	2.7	---	10	1.4	5.7	1.9	.54	1.1	1110
30	4.8	40	8.5	2.7	---	9.5	1.4	4.8	.74	.54	.68	3130
31	15	---	7.7	2.4	---	8.7	---	3.5	---	.54	.51	---
TOTAL	2728.6	16499.6	3348.1	454.8	2645.2	1182.2	185.6	2559.3	378.68	613.44	19.74	5758.33
MEAN	88.0	550	108	14.7	94.5	38.1	6.19	82.6	12.6	19.8	.64	192
MAX	977	2200	1000	91	504	145	20	1160	98	185	3.2	3130
MIN	2.5	8.6	7.7	2.4	4.0	8.7	1.4	1.4	.48	.43	.12	.15
CAL YR 1985		TOTAL	43392.68		MEAN	119	MAX	3530		MIN	.26	
WTR YR 1986		TOTAL	36373.59		MEAN	99.7	MAX	3130		MIN	.12	

SALT RIVER BASIN

05503800 CROOKED CREEK NEAR PARIS, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	6.94	7.24	2.65	2.57	3.10	2.68	2.57	2.59	2.59	2.47	2.46
2	---	6.29	---	2.77	2.63	3.00	2.66	2.58	2.57	2.63	2.45	2.44
3	---	3.47	---	2.74	2.70	2.99	2.77	2.57	2.56	2.84	2.44	2.42
4	---	3.07	3.08	2.95	4.18	2.98	2.80	2.57	2.54	2.67	2.43	2.43
5	---	2.93	2.50	2.77	4.26	2.93	2.83	2.56	2.54	2.58	2.42	2.42
6	---	2.86	2.87	2.68	3.33	2.92	2.76	2.56	2.66	2.53	2.46	2.40
7	---	2.83	2.84	2.63	3.10	2.92	2.71	2.56	2.70	2.51	2.54	2.40
8	---	2.81	2.85	2.58	2.92	2.85	2.68	2.56	3.12	2.50	2.50	2.38
9	---	2.79	2.96	2.57	2.81	2.81	2.65	2.56	3.36	2.48	2.48	2.37
10	---	3.11	3.09	2.57	2.81	2.87	2.63	2.62	2.94	2.46	2.58	2.36
11	---	4.86	5.46	2.57	2.76	3.70	2.62	3.05	2.93	2.45	2.55	2.42
12	---	3.47	4.57	2.58	2.72	3.17	2.62	2.79	2.70	4.00	2.53	2.43
13	---	6.33	3.56	2.59	2.69	3.23	2.61	2.66	2.63	3.03	2.50	2.43
14	---	8.87	3.03	2.61	2.69	3.19	2.61	2.62	2.58	3.21	2.49	2.45
15	---	5.61	2.82	2.63	2.68	2.97	2.61	2.64	2.62	2.95	2.47	2.44
16	---	8.05	2.77	2.63	2.68	2.87	2.61	3.41	2.76	3.41	2.47	2.42
17	3.01	4.29	2.77	2.67	2.68	2.83	2.61	4.80	2.65	2.83	2.47	2.41
18	2.88	3.35	2.72	3.14	2.71	2.82	2.61	6.43	2.58	2.69	2.46	2.44
19	6.03	8.14	2.68	3.34	3.44	3.34	2.62	3.57	2.54	2.62	2.44	2.45
20	4.37	8.93	2.67	3.00	3.93	3.15	2.58	2.99	2.52	2.58	2.43	2.47
21	3.17	4.45	2.66	2.87	3.26	2.89	2.62	2.82	2.50	2.55	2.41	2.46
22	2.99	3.16	2.65	2.82	2.96	2.80	2.65	2.75	2.49	2.52	2.39	2.44
23	2.89	3.05	2.89	2.67	2.99	2.78	2.62	2.69	2.49	2.51	2.37	2.55
24	2.86	2.97	3.46	2.72	2.93	2.76	2.61	2.66	2.49	2.49	2.36	5.46
25	3.00	2.91	3.30	2.67	2.89	2.75	2.60	2.64	2.47	2.49	2.35	5.91
26	3.00	5.28	2.90	2.65	3.77	2.73	2.59	2.63	2.46	2.54	2.33	3.03
27	2.85	3.90	2.75	2.60	4.97	2.74	2.58	2.63	2.46	2.51	2.33	2.80
28	2.78	3.21	2.70	2.58	3.55	2.71	2.56	2.62	2.67	2.49	2.54	2.74
29	2.75	3.00	2.73	2.57	---	2.71	2.56	2.62	2.54	2.49	2.53	3.88
30	2.73	2.92	2.66	2.57	---	2.70	2.56	2.60	2.49	2.49	2.51	10.48
31	2.71	---	2.66	2.57	---	2.69	---	2.58	---	2.49	2.49	---

SALT RIVER BASIN

45

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 south of Santa Fe, 1.0 mi upstream from Elm Creek, and at mile 96.2 above mouth of Salt River.

DRAINAGE AREA.--298 mi².

PERIOD OF RECORD.--October 1939 to current year. Published as "near Santa Fe" October 1969 to September 1975.

GAGE.--Water-stage recorder. Datum of gage is 613.05 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 5, 1940, nonrecording gage; 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 upstream at datum 26.04 ft higher.

REMARKS.--Estimated daily discharges: Nov. 16 to Dec. 27 and Apr. 20-24. Records good except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--47 years, 201 ft³/s, 9.16 in/yr, 145,600 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 15	1600	5,370	12.49	Nov. 20	0430	*14,000	^a *22.00

^aBackwater from Mark Twain Reservoir.

Minimum daily discharge, 2.0 ft³/s, Sept. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	499	2170	38	18	98	27	178	45	119	3.7	4.2
2	4.4	652	1060	37	18	77	24	253	27	1750	4.4	3.2
3	4.4	169	301	38	662	70	26	73	23	534	4.2	2.9
4	4.1	62	288	38	3860	67	38	41	30	95	3.8	2.8
5	3.8	36	259	36	2370	59	60	30	76	50	3.7	2.2
6	2.9	24	229	36	682	56	45	24	87	33	3.5	2.0
7	2.5	19	208	30	562	52	35	19	1500	24	2.9	2.1
8	3.3	16	186	27	537	49	28	17	465	18	2.4	2.2
9	3.5	23	172	24	331	44	24	19	93	15	2.4	3.5
10	2.5	217	285	23	185	42	20	50	79	12	3.2	3.9
11	3.1	119	836	23	127	50	18	34	94	36	3.7	6.1
12	3.3	75	594	23	115	58	16	32	51	648	3.8	8.5
13	2.7	236	172	23	87	71	16	27	36	178	3.5	16
14	5.9	3520	153	23	69	114	17	21	26	192	2.9	9.2
15	4.4	3910	239	22	63	94	17	19	19	672	3.6	6.8
16	3.9	1700	122	22	65	65	19	337	15	205	4.1	5.1
17	3.6	600	120	24	67	52	17	2830	13	67	5.1	5.1
18	9.4	5390	107	27	357	47	17	2910	12	37	7.6	6.0
19	31	11800	100	31	1640	48	17	548	11	23	5.3	40
20	31	9500	91	32	767	53	20	187	9.7	16	3.9	43
21	17	1030	86	31	357	51	19	112	8.6	12	3.3	20
22	11	293	76	30	191	40	23	83	8.1	9.8	2.9	11
23	9.0	202	73	28	137	34	25	59	7.7	8.2	2.4	12
24	24	112	237	26	123	32	19	45	6.4	8.2	2.4	783
25	24	49	163	25	106	31	17	38	6.0	7.9	2.4	509
26	34	136	68	22	108	31	15	36	5.3	7.4	2.4	88
27	29	374	58	22	154	30	14	120	4.7	8.0	2.8	203
28	17	192	54	20	144	30	14	51	54	6.7	3.1	792
29	12	186	48	18	---	30	13	57	135	4.7	2.6	168
30	8.8	208	40	18	---	30	13	87	56	3.6	3.2	193
31	8.9	---	39	18	---	29	---	106	---	3.3	5.2	---
TOTAL	330.0	41349	8634	835	13902	1634	673	8443	3003.5	4803.8	110.4	2953.8
MEAN	10.6	1378	279	26.9	497	52.7	22.4	272	100	155	3.56	98.5
MAX	34	11800	2170	38	3860	114	60	2910	1500	1750	7.6	792
MIN	2.5	16	39	18	18	29	13	17	4.7	3.3	2.4	2.0
CAL YR 1985		TOTAL	123550.0		MEAN	338	MAX	11800	MIN	2.5		
WTR YR 1986		TOTAL	86671.5		MEAN	237	MAX	11800	MIN	2.0		

SALT RIVER BASIN

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

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.05	3.64	18.78	3.26	3.04	2.92	2.39	2.37	2.52	2.34	1.92	1.96
2	2.01	4.99	18.07	3.24	3.04	2.78	2.36	3.64	2.34	8.21	1.96	1.92
3	2.02	3.28	16.98	3.26	3.08	2.73	2.35	2.75	2.28	4.54	1.96	1.90
4	2.02	2.68	16.48	3.26	10.71	2.71	2.46	2.49	2.38	2.91	1.94	1.90
5	2.02	2.44	15.91	3.20	9.41	2.65	2.68	2.37	2.33	2.57	1.94	1.88
6	2.00	2.32	15.24	3.25	4.76	2.63	2.55	2.32	2.47	2.41	1.93	1.86
7	1.89	2.26	14.58	3.12	4.29	2.60	2.46	2.27	6.13	2.32	1.90	1.86
8	2.05	2.21	13.90	3.13	4.37	2.57	2.40	2.23	4.16	2.25	1.89	1.87
9	2.05	2.18	13.22	3.11	3.78	2.53	2.36	2.24	2.90	2.20	1.88	1.92
10	1.99	3.43	12.72	3.10	3.22	2.50	2.32	2.69	2.67	2.15	1.91	1.95
11	1.99	3.05	16.44	3.10	2.89	2.53	2.29	2.41	2.89	2.13	1.93	1.97
12	2.08	2.63	14.91	3.10	3.06	2.64	2.27	2.39	2.58	4.86	1.94	2.07
13	2.09	3.27	13.29	3.10	2.87	2.69	2.26	2.34	2.44	3.29	1.93	2.26
14	2.25	11.16	12.59	3.10	2.70	2.95	2.26	2.29	2.32	2.69	1.90	2.09
15	2.21	8.91	12.46	3.09	2.59	2.92	2.28	2.25	2.27	4.55	1.92	2.04
16	2.19	9.89	10.87	3.09	2.69	2.71	2.30	2.25	2.20	3.41	1.95	1.98
17	2.17	6.43	10.53	3.09	2.69	2.61	2.28	6.70	2.17	2.72	1.97	1.97
18	2.18	7.48	9.64	3.14	2.86	2.56	2.28	10.05	2.15	2.45	2.06	2.00
19	2.54	18.81	8.83	3.17	7.07	2.55	2.28	4.47	2.13	2.31	2.00	2.46
20	2.46	21.76	8.00	3.19	5.12	2.60	---	3.33	2.10	2.23	1.95	2.56
21	2.26	17.97	7.26	3.18	3.83	2.61	---	2.97	2.08	2.16	1.92	2.28
22	2.12	17.51	6.53	3.17	3.32	2.51	---	2.81	2.06	2.10	1.91	2.14
23	2.10	17.20	5.82	3.15	3.09	2.45	---	2.65	2.05	2.07	1.88	2.14
24	2.07	16.77	5.92	3.14	3.03	2.43	---	2.52	2.02	2.04	1.88	2.40
25	2.33	16.36	5.00	3.13	2.95	2.42	2.28	2.44	2.02	2.06	1.88	4.43
26	2.37	16.05	4.44	3.11	2.92	2.42	2.25	2.43	2.00	2.03	1.88	2.87
27	2.41	16.97	4.11	3.07	3.13	2.41	2.24	3.13	1.98	2.06	1.89	2.57
28	2.25	16.22	3.48	3.07	3.14	2.41	2.23	2.56	1.96	2.03	1.91	5.72
29	2.16	15.75	3.35	3.04	---	2.41	2.22	2.47	3.23	1.98	1.90	3.23
30	2.10	15.26	3.27	3.04	---	2.41	2.20	2.69	2.64	1.93	1.85	2.84
31	2.04	---	3.27	3.04	---	2.41	---	3.10	---	1.92	1.99	---

47

LOCATION.--Lat 39°29'05", long 91°59'50", in NE¼NW¼ 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 downstream from Wabash Railroad bridge, 12.5 mi upstream from Elk Fork Salt River, and at mile 104.5 above mouth of Salt River.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 621.88 ft above 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 upstream at present datum.

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

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 17	0430	*7,760	*17.06	Dec. 11	1030	4,600	12.63
Nov. 21	0900	4,750	^a 14.89	May 19	Unknown	5,300	13.70

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	2690	3300	64	28	561	52	27	36	20	3.3	.41
2	146	2310	3100	80	33	225	47	24	30	13	3.4	.95
3	88	1610	1010	109	100	186	68	24	22	113	3.3	.82
4	48	649	383	120	707	168	90	21	20	55	2.9	1.3
5	177	204	323	174	1200	155	88	20	36	26	2.7	1.5
6	200	136	219	144	1000	148	79	20	50	17	4.0	1.7
7	90	115	222	71	429	139	66	17	211	10	37	2.8
8	49	102	188	48	197	122	56	21	171	7.0	27	2.3
9	34	101	254	35	132	106	48	47	52	5.2	15	1.4
10	411	497	883	29	114	335	41	59	41	4.2	12	1.3
11	2220	1060	3870	28	95	692	39	87	39	4.6	7.5	6.0
12	1930	1140	2670	31	74	491	36	76	29	5.6	4.5	5.1
13	1900	2750	1890	34	53	407	34	53	21	30	3.5	5.1
14	1110	4530	1010	36	48	568	34	38	23	137	2.5	6.4
15	1650	5830	645	51	36	384	34	58	30	521	5.8	22
16	1040	6810	499	71	38	198	34	392	27	757	3.9	17
17	233	7280	237	63	41	146	33	2310	93	410	2.4	21
18	506	5450	79	108	85	129	35	4210	43	120	1.9	15
19	2670	5090	81	345	405	237	35	5020	26	40	1.6	9.8
20	2290	4520	60	333	915	324	34	4360	19	26	1.4	8.8
21	1670	4220	52	212	790	216	37	714	13	17	1.2	14
22	521	1990	70	119	408	127	40	194	9.7	13	1.2	18
23	176	790	205	78	251	101	39	135	7.5	9.0	.81	15
24	146	627	467	86	196	90	38	86	6.4	8.2	.93	1340
25	448	314	474	66	161	82	35	170	5.3	6.2	.98	1590
26	861	401	341	57	560	78	31	165	4.4	5.1	.76	1010
27	367	499	180	28	1220	73	29	137	4.5	4.5	.94	391
28	121	401	111	44	1140	70	28	137	5.1	4.2	.88	108
29	83	230	89	34	---	66	28	86	4.3	3.4	.36	1370
30	67	130	79	28	---	62	28	59	24	3.3	.22	4130
31	185	---	70	26	---	56	---	42	---	3.1	.23	---
TOTAL	21514	62476	23061	2752	10456	6742	1316	18809	1103.2	2398.6	154.11	10116.68
MEAN	694	2083	744	88.8	373	217	43.9	607	36.8	77.4	4.97	337
MAX	2670	7280	3870	345	1220	692	90	5020	211	757	37	4130
MIN	34	101	52	26	28	56	28	17	4.3	3.1	.22	.4

CAL YR 1985	TOTAL	222072.9	MEAN	608	MAX	12800	MIN	3.8
WTR YR 1986	TOTAL	160898.59	MEAN	441	MAX	7280	MIN	.22

SALT RIVER BASIN

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

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.77	9.70	11.04	3.62	3.23	5.40	3.44	3.19	---	3.07	2.77	2.59
2	4.13	8.90	11.22	3.68	3.31	4.38	3.41	3.13	---	2.96	2.78	2.66
3	3.84	7.47	10.80	3.94	3.68	4.25	3.47	3.13	---	4.00	2.78	2.64
4	3.50	5.50	8.37	3.94	4.98	4.17	3.74	3.11	3.06	3.47	2.77	2.69
5	3.86	4.27	7.82	4.26	6.59	4.10	3.74	3.08	3.18	3.17	2.75	2.70
6	4.39	4.02	6.85	4.16	6.31	4.08	3.68	3.07	3.13	3.01	2.80	2.70
7	3.87	3.90	6.38	3.73	4.99	4.04	3.59	3.06	4.33	2.93	2.80	2.76
8	3.48	3.83	5.68	3.49	4.32	3.95	3.50	3.03	4.15	2.88	3.18	2.75
9	3.33	3.78	5.22	3.35	3.92	3.85	3.42	3.06	3.43	2.83	2.98	2.69
10	3.26	3.79	5.41	3.26	3.87	3.99	3.36	3.49	3.25	2.82	2.95	2.69
11	8.57	6.42	12.42	3.25	3.84	5.64	3.32	3.62	3.28	2.78	2.88	2.82
12	8.15	5.11	9.64	3.27	3.68	5.05	3.29	3.66	3.22	2.82	2.81	2.82
13	8.10	9.18	8.24	3.32	3.48	4.84	3.26	3.49	3.11	2.93	2.79	2.82
14	6.62	12.00	6.64	3.33	3.49	5.17	3.27	3.31	3.01	3.89	2.76	2.82
15	7.37	14.37	5.65	3.38	3.35	4.89	3.26	3.37	3.19	4.79	2.90	3.02
16	7.19	15.53	5.53	3.72	3.38	4.32	3.26	4.99	3.13	5.59	2.81	3.03
17	4.75	16.91	4.84	3.60	3.38	4.09	3.25	6.40	3.78	4.98	2.75	2.94
18	4.15	13.79	4.10	3.69	3.46	3.97	3.26	12.13	3.37	3.73	2.73	2.97
19	9.88	13.65	4.09	4.71	4.64	4.34	3.28	---	3.18	3.31	2.70	2.92
20	8.84	14.41	3.91	4.77	5.94	4.66	3.26	---	3.05	3.13	2.70	2.87
21	7.78	14.48	3.74	4.40	5.90	4.41	3.30	---	2.99	3.01	2.68	2.96
22	5.25	11.56	3.70	4.05	5.04	3.98	3.33	---	2.93	2.96	2.68	3.03
23	4.27	8.56	4.25	3.67	4.43	3.83	3.33	---	2.89	2.89	2.64	3.06
24	4.04	8.15	5.01	3.84	4.32	3.75	3.31	---	2.87	2.86	2.66	5.13
25	4.38	7.72	5.04	3.67	4.15	3.69	3.29	---	2.86	2.84	2.67	7.52
26	5.88	7.70	4.74	3.60	4.86	3.67	3.25	---	2.83	2.82	2.66	6.19
27	4.90	8.19	4.28	3.14	6.50	3.62	3.20	---	2.83	2.81	2.64	4.96
28	4.03	7.63	3.97	3.45	6.50	3.60	3.19	---	2.85	2.80	2.67	3.81
29	3.79	7.11	3.81	3.36	---	3.59	3.20	---	2.83	2.78	2.61	4.26
30	3.67	6.58	3.74	3.25	---	3.55	3.19	---	2.88	2.78	2.58	11.68
31	3.61	---	3.68	3.23	---	3.50	---	---	---	2.77	2.58	---

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

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT: August 1980 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,170 mg/L, July 23, 1981; minimum daily mean, 4 mg/L, Dec. 9, 10, 1984, Jan. 24, 25, 1985.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 40,200 tons, Mar. 5, 1985; minimum daily, 0.00 tons, Oct. 3, 8, 9, 10, 1983.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,730 mg/L, May 17; minimum daily mean, 34 mg/L, Dec. 21, 22.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 20,700 tons, May 18; minimum daily, 0.03 tons, Aug. 31.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	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)
FEB 05...	1145	1210	43	53	66	84	99	100	100	100	--
JUL 11...	1146	4.2	44	51	58	62	63	63	64	76	100
SEP 30...	1230	4230	51	59	68	77	95	97	99	100	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

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 01...	0	0	1	4	6	7	9	11	18	58
MAR 24...	0	0	1	2	5	9	12	17	41	100
JUN 03...	0	0	1	8	16	20	24	31	55	89

SALT RIVER BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	77	68	14	2690	158	1150	3300	765	6820
2	146	94	37	2310	290	1810	3100	330	2760
3	88	89	21	1610	259	1130	1010	187	511
4	48	76	9.9	649	117	205	383	186	192
5	177	93	45	204	96	53	323	172	150
6	200	120	65	136	101	37	219	167	99
7	90	136	33	115	76	24	222	163	98
8	49	148	20	102	67	18	188	157	80
9	34	102	9.3	101	76	21	254	147	101
10	411	143	158	497	100	134	883	147	350
11	2220	476	2850	1060	667	1910	3870	538	5620
12	1930	223	1160	1140	508	1560	2670	283	2040
13	1900	158	809	2750	417	3100	1890	123	627
14	1110	156	464	4530	523	6390	1010	68	186
15	1650	174	773	5830	713	11200	645	54	93
16	1040	158	446	6810	349	6410	499	41	55
17	233	178	112	7280	286	5610	237	39	25
18	506	133	182	5450	1070	15800	79	36	7.7
19	2670	171	1230	5090	445	6110	81	42	9.1
20	2290	391	2420	4520	235	2860	60	36	5.8
21	1670	250	1130	4220	195	2220	52	34	4.7
22	521	252	354	1990	224	1210	70	34	6.4
23	176	298	141	790	169	361	205	61	34
24	146	226	89	627	109	185	467	87	109
25	448	147	177	314	98	83	474	57	73
26	861	401	931	401	699	757	341	46	42
27	367	235	233	499	348	469	180	45	22
28	121	138	45	401	256	277	111	45	14
29	83	82	18	230	153	95	89	46	11
30	67	82	15	130	190	67	79	45	9.6
31	185	67	34	---	---	---	70	44	8.4
TOTAL	21514	---	14025.2	62476	---	71256	23061	---	20163.7
JANUARY			FEBRUARY			MARCH			
1	64	45	7.7	28	49	3.6	561	322	487
2	80	46	9.9	33	46	4.1	225	225	137
3	109	35	10	100	83	22	186	152	76
4	120	40	13	707	76	146	168	92	42
5	174	38	18	1200	115	372	155	74	31
6	144	48	19	1000	239	649	148	85	34
7	71	47	9.1	429	308	357	139	64	24
8	48	45	5.8	197	386	206	122	55	18
9	35	39	3.6	132	336	120	106	64	18
10	29	45	3.5	114	163	50	335	125	113
11	28	41	3.1	95	83	21	692	561	1050
12	31	40	3.3	74	77	15	491	282	373
13	34	46	4.3	53	66	9.4	407	147	162
14	36	44	4.2	48	74	9.5	568	161	247
15	51	41	5.6	36	44	4.3	384	233	242
16	71	38	7.2	38	46	4.8	198	170	91
17	63	37	6.2	41	46	5.1	146	119	47
18	108	49	14	85	211	49	129	184	64
19	345	51	47	405	171	187	237	373	239
20	333	54	49	915	202	500	324	136	119
21	212	59	34	790	147	314	216	97	56
22	119	79	26	408	64	71	127	120	41
23	78	77	16	251	51	34	101	133	36
24	86	47	11	196	64	34	90	110	27
25	66	48	8.6	161	74	32	82	93	21
26	57	68	10	560	129	195	78	89	19
27	28	75	5.8	1220	581	1920	73	71	14
28	44	74	8.9	1140	605	1860	70	76	14
29	34	69	6.4	---	---	---	66	81	15
30	28	54	4.1	---	---	---	62	82	14
31	26	49	3.5	---	---	---	56	107	16
TOTAL	2752	---	377.8	10456	---	7194.8	6742	---	3887

SALT RIVER BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	52	103	15	27	88	6.4	36	133	13
2	47	84	11	24	69	4.5	30	104	8.4
3	68	108	20	24	136	8.6	22	90	5.3
4	90	118	29	21	129	7.5	20	64	3.4
5	88	71	17	20	132	7.1	36	76	7.3
6	79	90	19	20	105	5.6	50	73	9.9
7	66	121	22	17	110	5.0	211	176	100
8	56	119	18	21	111	6.2	171	525	243
9	48	101	13	47	67	8.6	52	418	59
10	41	92	10	59	52	8.4	41	411	46
11	39	69	7.1	87	78	18	39	303	32
12	36	101	9.8	76	92	19	29	226	18
13	34	91	8.4	53	131	19	21	192	11
14	34	105	9.7	38	154	16	23	162	10
15	34	109	10	58	85	13	30	146	12
16	34	88	8.0	392	304	322	27	124	9.1
17	33	79	7.1	2310	2730	17000	93	108	27
18	35	94	9.0	4210	1820	20700	43	86	10
19	35	92	8.7	5020	815	11000	26	95	6.7
20	34	73	6.7	4360	522	6150	19	85	4.4
21	37	87	8.8	714	315	608	13	76	2.6
22	40	63	6.7	194	181	95	9.7	45	1.2
23	39	102	11	135	148	54	7.5	43	.88
24	38	119	12	86	115	27	6.4	45	.79
25	35	119	11	170	284	130	5.3	45	.65
26	31	128	11	165	273	122	4.4	50	.60
27	29	78	6.0	137	207	77	4.6	41	.50
28	28	94	7.1	137	229	85	5.1	43	.60
29	28	128	9.8	86	201	47	4.3	67	.77
30	28	78	5.8	59	179	29	24	73	4.8
31	---	---	---	42	158	18	---	---	---
TOTAL	1316	---	347.7	18809	---	56616.9	1103.3	---	648.89
JULY			AUGUST			SEPTEMBER			
1	20	81	4.4	3.3	135	1.2	.41	50	.05
2	13	96	3.4	3.4	139	1.3	.95	59	.15
3	113	92	28	3.3	108	.97	.82	69	.15
4	55	110	16	2.9	98	.77	1.3	65	.23
5	26	131	9.2	2.7	76	.55	1.5	67	.27
6	17	85	3.9	4.0	64	.70	1.7	65	.30
7	10	54	1.5	37	56	5.6	2.8	67	.50
8	7.0	43	.82	27	62	4.5	2.3	80	.49
9	5.2	44	.62	15	76	3.1	1.4	64	.23
10	4.2	73	.83	12	52	1.7	1.3	58	.20
11	4.6	108	1.3	7.5	46	.94	6.0	62	.99
12	5.6	92	1.4	4.5	51	.61	5.1	54	.75
13	30	98	8.0	3.5	59	.57	5.1	43	.59
14	137	162	60	2.6	49	.33	6.4	62	1.1
15	521	319	448	5.8	59	.92	22	91	5.4
16	757	335	684	3.9	65	.68	17	69	3.2
17	410	337	373	2.4	90	.58	21	62	3.5
18	120	324	105	2.0	44	.23	15	69	2.8
19	40	324	35	1.6	49	.21	9.8	69	1.8
20	26	319	22	1.5	54	.21	8.8	54	1.3
21	17	281	13	1.2	62	.20	14	62	2.3
22	13	206	7.3	1.2	64	.20	18	59	2.9
23	9.0	162	3.9	.81	68	.15	15	112	4.5
24	8.2	187	4.1	.93	72	.18	1340	2450	8890
25	6.2	194	3.2	.98	62	.16	1590	1600	6840
26	5.1	149	2.1	.76	59	.12	1010	351	953
27	4.5	141	1.7	.94	64	.16	391	151	159
28	4.2	127	1.4	.88	56	.13	108	148	43
29	3.4	138	1.3	.36	54	.05	1370	139	514
30	3.3	127	1.1	.22	72	.04	4130	46	518
31	3.1	126	1.1	.23	51	.03	---	---	---
TOTAL	2398.6	---	1846.57	154.41	---	27.09	10116.68	---	17950.70
YEAR	160898.99		194342.35						

SALT RIVER BASIN

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

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.19	12.52	16.40	3.91	3.63	4.82	3.80	3.60	3.75	3.28	3.14	3.00
2	3.69	8.57	13.56	3.88	3.69	4.65	3.76	3.54	3.62	3.35	3.22	3.00
3	3.54	5.44	6.04	4.03	3.79	4.61	4.37	3.47	3.54	3.54	3.19	2.99
4	3.50	4.82	5.73	4.04	6.19	4.50	4.70	3.49	3.51	3.40	3.15	3.03
5	3.45	4.47	5.09	3.89	7.98	4.41	4.53	3.46	3.49	3.35	3.12	3.04
6	3.83	4.27	5.31	3.78	5.66	4.42	4.22	3.48	4.58	3.29	3.17	3.05
7	3.55	4.22	4.58	3.69	5.21	4.37	4.05	3.46	5.24	3.26	3.14	3.07
8	3.41	4.15	4.70	3.54	5.06	4.23	3.91	3.41	4.56	3.23	3.13	3.09
9	3.37	4.08	4.99	3.55	4.81	4.23	3.82	3.52	3.92	3.20	3.16	3.14
10	3.37	6.03	4.93	3.56	4.76	4.63	3.77	4.41	4.05	3.20	3.16	3.22
11	5.73	5.19	12.61	3.59	4.42	6.57	3.75	3.89	3.75	3.22	3.14	3.32
12	5.25	4.71	10.29	3.67	2.94	5.21	3.73	3.78	3.64	3.25	3.14	3.23
13	5.47	12.16	6.20	3.66	2.81	5.20	3.74	3.64	3.52	3.47	3.19	3.52
14	5.09	12.97	5.75	3.61	3.91	5.03	3.75	3.57	3.43	3.52	3.19	3.36
15	7.91	14.71	5.13	3.65	7.19	4.68	3.74	3.64	3.59	4.30	3.27	3.24
16	5.17	16.38	4.63	3.64	3.89	4.46	3.76	6.09	3.65	4.01	3.25	3.17
17	4.48	6.35	4.51	3.84	3.99	4.32	3.71	11.69	3.54	3.68	3.22	3.16
18	4.07	11.35	4.03	4.01	4.33	4.27	3.72	17.77	3.47	3.47	3.28	3.32
19	12.42	19.05	3.95	4.19	10.02	4.65	3.75	6.40	3.42	3.37	3.21	4.21
20	6.10	18.03	3.91	4.14	8.53	4.59	3.77	4.98	3.38	3.31	3.16	3.73
21	5.02	6.33	3.89	4.13	5.89	4.26	3.85	4.58	3.36	3.27	3.13	3.52
22	4.62	5.46	3.89	3.91	5.62	4.12	3.94	4.31	3.34	3.24	3.10	3.35
23	4.35	5.11	4.95	3.84	5.12	4.09	3.90	4.11	3.32	3.22	3.08	3.80
24	4.21	4.89	6.74	3.79	5.08	4.03	3.76	3.97	3.32	3.20	3.07	---
25	5.45	4.69	5.54	3.75	4.81	3.99	3.74	3.89	3.27	3.21	3.06	---
26	4.64	7.44	4.79	3.83	6.76	4.00	3.66	4.53	3.27	3.20	3.06	---
27	4.23	11.75	4.17	3.65	6.59	4.02	3.65	4.19	3.24	3.19	3.04	4.55
28	4.02	5.89	3.98	3.60	5.39	4.01	3.62	3.93	3.24	3.17	3.04	5.61
29	3.88	5.24	3.88	3.59	---	4.01	3.65	3.80	3.24	3.12	---	17.41
30	3.83	4.93	3.80	3.57	---	3.94	3.58	3.87	3.34	3.12	---	---
31	3.82	---	3.90	3.55	---	3.89	---	3.97	---	3.11	3.00	---

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 west of Perry and at mile 11.9.

DRAINAGE AREA.--104 mi².

PERIOD OF RECORD.--October 1979 to current year. Prior to October 1979 gages were maintained and operated by U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 625.00 ft above National Geodetic Vertical Datum of 1929. Prior to November 1967 nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 9 to Feb. 4, Feb. 11-20, and May 27-29. Records good except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--7 years, 79.8 ft³/s, 10.42 in/yr, 57,820 acre ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum stage 26.24 ft, Oct. 12, 1969 determined by U.S. Army Corps of Engineers; no flow on many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 14	0730	3,230	14.37	Nov. 19	1730	6,640	18.11
Nov. 18	1845	*8,420	*20.15	Dec. 1	0130	4,560	16.42

No flow Aug. 29 to Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	743	1270	8.0	4.0	30	4.1	35	10	.23	.21	.00
2	2.8	294	102	9.0	5.0	24	3.7	17	6.9	.64	.12	.00
3	2.8	60	65	9.0	150	21	5.9	7.8	4.6	.72	.08	.00
4	2.5	27	33	9.0	1290	18	9.3	4.4	3.8	.50	.05	.00
5	1.7	16	25	8.0	367	16	9.0	2.9	3.6	.35	.04	.00
6	1.4	11	23	7.0	130	15	6.8	2.3	3.3	.20	.05	.00
7	.93	9.7	16	6.0	95	14	5.6	2.0	4.1	.13	2.7	.00
8	.85	8.2	16	5.0	70	11	4.6	1.6	7.0	.09	2.0	.00
9	.85	7.2	16	5.5	41	10	3.8	23	3.9	.06	.92	.00
10	1.0	53	220	6.0	29	11	3.5	53	3.3	.05	.63	.00
11	1.1	81	1360	6.0	20	13	3.3	14	3.0	.08	.59	.03
12	1.6	74	162	6.0	17	14	3.1	7.3	3.4	.09	.37	.04
13	1.6	254	65	5.5	14	23	3.0	4.7	2.6	.15	.24	.03
14	1.7	2420	40	5.5	15	24	3.6	3.3	2.3	4.1	.20	.02
15	2.1	1910	32	5.0	13	16	3.6	2.6	2.3	50	.43	.01
16	1.8	932	24	5.5	14	12	3.3	59	1.9	31	.56	.01
17	1.2	118	15	6.5	15	10	3.2	1690	1.5	12	.43	.07
18	2.2	3990	12	7.0	15	10	3.4	590	1.1	6.0	.30	.12
19	15	4540	10	7.0	35	12	4.4	70	.91	3.0	.18	.08
20	7.8	1090	9.7	6.5	265	12	3.7	27	.76	1.7	.11	.18
21	5.1	119	9.4	7.0	81	9.3	4.7	15	.66	1.0	.07	.24
22	4.5	53	16	6.5	44	7.9	5.3	10	.58	.65	.05	.37
23	3.7	36	113	5.5	37	7.3	4.7	7.8	.51	.41	.04	2.5
24	24	29	143	4.9	32	6.8	3.7	6.3	.41	.34	.04	197
25	31	24	73	4.5	29	6.1	3.5	5.6	.29	.41	.02	14
26	14	1370	36	4.2	119	6.0	3.1	5.4	.23	2.0	.01	4.5
27	8.3	331	27	4.0	151	6.2	2.7	4.7	.19	2.9	.01	19
28	5.9	110	20	3.5	65	5.8	2.3	5.0	.19	1.4	.01	17
29	4.3	47	10	3.5	---	5.3	2.5	100	.18	.90	.00	11
30	3.6	795	9.0	3.0	---	4.9	2.6	82	.16	.61	.00	32
31	5.0	---	8.5	3.0	---	4.7	---	19	---	.36	.00	---
TOTAL	163.63	19552.1	3980.6	182.6	3162.0	386.3	126.0	2877.7	73.67	122.07	10.46	298.20
MEAN	5.28	652	128	5.89	113	12.5	4.20	92.8	2.46	3.94	.34	9.94
MAX	31	4540	1360	9.0	1290	30	9.3	1690	10	50	2.7	197
MIN	.85	7.2	8.5	3.0	4.0	4.7	2.3	1.6	.16	.05	.00	.00
CAL YR 1985	TOTAL		46489.84	MEAN	127	MAX	4540	MIN	.24			
WTR YR 1986	TOTAL		30935.33	MEAN	84.8	MAX	4540	MIN	.00			

SALT RIVER BASIN

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05507600 LICK CREEK AT PERRY, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.27	8.83	10.95	---	---	5.92	5.30	6.16	5.55	4.95	4.96	4.74
2	5.22	7.55	6.79	---	---	5.83	5.27	5.73	5.43	5.01	4.94	4.74
3	5.24	6.29	6.41	---	---	5.79	5.35	5.47	5.33	5.04	4.92	4.73
4	5.24	5.90	5.96	---	---	5.72	5.49	5.32	5.29	5.00	4.90	4.73
5	5.17	5.69	5.84	---	7.81	5.67	5.51	5.23	5.27	4.99	4.88	4.73
6	5.16	5.57	5.78	---	6.72	5.66	5.43	5.20	5.23	4.95	4.89	4.71
7	5.11	5.52	5.69	---	6.52	5.65	5.36	5.17	5.30	4.93	4.89	4.71
8	5.11	5.47	5.67	---	6.38	5.56	5.33	5.13	5.46	4.92	5.18	4.71
9	5.12	5.43	---	---	6.08	5.52	5.29	5.12	5.29	4.91	5.07	4.71
10	5.12	5.89	---	---	5.97	5.54	5.26	6.29	5.26	4.90	5.02	4.71
11	5.16	6.52	---	---	---	5.62	5.25	5.66	5.22	4.90	5.02	4.83
12	5.21	6.05	---	---	---	5.64	5.24	5.45	5.26	4.92	4.98	4.87
13	5.25	7.42	---	---	---	5.76	5.23	5.34	5.22	4.92	4.96	4.87
14	5.18	14.34	---	---	---	5.85	5.27	5.26	5.17	5.27	4.96	4.85
15	5.29	8.48	---	---	---	5.69	5.28	5.21	5.20	5.55	5.00	4.83
16	5.28	10.13	---	---	---	5.59	5.25	5.20	5.16	5.99	5.01	4.81
17	5.23	6.71	---	---	---	5.52	5.25	13.39	5.13	5.61	4.99	4.80
18	5.18	9.43	---	---	---	5.50	5.23	8.64	5.09	5.40	4.97	4.93
19	5.76	13.44	---	---	---	5.58	5.31	6.37	5.06	5.26	4.95	4.92
20	5.46	11.13	5.51	---	---	5.60	5.28	5.89	5.04	5.15	4.93	4.95
21	5.34	6.72	5.50	---	6.27	5.50	5.32	5.67	5.03	5.08	4.91	4.96
22	5.32	6.22	5.49	---	6.01	5.45	5.35	5.55	5.01	5.03	4.90	4.96
23	5.29	6.02	6.21	---	5.99	5.43	5.33	5.46	5.00	4.99	4.88	5.25
24	5.66	5.91	6.93	5.34	5.98	5.41	5.28	5.39	4.99	4.96	4.87	8.42
25	5.99	5.82	---	5.32	5.88	5.39	5.26	5.37	4.97	4.99	4.85	5.65
26	5.66	11.92	---	5.30	6.47	5.38	5.24	5.35	4.96	4.97	4.83	5.33
27	5.49	7.50	---	---	6.77	5.39	5.22	5.32	4.95	5.25	4.82	5.50
28	5.38	6.67	---	---	6.28	5.37	5.18	---	4.95	5.13	4.82	5.69
29	5.32	6.16	---	---	---	5.35	5.20	---	4.95	5.06	4.79	5.54
30	5.27	5.95	---	---	---	5.33	5.18	6.39	4.94	5.02	4.77	5.76
31	5.25	---	---	---	---	5.33	---	5.76	---	4.98	4.75	---

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, 0.5 mi downstream from Clarence Cannon Recharge Dam, 5 mi northwest of Center, at mile 53.1.

DRAINAGE AREA.--2,350 mi², approximately.

PERIOD OF RECORD.--October 1979 to current year. Prior to October 1979, gage heights only by U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 500.00 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1979 nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Jan. 26 to Feb. 4 and June 16-18. Records good except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station. Flow regulated by Clarence Cannon Dam 0.5 mi upstream.

AVERAGE DISCHARGE.--7 years, 2,155 ft³/s, 1,561,000 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge 13,300 ft³/s, Dec. 6, gage height, 15.66 ft, minimum daily discharge, 44.0 ft³/s, Mar. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	2260	9860	329	150	6470	392	174	2210	214	1320	114
2	86	2340	9440	241	123	6630	59	375	2410	207	507	1260
3	89	216	10700	159	1800	1460	58	114	2430	196	170	2090
4	1220	2690	11200	607	1470	69	60	93	2350	80	118	384
5	2230	4810	11300	433	1300	151	61	159	2380	81	152	1330
6	777	4970	11800	7070	1580	1820	61	78	2370	83	149	246
7	938	4880	11300	9180	3280	213	62	78	2370	83	126	195
8	3620	4010	11400	9890	3240	138	666	80	2380	1880	103	187
9	4600	2030	11500	9600	3260	128	628	83	2380	3700	103	215
10	3910	150	9990	9760	3220	290	253	84	4880	2090	104	1440
11	2030	3290	11300	9830	3980	211	76	84	4910	151	1530	879
12	833	4760	11600	9980	3880	159	83	81	5430	121	993	204
13	305	5310	11300	8420	3330	61	536	83	5630	116	565	166
14	3660	6450	11600	8150	3200	73	561	85	5430	786	2300	135
15	2210	6320	11100	6730	2380	89	861	87	6760	1420	1290	1360
16	2500	6890	11300	5950	128	87	904	824	5150	1880	761	1460
17	3770	6290	11400	5840	2960	147	684	586	6960	1630	206	907
18	4760	4850	11700	182	3950	187	609	485	8400	1700	156	3080
19	1800	1690	11500	175	2330	115	643	2110	9690	1530	1580	3850
20	422	3770	10500	166	3990	141	649	2370	5080	172	733	4480
21	2670	7760	10100	701	2310	188	470	2250	4770	167	164	241
22	970	8210	10200	2570	1060	187	103	2230	4960	1310	2160	4200
23	3870	7650	10400	1820	151	186	98	2240	2730	679	205	3390
24	3230	8240	10400	416	2150	136	93	2130	1580	661	176	936
25	3330	8100	10400	139	4560	54	89	2020	677	1750	1790	1040
26	1230	9440	9940	213	6300	55	85	1890	727	820	1700	2160
27	312	9730	7810	370	5870	44	83	1480	918	88	245	1940
28	412	8820	6270	430	6870	251	85	1960	378	2690	131	1650
29	2660	9160	2530	256	---	519	84	2090	171	2990	121	1130
30	2690	9410	682	3750	---	521	174	2100	200	2690	112	1840
31	3760	---	88	1450	---	525	---	2320	---	482	112	---
TOTAL	64977	164496	300610	114807	78822	21305	9270	30823	106711	32447	19882	42509
MEAN	2096	5483	9697	3703	2815	687	309	994	3557	1047	641	1417
MAX	4760	9730	11800	9980	6870	6630	904	2370	9690	3700	2300	4480
MIN	83	150	88	139	123	44	58	78	171	80	103	114
CAL YR 1985	TOTAL		1316038	MEAN	3606	MAX	13500	MIN	23			
WTR YR 1986	TOTAL		986659	MEAN	2703	MAX	11800	MIN	44			

SALT RIVER BASIN

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05507800 SALT RIVER NEAR CENTER, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.24	8.24	13.89	4.07	---	8.78	4.63	3.24	7.14	3.76	3.19	3.35
2	3.22	8.40	13.25	4.33	---	6.84	3.08	4.12	7.23	3.73	3.88	3.36
3	3.29	3.72	14.07	3.62	---	4.62	3.07	3.38	7.25	5.45	3.78	3.60
4	3.30	3.69	14.47	5.03	---	3.14	3.08	3.31	7.29	3.17	2.79	3.68
5	6.76	8.11	14.44	4.59	5.10	3.12	3.08	5.55	7.26	3.18	3.53	3.54
6	5.98	8.55	14.62	11.47	4.79	6.68	3.09	3.16	7.36	3.17	3.45	3.70
7	4.50	8.32	14.46	13.10	8.98	3.62	3.09	3.19	7.36	3.18	3.53	3.68
8	6.88	8.23	14.45	13.75	8.03	3.54	3.12	3.18	7.36	3.17	3.29	3.68
9	5.94	8.33	14.56	13.35	8.00	3.52	4.97	3.20	7.31	3.70	3.30	3.61
10	8.69	3.58	13.86	13.38	8.13	3.62	4.12	3.20	7.38	6.74	3.30	7.69
11	7.89	3.57	14.82	13.42	8.17	3.82	3.19	3.20	7.35	3.45	3.29	3.91
12	3.80	8.33	14.76	13.58	8.86	3.79	3.22	3.19	6.16	3.39	3.64	3.72
13	3.71	8.82	14.51	13.84	7.92	3.09	4.75	3.20	6.49	3.37	5.00	3.69
14	3.26	10.92	14.48	13.70	7.85	3.11	4.75	3.22	7.87	3.42	2.74	3.46
15	3.89	10.46	14.33	13.56	7.68	3.28	5.44	3.22	9.38	5.13	3.57	3.43
16	3.52	11.45	14.45	13.78	3.47	3.27	5.46	3.23	---	7.15	3.79	3.67
17	9.66	11.16	14.53	13.28	6.36	3.25	5.32	5.54	---	7.06	3.59	3.55
18	4.87	10.71	14.56	3.69	7.63	3.72	4.77	3.22	---	6.87	3.55	3.66
19	3.76	5.37	14.57	3.68	5.86	3.72	4.96	7.09	14.01	7.11	3.47	3.64
20	3.47	7.44	14.04	3.63	5.37	3.33	4.97	7.41	6.51	3.59	3.83	3.65
21	9.75	12.04	13.71	3.59	4.76	3.70	4.98	7.45	6.06	3.57	3.60	3.76
22	3.77	12.11	13.77	4.48	4.00	3.72	3.37	7.04	4.99	3.55	3.34	3.72
23	8.53	12.35	13.86	3.34	3.59	3.72	3.34	7.35	6.00	3.85	3.67	3.51
24	3.74	12.43	13.97	3.87	3.56	3.55	3.30	7.06	3.49	3.59	3.65	3.70
25	4.24	12.06	13.95	3.50	5.92	3.05	3.30	6.88	5.21	3.57	3.49	3.26
26	5.57	12.99	14.00	3.50	6.57	3.07	3.25	6.71	3.24	4.43	3.60	7.14
27	4.22	13.63	13.82	---	6.24	2.95	3.25	5.18	4.88	3.21	3.55	7.10
28	3.31	12.69	11.42	---	8.53	3.05	3.25	6.72	4.85	3.21	3.43	5.82
29	6.43	12.99	4.35	---	---	4.61	3.26	6.94	3.66	4.20	3.42	3.68
30	6.48	13.35	3.63	---	---	4.63	3.26	6.93	3.65	4.75	3.36	7.00
31	8.21	---	3.22	---	---	4.62	---	7.24	---	3.89	3.33	---

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 near downstream end of bridge on north bound side of dual U.S. Highway 61, 9.9 miles downstream from Clarence Cannon Recharge Dam, 2.0 mi north of New London, 8.0 mi upstream from Spencer Creek and at mile 35.5.

DRAINAGE AREA.--2,480 mi², approximately.

WATER-DISCHARGE RECORDS

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

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

REMARKS.--No estimated daily discharges. Water discharge records good. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station. Flow regulated by Clarence Cannon Dam 9.9 mi upstream since September 1979.

AVERAGE DISCHARGE.--64 years (1981-1986), 1,733 ft³/s, 1,256,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 107,000 ft³/s, Apr. 22, 1973, gage height, 31.8 ft, from floodmark; no flow Aug. 3-14, 1934, Aug. 21 to Sept. 1, 1936.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,100 ft³/s, Nov. 18, gage height, 16.55 ft; minimum, 54 ft³/s, Aug. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	3300	13600	141	1550	6800	434	203	2140	199	192	113
2	64	2880	10200	358	166	6830	190	230	2230	185	1410	113
3	67	619	11200	244	141	3900	101	298	2370	201	201	1940
4	171	1750	11600	228	1940	194	92	133	2310	116	116	1320
5	1930	4810	11700	636	1580	156	90	150	2310	66	124	312
6	1200	5170	12100	2420	1370	941	89	134	2610	63	142	1220
7	327	4800	11700	9500	3070	1050	88	94	2500	64	147	195
8	2750	4170	11800	9730	3310	220	244	91	2310	449	113	188
9	3570	2920	11900	9990	3180	209	715	94	2320	3070	102	175
10	4550	349	10800	9810	3220	208	392	97	3930	2960	104	762
11	2870	2400	13700	10100	3810	319	151	97	4940	700	856	1350
12	469	5960	12100	10100	4020	253	105	96	5570	125	603	211
13	720	6370	11700	10400	3190	178	264	94	5760	107	1240	195
14	2090	7900	11900	8150	3250	128	485	95	5300	149	1060	154
15	2730	8970	11600	8210	3020	135	653	99	6300	1150	1780	650
16	2570	7750	11800	6830	617	143	851	296	6500	1570	699	796
17	3040	6720	11800	5390	1660	145	749	2000	5830	1500	418	1390
18	3430	11600	12100	2110	4460	225	510	407	7910	1310	169	2320
19	2200	6730	11900	245	2370	227	582	1780	10000	1830	273	3830
20	1550	4500	11700	227	3780	130	589	2220	5350	232	1660	4620
21	1830	8210	10600	211	3200	210	584	2290	4760	141	303	1850
22	1040	8630	10700	1180	2030	223	215	2080	4870	156	1090	2240
23	3400	8080	10900	1800	266	223	135	2200	3440	1340	1110	3730
24	3000	8630	11100	1730	729	217	129	2070	1380	271	186	4540
25	3470	8520	10900	430	4430	140	120	1970	1640	726	311	401
26	1970	10700	11000	174	6210	92	111	1840	160	1880	1740	2070
27	538	10500	10100	219	6180	85	106	1380	775	121	1430	1920
28	188	9420	6540	358	7180	75	110	1810	691	705	156	1550
29	1720	9730	3840	441	---	382	105	2000	192	2810	136	1100
30	2540	10100	1900	263	---	431	121	1970	171	3030	122	1980
31	3700	---	584	4210	---	437	---	2170	---	3690	115	---
TOTAL	59761	192188	325064	115835	79929	24906	9110	30488	106569	30916	18108	43235
MEAN	1928	6406	10490	3737	2855	803	304	983	3552	997	584	1441
MAX	4550	11600	13700	10400	7180	6830	851	2290	10000	3690	1780	4620
MIN	64	349	584	141	141	75	88	91	160	63	102	113
CAL YR 1985	TOTAL		1400301	MEAN		3836	MAX		13700	MIN		36
WTR YR 1986	TOTAL		1036109	MEAN		2839	MAX		13700	MIN		63

SALT RIVER BASIN

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05508000 SALT RIVER NEAR NEW LONDON, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATION AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.42	8.03	15.28	2.68	5.73	7.50	3.72	3.03	5.96	2.95	2.98	2.55
2	2.40	7.87	11.73	3.42	2.84	8.22	2.99	2.97	5.98	2.88	5.63	2.55
3	2.40	4.31	12.35	3.09	2.57	8.54	2.49	3.60	6.17	2.84	2.94	5.39
4	2.48	3.09	12.61	2.93	6.36	2.93	2.44	2.65	5.97	2.63	2.67	4.59
5	5.58	7.06	12.65	4.06	5.90	2.74	2.43	2.58	6.01	2.28	2.50	3.71
6	5.43	7.71	12.81	3.35	5.66	3.36	2.42	2.68	6.06	2.25	2.69	4.97
7	2.89	7.28	12.69	11.50	6.40	4.90	2.41	2.44	6.21	2.25	2.70	2.91
8	5.68	7.06	12.72	11.28	6.77	3.03	2.41	2.43	6.04	2.26	2.56	2.87
9	6.35	7.31	12.82	11.67	6.35	2.97	4.33	2.45	5.97	6.35	2.49	2.83
10	7.76	3.34	12.15	11.51	6.43	2.93	3.75	2.46	6.01	7.29	2.50	3.09
11	7.34	3.09	14.22	11.81	6.71	3.57	2.79	2.47	6.74	4.27	2.48	6.77
12	3.30	7.12	13.02	11.73	6.68	3.17	2.50	2.47	8.26	2.61	3.88	2.98
13	4.74	8.22	12.72	11.84	5.98	2.89	2.51	2.45	9.15	2.53	5.48	2.92
14	2.72	10.99	12.91	7.08	6.79	2.63	3.83	2.45	6.68	2.73	2.58	2.73
15	7.51	9.58	12.61	7.48	6.47	2.63	3.83	2.47	8.07	5.53	4.97	2.68
16	5.12	10.28	12.71	5.41	3.99	2.68	4.43	2.50	8.49	5.61	4.71	4.00
17	4.18	9.66	12.77	4.61	2.96	2.68	4.40	5.84	8.91	5.67	4.40	5.18
18	7.01	11.05	12.96	5.64	6.46	3.03	3.83	3.71	10.30	5.50	2.80	5.29
19	6.79	7.92	12.78	3.06	4.97	3.07	3.99	5.77	12.13	5.65	2.72	4.84
20	5.96	6.99	12.85	3.00	6.52	2.64	4.00	5.81	8.37	3.07	5.93	4.98
21	2.81	10.44	12.01	2.95	8.12	2.99	4.02	6.10	7.89	2.67	3.60	4.99
22	4.98	10.59	12.00	4.07	7.41	3.04	3.05	5.73	8.09	2.64	2.74	3.00
23	5.96	10.66	12.12	6.59	3.22	3.04	2.66	5.99	7.37	5.66	4.42	6.28
24	6.08	10.74	12.30	6.83	3.13	3.02	2.62	5.88	4.94	3.59	2.87	9.35
25	6.89	10.46	12.21	3.98	7.51	2.75	2.59	5.77	5.83	3.94	2.79	3.18
26	6.22	11.67	12.26	2.83	7.97	2.44	2.55	5.66	2.71	6.30	5.43	5.82
27	4.09	12.08	11.35	2.50	7.40	2.43	2.51	5.55	4.28	2.63	5.23	5.85
28	2.93	11.17	7.87	3.74	8.09	2.32	2.55	5.59	4.28	2.32	2.76	5.76
29	6.96	11.32	8.70	3.06	---	3.66	2.51	5.82	2.90	6.48	2.64	5.39
30	7.33	11.68	6.25	3.08	---	3.70	2.51	5.80	2.80	7.48	2.60	5.83
31	7.32	---	4.04	8.68	---	3.72	---	5.99	---	7.68	2.56	---

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 September 1981.

WATER TEMPERATURE: March 1979 to September 1981.

SUSPENDED-SEDIMENT: July 1980 to current year.

REMARKS.--Discontinued as National stream-quality accounting network station Sept. 1986. Sediment record poor.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 733 microsiemens, Jan. 12, 1981; minimum daily, 86 microsiemens, Dec. 3, 1979.

WATER TEMPERATURE: Maximum daily, 36.0°C, July 18, 19, 21, Aug. 23, 24, 1980; minimum daily, 0.0°C, Mar. 1, 1980.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,380 mg/L, Dec. 2, 1982; minimum daily mean, 4 mg/L, Dec. 11, 1984.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 143,000 tons, May 18, 1981; minimum daily, 0.24 tons, Dec. 11, 1984.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,600 mg/L, Nov. 18, 19; minimum daily mean, 7 mg/L, June 7, July 2, 3.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 80,100 tons, Nov. 18; minimum daily, 1.6 tons, July 5.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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)
OCT										
16...	1500	1430	208	7.60	16.0	21	8.2	81	K900	500
NOV										
19...	1420	6790	132	7.50	12.0	480	9.5	87	K26000	K27000
DEC										
11...	0930	14100	149	7.90	4.0	55	12.3	91	580	2000
JAN										
07...	1425	9700	150	6.80	1.0	61	14.4	96	K10	<10
FEB										
11...	1415	4200	158	7.60	1.0	53	13.5	95	K4	K8
MAR										
10...	1500	206	260	7.90	9.0	33	9.0	80	K22	K16
APR										
08...	1500	84	307	8.80	19.0	16	12.5	136	42	K6
MAY										
14...	1300	95	270	8.60	23.5	3.5	10.6	127	K16	K6
JUN										
11...	1230	2380	218	7.80	19.0	20	6.6	73	240	180
JUL										
09...	1600	511	240	8.00	26.5	9.0	6.7	85	K64	100
AUG										
26...	1200	648	232	7.90	25.5	4.3	6.4	79	78	120
SEP										
17...	1415	393	230	8.00	20.5	5.0	7.8	88	230	300

K--Results based on colony count outside the acceptable range (non-ideal colony count).

SALT RIVER BASIN

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05508000 SALT RIVER NEAR NEW LONDON, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD 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)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 16...	87	17	27	4.7	5.8	12	0.3	4.2	70	23
NOV 19...	59	0	19	2.9	1.9	6	0.1	3.9	56	9.7
DEC 11...	76	14	22	5.1	4.3	10	0.2	4.8	61	15
JAN 07...	62	16	19	3.5	3.2	9	0.2	4.7	44	15
FEB 11...	62	0	19	3.5	3.4	10	0.2	4.3	55	15
MAR 10...	100	0	32	6.0	8.1	14	0.4	4.0	102	19
APR 08...	130	29	40	7.1	11	15	0.4	3.9	100	22
MAY 14...	110	8	35	6.4	10	15	0.4	4.6	105	27
JUN 11...	90	18	27	5.4	6.9	14	0.3	4.6	69	25
JUL 09...	95	22	29	5.4	6.8	13	0.3	4.5	71	29
AUG 26...	98	18	30	5.5	7.3	13	0.3	4.9	79	30
SEP 17...	94	6	29	5.2	6.7	13	0.3	4.6	84	25

DATE	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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT 16...	6.2	0.20	3.2	126	120	0.17	486	0.580	0.030
NOV 19...	2.7	0.20	7.4	96	88	0.13	1760	0.720	0.110
DEC 11...	6.5	0.20	7.0	117	100	0.16	4450	0.720	0.060
JAN 07...	4.9	0.20	12	112	92	0.15	2930	0.630	0.070
FEB 11...	5.3	0.10	7.2	107	97	0.15	1210	0.700	0.050
MAR 10...	10	0.20	7.1	156	150	0.21	87	0.910	0.040
APR 08...	15	0.20	0.9	184	190	0.25	42	0.180	0.030
MAY 14...	13	0.20	0.2	163	160	0.22	42	<0.100	0.020
JUN 11...	6.8	0.20	4.7	132	120	0.18	848	1.40	0.020
JUL 09...	8.5	0.20	3.8	140	130	0.19	193	1.10	0.020
AUG 26...	8.5	0.20	3.0	168	140	0.23	294	0.550	0.040
SEP 17...	8.5	0.20	3.0	141	140	0.19	150	0.450	0.030

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 16...	0.04	0.70	0.060	0.18	<0.010	0.020	65	251	41
NOV 19...	0.14	1.8	0.350	1.1	0.130	0.080	900	16500	99
DEC 11...	0.08	0.90	0.140	--	0.100	0.090	105	4000	81
JAN 07...	0.09	0.90	0.190	--	0.130	0.110	55	1440	85
FEB 11...	0.06	0.80	0.160	--	0.090	0.070	62	703	77
MAR 10...	0.05	0.50	0.110	--	0.050	0.040	1	0.52	--
APR 08...	0.04	0.80	0.050	--	0.010	<0.010	19	4.3	53
MAY 14...	0.03	1.2	0.060	--	0.030	<0.010	52	13	42
JUN 11...	0.03	0.70	0.060	--	0.030	<0.010	--	--	--
JUL 09...	0.03	0.70	0.040	--	0.020	0.010	87	120	96
AUG 26...	0.05	0.60	0.040	--	0.010	<0.010	--	--	--
SEP 17...	0.04	0.70	0.030	--	0.010	<0.010	--	--	--

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 19...	240	<1	44	<0.5	<1	<1	<3	1	190	<1
JAN 07...	310	1	53	<0.5	1	<1	<3	11	760	4
MAY 14...	10	<1	74	<0.5	<1	<1	<3	2	15	3

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 19...	<4	43	<0.1	<10	7	<1	<1	43	<6	34
JAN 07...	<4	29	0.2	<10	5	<1	<1	62	<6	23
MAY 14...	7	30	<0.1	<10	3	<1	<1	110	<6	<3

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)
OCT 01...	0	0	1	5	8	11	13	18	38	63
MAR 24...	0	1	2	10	22	27	32	42	69	100

SALT RIVER BASIN

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05508000 SALT RIVER NEAR NEW LONDON, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	67	36	6.6	3300	70	621	13600	240	8850
2	64	32	5.5	2880	70	545	10200	85	2320
3	67	35	6.4	619	44	74	11200	232	7050
4	171	61	28	1750	77	364	11600	277	8690
5	1930	104	543	4810	135	1760	11700	245	7720
6	1200	48	154	5170	57	792	12100	278	9070
7	327	57	50	4800	80	1040	11700	287	9050
8	2750	216	1610	4170	86	969	11800	414	13200
9	3570	88	844	2920	20	159	11900	410	13200
10	4550	58	716	349	17	16	10800	306	8940
11	2870	39	299	2400	24	155	13700	261	9670
12	469	33	42	5960	63	1010	12100	265	8680
13	720	41	81	6370	187	3210	11700	247	7850
14	2090	35	195	7900	95	2030	11900	231	7450
15	2730	35	260	8970	433	10500	11600	316	9920
16	2570	36	249	7750	182	3800	11800	285	9040
17	3040	170	1400	6720	98	1770	11800	284	9060
18	3430	72	663	11600	1600	50200	12100	306	9970
19	2200	50	299	6730	1600	29200	11900	268	8600
20	1550	54	227	4500	399	4850	11700	113	3570
21	1830	115	566	8210	186	4120	10600	56	1620
22	1040	63	177	8630	250	5830	10700	57	1630
23	3400	131	1200	8080	113	2460	10900	61	1810
24	3000	37	302	8630	69	1600	11100	132	3940
25	3470	52	483	8520	147	3380	10900	88	2590
26	1970	50	268	10700	202	5840	11000	67	1990
27	538	33	49	10500	214	6060	10100	54	1470
28	188	23	12	9420	215	5460	6540	78	1380
29	1720	25	118	9730	168	4420	3840	91	947
30	2540	30	205	10100	252	6840	1900	82	420
31	3700	36	355	---	---	---	584	86	135
TOTAL	59761	---	11413.5	192188	---	159075	325064	---	189832
JANUARY			FEBRUARY			MARCH			
1	141	92	35	1550	129	540	6800	79	1440
2	358	90	87	166	95	43	6830	59	1090
3	244	65	43	141	89	34	3900	70	740
4	228	103	63	1940	107	560	194	74	39
5	636	157	270	1580	139	594	156	91	38
6	2420	146	952	1370	200	742	941	156	398
7	9500	97	2480	3070	132	1100	1050	119	338
8	9730	211	5550	3310	205	1830	220	55	33
9	9990	216	5830	3180	126	1080	209	42	23
10	9810	182	4810	3220	147	1280	208	40	23
11	10100	229	6250	3810	146	1500	319	61	53
12	10100	228	6240	4020	139	1500	253	61	41
13	10400	215	6020	3190	169	1450	178	61	29
14	8150	219	4810	3250	141	1230	128	52	18
15	8210	257	5700	3020	152	1240	135	49	18
16	6830	208	3830	617	91	152	143	54	21
17	5390	157	2290	1660	121	541	145	60	24
18	2110	114	647	4460	102	1230	225	58	35
19	245	90	60	2370	70	446	227	52	32
20	227	76	46	3780	145	1480	130	45	16
21	211	89	51	3200	159	1370	210	48	27
22	1180	118	375	2030	77	419	223	51	31
23	1800	82	398	266	53	38	223	47	29
24	1730	67	311	729	60	119	217	55	33
25	430	78	91	4430	73	871	140	53	20
26	174	87	41	6210	87	1460	92	39	9.8
27	219	82	49	6180	284	4740	85	44	10
28	358	163	158	7180	341	6620	75	50	10
29	441	150	179	---	---	---	382	58	60
30	263	74	53	---	---	---	431	62	72
31	4210	117	1330	---	---	---	437	53	63
TOTAL	115835	---	59049	79929	---	34209	24906	---	4813.8

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	434	45	53	203	61	33	2140	70	403
2	190	45	23	230	68	42	2230	46	277
3	101	52	14	298	56	45	2370	49	313
4	92	61	15	133	56	20	2310	49	306
5	90	59	14	150	50	20	2310	84	521
6	89	57	14	134	48	17	2610	163	1150
7	88	62	15	94	55	14	2500	254	1720
8	244	66	44	91	49	12	2310	77	482
9	715	96	185	94	53	13	2320	81	510
10	392	77	82	97	59	15	3930	71	754
11	151	61	25	97	57	15	4940	194	2590
12	105	72	20	96	47	12	5570	107	1600
13	264	82	59	94	58	15	5760	112	1740
14	485	70	91	95	71	18	5300	91	1310
15	653	70	123	99	75	20	6300	88	1500
16	851	60	139	296	71	57	6500	101	1770
17	749	59	119	2000	356	1930	5830	163	2560
18	510	59	81	407	496	544	7910	66	1400
19	582	58	92	1780	453	2180	10000	25	684
20	589	60	96	2220	239	1440	5350	43	627
21	584	63	99	2290	270	1670	4760	32	414
22	215	54	31	2080	176	990	4870	44	583
23	135	51	18	2200	133	787	3440	34	317
24	129	43	15	2070	98	550	1380	7	26
25	120	51	16	1970	167	890	1640	15	67
26	111	53	16	1840	92	455	160	20	8.7
27	106	48	14	1380	67	250	775	20	42
28	110	36	11	1810	81	396	691	18	34
29	105	45	13	2000	72	389	192	23	12
30	121	56	18	1970	90	480	171	70	32
31	---	---	---	2170	75	439	---	---	---
TOTAL	9110	---	1555	30488	---	13758	106569	---	23752.7
JULY			AUGUST			SEPTEMBER			
1	199	33	18	192	47	24	113	26	7.9
2	185	7	3.5	1410	42	159	113	37	11
3	201	7	3.8	201	53	28	1940	34	178
4	116	12	3.8	116	63	20	1320	40	142
5	66	9	1.6	124	42	14	312	30	25
6	63	16	2.7	142	35	13	1220	32	105
7	64	10	1.7	147	42	17	195	30	16
8	449	15	18	113	40	12	188	15	7.6
9	3070	24	198	102	42	11	175	17	8.0
10	2960	38	302	104	40	11	762	19	39
11	700	42	79	856	41	94	1350	33	120
12	125	44	15	603	52	84	211	30	17
13	107	66	19	1240	50	166	195	48	25
14	149	74	30	1060	50	142	154	37	15
15	1150	85	266	1780	42	200	650	44	77
16	1570	112	475	699	39	73	796	47	101
17	1500	86	349	418	44	49	1390	53	199
18	1310	69	245	169	65	30	2320	32	200
19	1830	76	377	273	37	27	3830	38	393
20	232	50	31	1660	20	89	4620	44	548
21	141	76	29	303	32	26	1850	25	125
22	156	60	25	1090	30	88	2240	17	103
23	1340	46	165	1110	25	75	3730	222	2230
24	271	49	36	186	30	15	4540	1030	12600
25	726	54	105	311	37	31	401	572	620
26	1880	42	211	1740	31	145	2070	165	923
27	121	66	22	1430	28	108	1920	120	621
28	705	72	138	156	67	28	1550	56	234
29	2810	50	376	136	44	16	1100	64	191
30	3030	40	324	122	44	14	1980	64	342
31	3690	48	474	115	33	10	---	---	---
TOTAL	30916	---	4344.1	18108	---	1819	43235	---	20223.5
YEAR	1036109		523844.6						

SALT RIVER BASIN

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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 downstream from bridge on U.S. Highway 61, 0.75 mi downstream from Plum Creek, 2.5 mi northwest of Frankford, and at mile 4.5.

DRAINAGE AREA.--206 mi².

PERIOD OF RECORD.--October 1, 1979 to current year, March 27, 1930 to Sept. 1978, fragmentary record.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 485.00 ft above National Geodetic Vertical Datum of 1929. March 24, 1930 to September 30, 1936 nonrecording gage at site 0.75 mi upstream at datum 3.63 ft 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.--Estimated daily discharges: June 20, 23, July 13 to Aug. 6, and Sept. 24. Records good except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--7 years, 213 ft³/s, 13.65 in/yr, 150,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,200 ft³/s, July 28, 1981, gage height, 16.86 ft; minimum, 0.11 ft³/s, Aug. 23, 1984.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 14	1045	8,160	13.11	Nov. 26	1530	6,890	12.32
Nov. 15	1715	7,990	13.01	Dec. 1	1100	10,700	14.55
Nov. 19	0230	*15,700	*16.69	Dec. 11	0630	10,100	14.21
Nov. 20	0015	12,700	15.51	Sept. 24	Unknown	8,400	13.25

Minimum discharge, 0.35 ft³/s, Aug. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	1350	7040	29	15	88	30	187	33	4.7	.57	1.5
2	9.2	611	889	31	17	74	26	74	20	5.8	.54	1.6
3	7.7	87	235	33	268	67	39	41	15	6.1	.52	1.7
4	8.4	24	174	31	2570	62	43	29	13	4.9	.50	1.9
5	7.7	12	151	25	702	58	45	22	89	3.9	.50	1.7
6	7.4	8.4	127	24	272	63	41	19	377	3.5	2.5	1.3
7	7.1	6.5	112	19	224	57	34	17	89	3.2	.79	1.5
8	6.8	4.4	104	16	173	51	30	15	24	3.0	.54	1.1
9	6.8	3.8	99	17	127	51	27	14	58	2.9	.50	1.5
10	6.8	36	880	19	90	56	25	15	30	2.7	1.4	1.6
11	6.8	34	5460	20	67	63	24	14	17	3.6	.60	2.6
12	6.5	39	648	20	57	71	23	15	11	5.7	.43	2.7
13	6.5	377	260	18	47	159	23	15	9.5	12	.47	2.1
14	6.5	4010	159	18	49	143	24	13	9.5	32	.94	1.9
15	6.5	3890	128	17	42	87	23	13	20	95	2.4	2.0
16	8.4	1310	107	19	45	64	22	14	10	35	3.3	1.9
17	10	184	90	22	49	55	21	1200	7.6	13	2.8	2.8
18	16	6400	66	24	250	57	21	740	6.6	5.2	2.4	3.2
19	29	11000	57	24	613	66	22	185	6.0	1.9	2.3	3.5
20	26	3970	54	22	371	58	21	87	5.8	1.3	2.2	4.2
21	18	456	49	23	165	48	28	56	5.5	1.0	2.2	4.4
22	14	279	56	22	121	43	27	42	5.2	.92	2.1	4.1
23	13	190	171	20	112	42	24	33	5.0	.82	2.0	8.0
24	58	142	318	20	95	39	24	28	4.5	.68	1.9	3290
25	18	118	141	19	88	38	22	61	3.9	.68	2.2	184
26	9.6	2750	74	17	144	39	20	63	3.8	2.4	2.1	261
27	6.8	1110	54	14	207	36	19	28	3.8	1.7	2.0	488
28	6.2	435	40	14	140	36	24	27	3.9	1.2	1.4	191
29	6.8	232	33	14	---	36	25	233	3.8	.90	1.4	81
30	7.1	217	31	13	---	34	20	392	3.7	.70	1.7	346
31	7.1	---	32	13	---	32	---	73	---	.62	1.6	---
TOTAL	365.7	39286.1	17839	637	7120	1873	797	3765	894.1	257.02	46.80	4899.8
MEAN	11.8	1310	575	20.5	254	60.4	26.6	121	29.8	8.29	1.51	163
MAX	58	11000	7040	33	2570	159	45	1200	377	95	3.3	3290
MIN	6.2	3.8	31	13	15	32	19	13	3.7	.62	.43	1.1
CAL YR 1985	TOTAL		109456.0	MEAN	300	MAX	11000	MIN	3.8			
WTR YR 1986	TOTAL		77780.52	MEAN	213	MAX	11000	MIN	.43			

SALT RIVER BASIN

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

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.47	6.89	14.18	3.26	3.16	3.51	3.21	4.20	3.26	2.86	---	2.70
2	2.41	5.50	5.87	3.30	3.19	3.46	3.17	3.50	3.16	2.86	---	2.71
3	2.37	3.56	4.12	3.32	3.94	3.43	3.24	3.29	3.09	2.90	---	2.72
4	2.38	3.18	3.88	3.31	8.92	3.40	3.29	3.21	3.06	2.86	---	2.73
5	2.37	3.00	3.81	3.14	5.58	3.38	3.31	3.17	3.06	2.82	---	2.71
6	2.36	2.92	3.71	3.26	4.23	3.40	3.29	3.12	4.61	2.80	---	2.71
7	2.38	2.85	3.63	3.13	4.07	3.38	3.23	3.09	3.57	2.79	---	2.72
8	2.34	2.77	3.60	3.16	3.90	3.34	3.21	3.07	3.20	2.77	2.68	2.69
9	2.39	2.74	3.57	3.18	3.67	3.33	3.17	3.06	3.08	2.77	2.67	2.71
10	2.53	3.01	4.41	3.20	3.44	3.36	3.17	3.08	3.24	2.76	2.71	2.72
11	2.56	3.27	14.04	3.20	3.27	3.39	3.16	3.06	3.16	2.80	2.69	2.77
12	2.62	3.07	5.23	3.23	3.24	3.44	3.16	3.05	3.04	2.88	2.67	2.76
13	2.69	4.91	4.25	3.20	3.20	3.75	3.14	3.07	3.01	---	2.67	2.73
14	2.71	12.57	3.79	3.19	3.34	3.79	3.16	3.03	2.99	---	2.68	2.72
15	2.77	6.32	3.75	3.16	3.16	3.53	3.16	3.04	3.27	---	2.76	2.72
16	2.83	7.20	3.66	3.20	3.31	3.41	3.13	3.06	3.03	---	2.79	2.73
17	2.87	4.09	3.59	3.24	3.31	3.36	3.12	4.89	2.96	---	2.76	2.76
18	2.98	4.86	3.36	3.25	3.41	3.36	3.12	5.91	2.93	---	2.76	2.78
19	3.14	14.52	3.43	3.27	5.35	3.42	3.14	3.99	2.91	---	2.74	2.78
20	3.17	9.06	3.44	3.24	4.66	3.39	3.13	3.55	---	---	2.73	2.78
21	3.07	4.79	3.38	3.25	3.84	3.33	3.19	3.38	---	---	2.73	2.82
22	3.01	4.31	3.42	3.25	3.60	3.30	3.18	3.29	---	---	2.73	2.80
23	2.99	4.08	3.76	3.21	3.62	3.29	3.16	3.23	---	---	2.73	2.98
24	3.59	3.94	4.54	3.22	3.55	3.27	3.14	3.20	2.84	---	2.73	---
25	2.99	3.85	3.90	3.21	3.50	3.26	3.13	3.18	2.82	---	2.73	3.99
26	2.89	4.62	3.49	3.20	3.67	3.25	3.11	3.46	2.81	---	2.74	3.39
27	2.72	6.78	3.44	3.14	4.02	3.25	3.09	3.21	2.81	---	2.73	4.99
28	2.60	4.80	3.34	3.15	3.77	3.24	3.14	3.19	2.81	---	2.70	4.04
29	2.51	4.12	3.30	3.16	---	3.25	3.17	4.05	2.81	---	2.71	3.47
30	2.48	3.87	3.27	3.13	---	3.24	3.11	4.92	2.81	---	2.71	3.66
31	2.47	---	3.32	3.13	---	3.21	---	3.51	---	---	2.71	---

CUIVRE RIVER BASIN

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05514500 CUIVRE RIVER NEAR TROY, MO

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

DRAINAGE AREA.--903 mi².

WATER-DISCHARGE RECORDS

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 above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1930, nonrecording gage at site 3 mi downstream at datum 4.31 ft lower. Oct. 1, 1930 to July 1939, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 20 to Dec. 9. Water discharge records good except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--56 years (water years 1922-71, 1980 to current year) 680 ft³/s, 10.23 in/yr, 492,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120,000 ft³/s, October 5, 1941, gage height, 33.4 ft, 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 downstream, than the October 1941 flood which is the highest flood since 1888.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 15	0115	18,900	24.20	June 6	0515	11,900	20.84
Nov. 19	1200	*34,300	*26.75	June 15	0415	15,400	23.10
Dec. 11	1715	29,000	26.07	July 2	0545	11,700	20.79
Feb. 4	1215	13,700	22.15				

Minimum daily discharge, 3.4 ft³/s, Sept. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	1180	21200	157	70	363	123	78	191	1510	27	4.1
2	42	2780	8050	158	1310	282	119	222	137	7210	24	4.0
3	37	800	2140	154	6630	248	121	197	108	1100	22	4.1
4	34	319	1000	152	12900	230	257	125	89	594	20	4.0
5	32	207	693	130	6650	216	305	91	1420	254	19	3.7
6	29	156	554	132	2400	207	290	76	5750	206	25	3.4
7	27	129	463	118	2220	196	215	66	3860	175	21	4.2
8	25	111	421	106	1810	182	177	59	699	124	20	4.2
9	24	97	393	98	1040	176	147	66	413	103	18	4.0
10	22	1330	2530	96	673	170	129	1710	1060	91	16	3.8
11	24	1080	22800	95	486	169	120	585	720	180	12	6.8
12	23	439	8350	96	462	207	112	261	364	500	11	14
13	21	1410	2180	94	359	607	107	168	238	487	11	8.7
14	23	9040	919	92	341	683	107	128	1760	347	11	7.5
15	23	11200	724	87	268	449	106	105	8020	905	11	5.9
16	37	6490	580	88	290	313	106	150	666	665	11	5.2
17	38	2040	483	91	291	254	105	1480	334	278	11	5.5
18	29	7250	362	96	610	238	97	3690	221	168	10	5.4
19	27	28100	333	103	1860	301	95	1370	170	121	9.0	5.4
20	28	17200	298	107	1550	329	95	485	139	94	8.4	5.3
21	28	9470	258	110	949	259	137	266	117	70	8.1	6.0
22	27	2260	262	104	538	220	160	189	103	55	7.7	5.3
23	32	1260	300	99	426	202	147	147	89	47	7.1	8.3
24	456	1200	510	98	373	189	126	128	79	41	6.5	9.8
25	537	1100	886	95	324	178	113	113	72	39	6.5	9.6
26	203	6430	512	89	305	172	101	142	67	96	6.1	51
27	118	13900	306	70	417	159	88	140	65	90	5.5	221
28	79	4320	222	74	495	153	85	169	75	59	4.9	343
29	65	2280	195	74	---	148	84	352	93	47	4.5	264
30	60	1500	173	70	---	140	78	540	94	37	4.5	152
31	56	---	170	68	---	133	---	322	---	32	4.6	---
TOTAL	2254	135078	78267	3201	46047	7773	4052	13620	27213	15725	383.4	1179.2
MEAN	72.7	4503	2525	103	1645	251	135	439	907	507	12.4	39.3
MAX	537	28100	22800	158	12900	683	305	3690	8020	7210	27	343
MIN	21	97	170	68	70	133	78	59	65	32	4.5	3.4
CAL YR 1985		TOTAL	464976	MEAN	1274	MAX	28300	MIN	21			
WTR YR 1986		TOTAL	334792.6	MEAN	917	MAX	28100	MIN	3.4			

CUIVRE RIVER BASIN

05514500 CUIVRE RIVER NEAR TROY, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT										
17...	1015	39	376	7.70	15.5	7.2	70	28	260	170
NOV										
20...	1545	14300	112	7.10	10.0	10.1	85	63	K32000	--
DEC										
11...	1200	25800	75	7.40	1.0	13.8	95	100	9400	--
JAN										
08...	1545	106	438	7.20	0.5	11.4	79	34	K72	200
FEB										
12...	1330	463	338	6.90	1.0	18.1	127	30	K8	--
MAR										
11...	1620	172	383	8.20	11.0	10.9	101	32	K36	--
APR										
09...	1300	149	390	8.10	17.0	10.1	105	22	64	170
MAY										
14...	1515	126	290	7.70	23.5	6.5	78	49	3300	--
JUN										
11...	1530	693	272	7.80	24.0	6.1	74	48	K15000	--
JUL										
10...	0820	89	291	7.80	28.0	7.1	92	12	520	130
AUG										
26...	1400	6.3	410	7.80	26.5	9.0	114	33	K300	--
SEP										
17...	1600	5.5	420	7.70	20.5	5.8	65	15	K160	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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										
17...	10	53	8.8	8.0	5.1	158	6.2	22	10	0.20
NOV										
20...	--	--	--	--	--	40	7.1	--	--	--
DEC										
11...	--	--	--	--	--	39	3.1	--	--	--
JAN										
08...	27	63	10	8.4	3.5	169	21	17	10	0.10
FEB										
12...	--	--	--	--	--	109	29	--	--	--
MAR										
11...	--	--	--	--	--	129	1.6	--	--	--
APR										
09...	23	54	9.1	12	3.7	142	2.3	39	10	0.10
MAY										
14...	--	--	--	--	--	105	4.2	--	--	--
JUN										
11...	--	--	--	--	--	100	3.0	--	--	--
JUL										
10...	8	43	6.6	5.4	4.2	125	3.9	18	7.0	0.20
AUG										
26...	--	--	--	--	--	187	5.9	--	--	--
SEP										
17...	--	--	--	--	--	194	7.8	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 17...	211	17	0.100	0.050	0.090	1	<1	7	1	1600
NOV 20...	--	380	0.400	0.160	0.330	--	--	--	--	--
DEC 11...	--	480	0.600	0.270	0.280	--	--	--	--	--
JAN 08...	252	11	2.30	0.200	0.060	<1	<1	3	1	960
FEB 12...	--	32	2.60	0.210	0.080	--	--	--	--	--
MAR 11...	--	17	1.40	0.030	0.040	--	--	--	--	--
APR 09...	231	18	0.200	0.020	0.050	<1	<1	5	3	660
MAY 14...	--	260	1.60	0.210	0.160	--	--	--	--	--
JUN 11...	--	454	2.20	0.070	0.140	--	--	--	--	--
JUL 10...	174	41	0.700	0.040	0.110	<1	<1	6	3	2000
AUG 26...	--	9	<0.100	0.050	0.100	--	--	--	--	--
SEP 17...	--	16	0.300	--	0.020	--	--	--	--	--

[illegible]

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 downstream from Missouri and Illinois Bridge and Belt Railroad bridge, 7.7 mi upstream from Missouri River, and at mile 202.7 upstream from Ohio River.

DRAINAGE AREA.--171,500 mi², 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 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 upstream, at datum 403.79 ft higher. Mar. 20, 1933 to Jan. 4, 1937, and Nov. 11, 1937 to Jan. 31, 1938, nonrecording gage 300 ft upstream at datum 395.48 ft higher. Since July 11, 1940, auxiliary water-stage recorder 5.9 mi downstream; previously various combinations of gages were used.

REMARKS.--Estimated daily discharges: Dec. 4-12, Jan. 27-31, and Aug. 12 to Sept. 20. Records fair except for estimated daily discharge, which are poor. 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	Date	Maximum Discharge ft ³ /s
May 21 to June 4, 1943	1,075,000	May 24, 1943	90,000
Apr. 29 to May 13, 1944	891,000	Apr. 30, 1944	90,000
June 29 to July 19, 1947	687,000	July 2, 1947	65,000
July 5-31, 1951	2,534,000	July 20, 1951	110,000
Apr. 3-7, 23-26, 1973	Unknown	Unknown	Unknown

AVERAGE DISCHARGE.--59 years, 103,500 ft³/s, 74,990,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 535,000 ft³/s, Apr. 29, 1973, includes undetermined amount of overflow from Missouri River; maximum elevation, 432.15 ft, Apr. 28, 1973; minimum discharge, 7,960 ft³/s, Nov. 7, 1948, result of temporary storage in pool of lock and dam 26.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 308,000 ft³/s, May 23 at 1700; maximum elevation, 423.28 ft, Nov. 22; minimum daily, 60,500 ft³/s, Jan. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84600	133000	183000	84500	79300	142000	233000	200000	275000	151000	142000	82800
2	82000	163000	220000	88800	96800	120000	228000	205000	279000	169000	138000	81900
3	89300	165000	240000	90700	100000	116000	225000	212000	277000	176000	142000	78200
4	96600	188000	200000	92600	113000	123000	221000	214000	268000	176000	139000	84600
5	105000	170000	190000	89900	122000	119000	218000	211000	258000	168000	131000	85400
6	99500	158000	175000	79800	139000	126000	217000	206000	247000	171000	135000	89200
7	107000	159000	160000	78200	150000	131000	217000	200000	244000	162000	132000	91400
8	86200	137000	155000	74600	145000	135000	220000	203000	240000	163000	136000	85200
9	84100	142000	150000	72300	134000	127000	228000	213000	232000	154000	129000	79800
10	95200	141000	155000	67900	131000	130000	232000	214000	227000	153000	118000	82200
11	131000	159000	170000	79800	118000	147000	233000	216000	210000	198000	106000	82700
12	186000	150000	200000	72700	107000	162000	234000	207000	191000	226000	108000	87200
13	193000	148000	227000	62400	94800	169000	236000	205000	182000	235000	110000	83100
14	173000	193000	223000	66900	87000	180000	238000	201000	179000	243000	101000	92700
15	164000	195000	145000	69500	83800	189000	240000	198000	180000	249000	108000	105000
16	169000	182000	140000	64800	87100	189000	245000	198000	194000	250000	111000	94800
17	139000	207000	163000	70400	89200	188000	247000	196000	180000	250000	143000	96100
18	147000	222000	141000	75100	93500	190000	252000	213000	161000	225000	123000	109000
19	147000	235000	125000	77000	98100	188000	254000	234000	150000	201000	103000	121000
20	161000	248000	132000	76600	102000	190000	256000	256000	152000	165000	115000	120000
21	188000	271000	131000	106000	118000	193000	255000	282000	149000	162000	115000	127000
22	191000	268000	129000	108000	114000	202000	253000	301000	149000	153000	110000	151000
23	194000	274000	119000	96200	111000	209000	249000	307000	142000	146000	103000	148000
24	183000	259000	123000	101000	117000	218000	251000	305000	141000	145000	92900	154000
25	173000	247000	115000	102000	102000	223000	248000	300000	130000	144000	87400	174000
26	177000	228000	92600	90500	106000	226000	241000	293000	136000	147000	86900	175000
27	176000	228000	93900	81100	108000	229000	236000	284000	141000	148000	96100	168000
28	173000	225000	116000	60500	131000	232000	227000	276000	144000	148000	93400	196000
29	155000	232000	111000	62500	---	234000	215000	271000	148000	157000	84700	210000
30	175000	225000	88800	63500	---	237000	208000	268000	137000	161000	80800	200000
31	149000	---	92200	71700	---	235000	---	272000	---	157000	87700	---
TOTAL	4473500	5952000	4705500	2477500	3077600	5499000	7057000	7361000	5743000	5553000	3507900	3529300
MEAN	144300	198400	151800	79920	109900	177400	235200	237500	191400	179100	113200	117600
MAX	194000	274000	240000	108000	150000	237000	256000	307000	279000	250000	143000	210000
MIN	82000	133000	88800	60500	79300	116000	208000	196000	130000	144000	80800	78200
CAL YR 1985	TOTAL		50771300	MEAN	139100	MAX	398000	MIN	35900			
WTR YR 1986	TOTAL		58936300	MEAN	161500	MAX	307000	MIN	60500			

MISSISSIPPI RIVER MAIN STEM

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05587550 MISSISSIPPI RIVER BELOW ALTON, ILL
(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 downstream from gaging station, 4.7 mi upstream from Missouri River and at mile 199.7 upstream from Ohio River.

DRAINAGE AREA.--171,500 mi² approximately above gage.

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to September 1981.

WATER TEMPERATURE: October 1974 to September 1981.

REMARKS.--Records of discharge are given for gaging station 05587500 Mississippi River at Alton, IL.

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

WATER TEMPERATURE: Maximum, 30.0°C on several days during July; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 100 ML) (31673)
NOV										
21...	1020	271000	281	7.30	8.0	160	9.9	81	4500	11000
JAN										
09...	0930	72300	610	7.50	0.0	23	13.8	93	4200	540
MAR										
13...	1015	169000	440	8.10	4.5	48	13.7	108	K70	K800
MAY										
15...	1030	198000	472	8.40	20.0	40	7.1	79	K30	K100
JUL										
10...	1135	153000	490	8.20	27.5	45	7.0	90	K90	K40
SEP										
18...	1115	109000	431	8.30	21.0	23	8.3	94	K40	K50

DATE	HARD- NESS (MG/L AS CaCO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD 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)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LILITY WH WAT TOTAL FIELD MG/L AS CaCO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
NOV										
21...	140	31	36	12	5.9	8	0.2	3.8	101	26
JAN										
09...	300	82	71	29	17	11	0.4	2.8	212	67
MAR										
13...	200	32	47	19	11	11	0.4	3.6	165	23
MAY										
15...	230	59	57	21	10	9	0.3	3.2	169	58
JUL										
10...	230	64	57	22	12	10	0.4	2.7	168	49
SEP										
18...	200	70	46	21	13	12	0.4	2.9	122	39

K--Results based on colony count outside the acceptable range (non-ideal colony count).

MISSISSIPPI RIVER MAIN STEM

05587550 MISSISSIPPI RIVER BELOW ALTON, ILL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
NOV 21...	10	0.20	9.7	188	210	0.26	138000	10.0	0.110
JAN 09...	31	0.20	13	379	360	0.52	74000	4.10	0.370
MAR 13...	17	0.20	10	259	230	0.35	118000	2.60	0.480
MAY 15...	17	0.20	2.9	285	300	0.39	152000	2.50	0.040
JUL 10...	18	0.20	10	286	270	0.39	118000	4.00	0.030
SEP 18...	19	0.20	6.2	--	230	0.31	66600	0.930	0.040

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L (T/DAY) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 21...	0.14	1.4	0.400	1.2	0.250	0.090	292	214000	97
JAN 09...	0.48	1.2	0.210	--	0.110	0.100	116	22600	64
MAR 13...	0.62	1.4	0.230	--	0.150	0.100	99	45200	98
MAY 15...	0.05	1.2	0.170	--	0.100	0.070	105	56100	79
JUL 10...	0.04	0.90	0.280	--	0.140	0.120	14	5780	43
SEP 18...	0.05	0.80	0.170	--	0.090	0.080	11	3240	50

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 21...	30	7	84	<0.5	<1	<1	<3	28	640	57
JAN 09...	10	1	62	0.6	<1	<1	<3	7	29	1
MAY 15...	<10	1	63	<0.5	<1	<1	<3	2	4	1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 21...	<4	130	0.2	<10	6	<1	<1	79	<6	370
JAN 09...	12	84	<0.1	<10	38	<1	<1	180	<6	9
MAY 15...	13	<1	<0.1	<10	1	1	<1	130	<6	6

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 10240005, on left bank on downstream side of bridge 0.5 mi west of Fairfax, and 2 mi downstream from Cow Branch, and at mile 13.3.

DRAINAGE AREA.--508 mi².

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

REVISED RECORDS.--WSP 856: 1937.

GAGE.--Water-stage recorder. Datum of gage is 867.66 ft above National Geodetic Vertical Datum of 1929. Prior to October 1, 1931, nonrecording gage at site 50 ft downstream at datum 2.0 ft higher. October 1, 1931 to October 22, 1953, nonrecording gage at site 50 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Nov. 24 to Feb. 3, Feb. 9-25, and July 11-18. Records fair except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--64 years, 205 ft³/s, 5.48 in/yr, 148,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,300 ft³/s, June 20, 1942, from rating curve extended above 11,000 ft³/s; maximum gage height, 24.43 ft, March 3, 1979; no flow on several days in July and August 1934, January 28 to February 10, 1977, February 6-12, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,800 ft³/s and maximum (*);

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
July 6	2245	5,730	18.66	Aug. 13	0945	6,920	20.37
July 9	1215	*7,870	*21.66	Sept. 19	2130	6,930	20.30
July 10	0330	4,990	17.51	Sept. 22	2230	5,220	17.97
July 12	Unknown	7,370	^a 21.00				

^aFrom floodmark

Minimum discharge, 28 ft³/s, Oct. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	69	35	43	95	130	296	694	296	285	207	97
2	62	66	37	45	100	131	280	496	257	181	208	94
3	49	66	40	50	110	122	1860	424	231	156	197	94
4	41	62	40	60	961	114	2000	432	248	145	188	94
5	35	62	43	60	1100	104	1000	377	665	137	201	97
6	33	60	45	58	342	101	692	326	333	2270	214	181
7	32	59	48	56	169	87	581	307	269	2720	379	179
8	30	57	49	50	130	84	499	277	238	729	241	134
9	465	55	50	45	100	97	418	465	218	5650	192	115
10	546	57	50	40	90	112	382	607	236	3630	189	108
11	286	57	48	45	80	108	353	457	303	3000	178	303
12	254	62	45	50	70	132	328	471	257	6000	211	155
13	201	65	43	55	70	302	299	1300	207	2600	4320	118
14	130	60	43	59	72	263	305	555	280	936	660	109
15	105	59	42	60	75	193	304	425	461	868	296	103
16	91	62	40	70	76	166	283	837	239	656	225	102
17	81	61	40	80	78	162	270	999	206	532	193	112
18	81	61	40	90	80	297	342	675	190	475	178	124
19	116	56	38	100	87	382	436	540	183	425	172	3150
20	245	50	35	120	90	276	324	474	174	386	160	2380
21	139	53	35	110	85	223	295	428	170	359	151	429
22	119	62	37	100	80	204	264	388	295	344	145	1250
23	104	59	40	95	90	189	247	350	185	324	140	2740
24	94	50	50	90	150	172	233	329	166	315	130	594
25	86	55	50	85	200	159	225	307	156	316	127	477
26	81	60	49	80	349	149	224	284	150	278	123	362
27	76	50	46	70	413	135	303	274	145	268	117	304
28	74	50	47	70	195	127	1050	329	146	265	112	356
29	71	45	47	80	---	123	620	834	141	245	110	1220
30	68	40	45	85	---	116	1140	703	275	227	108	765
31	70	---	42	90	---	112	---	347	---	216	101	---
TOTAL	3961	1730	1339	2191	5537	5072	15853	15711	7320	34938	10173	16346
MEAN	128	57.7	43.2	70.7	198	164	528	507	244	1127	328	545
MAX	546	69	50	120	1100	382	2000	1300	665	6000	4320	3150
MIN	30	40	35	40	70	84	224	274	141	137	101	94
CAL YR 1985		TOTAL	28371.2	MEAN	77.7	MAX	2230	MIN	5.7			
WTR YR 1986		TOTAL	120171	MEAN	329	MAX	6000	MIN	30			

MISSOURI RIVER MAIN STEM

06813500 MISSOURI RIVER AT RULO, NE

LOCATION.--Lat 40°03'13", long 95°25'19", in NW¼NW¼ sec.17, T.1 N., R.18 E., Richardson County, Hydrologic Unit 10240005, on right bank at downstream side of bridge on U.S. Highway 159 at Rulo, 3.2 mi upstream from Big Nemaha River, and at mile 498.0.

DRAINAGE AREA.--414,900 mi², approximately. The 3,959 mi² in Great Divide basin are not included.

PERIOD OF RECORD.--October 1949 to current year in reports of Geological Survey. Gage-height record collected at site 80 ft 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 U.S. Army Corps of Engineers.

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

GAGE.--Water-stage recorder. Datum of gage is 837.23 ft above National Geodetic Vertical Datum of 1929. Oct. 1949 to Sept. 12, 1950, nonrecording gage at site 80 ft upstream and Sept. 13, 1950 to Apr. 19, 1983, recording gage on downstream end of middle pier, all at same datum.

REMARKS.--Estimated daily discharges: Oct. 9-13, Nov. 28 to Dec. 3, Dec. 6-9, Dec. 15 to Jan. 15, Jan. 18, 19, Jan. 28 to Feb. 3, Feb. 11-15, Apr. 4, 5, Aug. 13, 14, and Sept. 27, 28. Records good except those for estimated daily discharges, which are poor. Flow regulated by upstream main-stem reservoirs. U.S. Army Corps of Engineers gage-height satellite data collection platform at station.

AVERAGE DISCHARGE.--37 years, 41,350 ft³/s, 29,960,000 acre-ft/yr.

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 113,000 ft³/s, July 7, gage height, 20.00 ft; minimum daily, 21,900 ft³/s, Dec. 28; minimum gage height not determined, occurred during period of no gage-height record Jan. 17, 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46200	40800	37200	23500	26200	43500	50000	84900	64200	73500	46600	52700
2	44100	40900	37000	24500	26200	39100	50000	79400	63500	89300	46700	53900
3	43500	41000	37500	25700	28500	38400	56400	75300	63100	80300	47300	53100
4	43000	41300	39200	26300	32100	40400	64000	74100	62700	68900	47600	53600
5	42500	41300	39000	26200	37900	37900	67000	71100	66900	62900	48400	53800
6	42400	41800	37500	26200	36100	36700	64900	67900	66300	82100	49300	54400
7	41700	41700	34000	25000	37000	36600	62200	66900	65800	99900	50300	55000
8	41900	41300	32500	24500	34400	36800	59500	63300	64800	73000	51500	55400
9	43000	41900	31500	24500	31400	36000	58900	66000	65000	76900	50300	54900
10	44000	41700	30500	24200	29700	34700	59300	70200	63400	86200	51700	56200
11	44000	42100	29600	25500	28100	35100	59700	81900	65100	89800	52000	54300
12	43000	42200	27900	26500	27000	36800	58800	75500	70500	87400	50800	53200
13	43000	41200	26700	26600	26000	41500	57900	74100	66300	101000	52000	52200
14	43300	40700	25900	27000	25500	64900	57200	73700	62100	78500	56000	52300
15	42700	41300	27500	27000	25600	55900	58200	73600	75800	76300	56900	53200
16	42000	42100	26400	27100	25300	48900	61100	83500	84200	67800	56700	54800
17	42300	42100	26400	27500	25600	46200	60200	105000	71700	61900	52300	56700
18	42800	42300	26400	28000	25700	48600	56900	99500	63300	58200	52900	58900
19	45600	42500	26500	29000	26100	84000	58500	91400	58500	55200	54000	71600
20	46800	43300	26000	29100	27300	98200	61900	86600	57400	53600	51500	84900
21	44500	41900	25200	28700	28000	85300	63100	83000	56900	52300	51800	72100
22	42700	38000	24800	29200	28000	70000	62500	80100	57700	51200	62000	72700
23	42500	37300	25000	28400	28700	63600	61200	76800	60700	50200	58100	80300
24	43500	38200	25800	28700	29400	62500	61300	73700	61100	49100	53400	73200
25	41900	38400	26800	27900	29800	60300	60000	70400	60100	48100	51200	72400
26	41100	37400	25500	28600	31700	58300	59000	68600	59700	47600	50700	69400
27	41200	37300	23000	28500	43600	56100	62700	66700	59800	48600	51300	68500
28	41800	38400	21900	26300	58800	55100	78600	65800	60300	48200	52600	70000
29	41100	38500	24500	25500	---	54400	99300	66700	61200	48400	52500	79600
30	40600	37500	25000	25000	---	53000	96200	66900	62900	47600	52500	77200
31	41000	---	24000	26400	---	50800	---	65100	---	47300	52400	---
TOTAL	1329700	1216400	896700	827100	859700	1609600	1886500	2347700	1921000	2061300	1613300	1870500
MEAN	42890	40550	28930	26680	30700	51920	62880	75730	64030	66490	52040	62350
MAX	46800	43300	39200	29200	58800	98200	99300	105000	84200	101000	62000	84900
MIN	40600	37300	21900	23500	25300	34700	50000	63300	56900	47300	46600	52200
CAL YR 1985		TOTAL	15382900		MEAN	42140	MAX	85600	MIN	21900		
WTR YR 1986		TOTAL	18439500		MEAN	50520	MAX	105000	MIN	21900		

NODAWAY RIVER BASIN

75

06817700 NODAWAY RIVER NEAR GRAHAM, MO

LOCATION.--Lat 40°12'08", long 95°04'07", NE¼NE¼NE¼ sec.9, T.62 N., R.37 W., Holt County, Hydrologic Unit 10240010, at right downstream end of bridge on Highway A, 0.15 mi east of Maitland and 1.5 mi west of Graham.

DRAINAGE AREA.--1,380 mi², approximately.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is 852.09 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1-10, Nov. 27 to Jan. 20, Jan. 28 to Feb. 3, and Feb. 11-25. Records good except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,000 ft³/s, June 15, 1984, gage height, 20.4 ft; minimum, 23 ft³/s, Sept. 9, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,600 ft³/s, July 12, gage height, 18.76 ft; minimum daily, 115 ft³/s, Dec. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	526	363	120	130	240	965	942	7850	1080	778	585	273
2	390	350	125	150	250	644	1500	3970	918	682	587	262
3	406	347	130	180	280	606	5190	2730	844	514	542	251
4	398	344	130	200	775	612	8480	2440	799	421	516	246
5	406	315	125	210	2790	540	6540	2120	1390	366	562	239
6	485	309	130	205	2470	459	3870	1780	1300	1070	644	314
7	637	303	140	200	1130	414	2790	2500	1200	4580	1580	399
8	614	295	150	180	621	335	2150	1490	936	2750	998	296
9	4510	293	160	160	435	336	1730	1430	854	6710	650	282
10	4200	282	155	150	347	437	1450	2780	775	7070	559	261
11	2220	277	150	160	300	499	1280	12400	845	6390	489	323
12	2690	296	145	175	200	525	1170	6320	1090	10400	454	410
13	3000	334	140	185	205	1190	1070	4600	796	7370	2940	263
14	1620	323	140	195	210	2780	1100	3230	1270	8460	2890	234
15	863	322	135	200	220	1490	1140	2730	2080	7560	2670	189
16	636	333	130	250	220	977	1090	4720	1010	3550	1290	165
17	536	325	130	300	225	806	955	9900	810	2300	888	364
18	503	321	130	400	230	1120	1160	6220	688	1710	737	501
19	759	311	125	600	235	2840	1610	4090	628	1370	630	6660
20	1090	266	120	1000	250	3180	1780	2950	570	1150	565	9620
21	883	219	115	898	235	1590	1310	2410	564	990	514	3870
22	947	240	120	575	220	1150	1170	2050	654	871	473	1800
23	744	238	125	549	250	1000	1060	1790	557	786	458	3370
24	631	170	130	457	300	908	972	1580	518	732	438	2890
25	554	199	150	370	400	810	921	1460	479	698	409	1660
26	497	219	140	326	681	752	880	1340	454	629	375	1380
27	458	200	130	205	3350	702	936	1240	376	646	357	1090
28	424	180	130	200	2310	637	2130	1220	368	690	344	856
29	398	170	130	210	---	606	3440	1560	361	637	318	4920
30	376	150	130	220	---	579	7680	1760	398	620	302	3120
31	368	---	125	230	---	548	---	1190	---	601	288	---
TOTAL	32769	8294	4135	9470	19379	30037	67496	103850	24612	83101	25052	46508
MEAN	1057	276	133	305	692	969	2250	3350	820	2681	808	1550
MAX	4510	363	160	1000	3350	3180	8480	12400	2080	10400	2940	9620
MIN	368	150	115	130	200	335	880	1190	361	366	288	165

CAL YR 1985	TOTAL	141183	MEAN	387	MAX	5560	MIN	38
WTR YR 1986	TOTAL	454703	MEAN	1246	MAX	12400	MIN	115

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 I-29, 7 mi east of Oregon.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CAO3) (00900)
OCT										
09...	1200	1900	186	7.80	9.0	8.8	76	190	>12000	96
NOV										
13...	1015	93	448	7.90	6.0	12.3	99	18	4300	--
DEC										
11...	1145	200	500	7.30	0.0	10.8	73	<10	580	--
JAN										
14...	0915	180	465	7.40	0.0	15.3	105	--	K64	220
FEB										
04...	0940	260	334	7.60	1.5	14.8	107	250	3500	--
MAR										
05...	1630	590	339	8.10	4.5	12.0	92	43	420	--
APR										
02...	1000	1530	341	7.70	13.5	8.2	78	200	28000	160
MAY										
07...	1115	2300	375	7.70	19.5	8.3	90	65	4200	--
JUN										
03...	1030	1050	415	7.80	22.5	8.0	92	23	2700	--
JUL										
17...	1300	2470	288	7.80	27.0	6.7	83	130	9200	130
AUG										
14...	1100	2500	208	7.50	21.5	6.0	68	110	K61000	--
SEP										
03...	1015	310	365	8.30	22.5	9.2	105	--	K180	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CAO3 (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)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CAO3 (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										
09...	0	27	6.9	7.4	5.3	85	3.1	23	6.2	0.30
NOV										
13...	--	--	--	--	--	187	4.7	--	--	--
DEC										
11...	--	--	--	--	--	192	19	--	--	--
JAN										
14...	29	63	16	12	2.9	192	15	29	11	0.20
FEB										
04...	--	--	--	--	--	145	6.7	--	--	--
MAR										
05...	--	--	--	--	--	126	2.0	--	--	--
APR										
02...	0	44	11	8.9	4.4	148	6.0	27	10	0.30
MAY										
07...	--	--	--	--	--	126	5.0	--	--	--
JUN										
03...	--	--	--	--	--	148	4.7	--	--	--
JUL										
17...	24	37	8.6	7.2	4.6	105	3.2	20	7.5	0.30
AUG										
14...	--	--	--	--	--	83	5.3	--	--	--
SEP										
03...	--	--	--	--	--	145	1.4	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[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 and Grand Island Railroad bridge in St. Joseph. River mile 448.2.

DRAINAGE AREA.--420,300 mi², 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 above 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 5.50ft higher.

REMARKS.--Estimated daily discharges: Dec. 14 to Jan. 20, and May 17-20. Water discharge records good except for estimated daily discharges, which are fair. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--58 years, 41,240 ft³/s, 29,880,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 397,000 ft³/s, Apr. 22, 23, 1952, gage height, 26.82 ft; minimum, 2,300 ft³/s, Jan. 9, 1937.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 29, 1881, reached a stage of 27.2 ft, present datum, discharge, about 370,000 ft³/s, computed by U.S. Army Corps of Engineers. Flood of June 1844 reached a stage of 24.5 ft, discharge, about 350,000 ft³/s, computed by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 153,000 ft³/s, May 17, gage height, 22.27 ft; minimum, 24,000 ft³/s, Dec. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55500	47200	40800	30000	31900	49700	56300	110000	72200	73900	51900	56200
2	51800	46500	38500	32000	32200	43600	56900	92600	70900	93900	51100	57400
3	51900	46200	37700	33000	32000	41000	61600	84100	69700	89400	51000	56500
4	51000	46300	38400	34000	35700	43300	99400	81700	69200	76400	51400	56700
5	49700	46100	40100	33000	44200	42900	95200	80600	76300	67600	51700	57700
6	49200	46000	38400	33000	44100	40800	79500	76800	73600	76500	52500	57900
7	48200	46300	37100	32000	40900	40300	74300	75900	73200	121000	53800	59100
8	47600	45600	34900	31000	40100	40900	69800	73100	71300	94600	55700	59400
9	56800	46200	32600	30000	36300	40900	66500	71300	71000	91700	54400	59100
10	83200	46100	31000	28000	34000	40800	65500	81400	69800	98200	54200	60400
11	64500	46200	29800	29000	32100	40100	64600	100000	69600	110000	55600	66700
12	54700	46600	27700	30000	29700	42300	63800	98300	75800	106000	54700	57900
13	55400	45900	27000	32000	28500	45800	61900	87200	74800	129000	99600	55900
14	51900	44200	26000	34000	28400	66000	62400	84300	69100	105000	78600	55100
15	49500	45000	25000	36000	28000	68400	62200	82300	76300	99700	67000	55300
16	48200	45100	25500	36500	28300	56800	63300	103000	93700	85200	64100	56400
17	47500	45700	26000	37000	29300	53100	64100	145000	85100	73800	59800	58500
18	48400	46500	25500	38000	29800	55200	60600	126000	72900	67800	58500	63000
19	51500	47100	25500	39000	30000	82900	61400	112000	65500	63900	60500	70000
20	54100	47500	26000	42000	31200	118000	65500	102000	62300	61600	57500	104000
21	51600	46700	25000	40600	31900	104000	67500	95200	62100	59700	55400	79500
22	49700	43100	24000	39400	32400	81100	67200	90800	65400	58600	63500	76800
23	49000	40900	24500	36800	32700	69900	65400	87400	64100	57000	67000	101000
24	49900	40900	28000	35800	33500	67600	65200	84100	65500	55600	59100	85300
25	49300	41700	29000	34600	34200	65900	64200	80300	63900	54800	55200	76200
26	48200	41300	30000	33900	34700	63500	62200	77600	63000	53600	54200	72400
27	47400	40500	30000	33000	39100	61300	66700	75800	62000	54200	54600	68700
28	48400	40700	29000	31000	64300	60600	79900	75200	61700	54600	55800	67100
29	48100	41500	28000	30500	---	59800	108000	75500	62200	54900	56100	90600
30	47300	41300	28000	29900	---	58900	116000	76400	65200	53800	55600	98900
31	47300	---	29000	29900	---	57000	---	74500	---	52900	55900	---
TOTAL	1606800	1340900	938000	1044900	969500	1802400	2117100	2760400	2097400	2394900	1816000	2039700
MEAN	51830	44700	30260	33710	34630	58140	70570	89050	69910	77250	58580	67990
MAX	83200	47500	40800	42000	64300	118000	116000	145000	93700	129000	99600	104000
MIN	47300	40500	24000	28000	28000	40100	56300	71300	61700	52900	51000	55100
CAL YR 1985	TOTAL		16968800	MEAN		46490	MAX		84500	MIN		24000
WTR YR 1986	TOTAL		20928000	MEAN		57340	MAX		145000	MIN		24000

MISSOURI RIVER MAIN STEM

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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.--

WATER TEMPERATURE: May 1984 to December 1984, July 1985 through September 1985, and April 1986 to September 1986.

DISSOLVED OXYGEN: May 1984 to November 1984, July 1985 through September 1985, and April 1986 to September 1986.

INSTRUMENTATION.--Water-quality monitor May 1984 to December 1984, July 1985 to September 1985, and April 1986 to September 1986.

REMARKS.--The number of missing days of record exceeds 20 percent of the year. Discontinued as National stream-quality accounting network station, September 1986.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (000061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (000095)	PH (STAND- ARD 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)
OCT										
09...	1000	48400	745	8.40	12.5	47	9.6	90	K16000	6200
NOV										
13...	0845	46900	730	8.30	6.0	21	12.5	99	K17000	6200
DEC										
11...	1000	30000	830	8.10	0.5	6.3	12.0	81	K7100	600
JAN										
14...	0730	34000	786	7.50	0.0	0.10	15.4	105	5000	2600
FEB										
04...	0740	34500	734	7.70	2.0	21	12.5	92	12000	3300
MAR										
06...	0800	41400	630	8.30	2.0	110	11.8	84	2200	4800
APR										
02...	0800	57200	650	8.00	13.5	83	8.8	84	4600	5000
MAY										
07...	0830	75000	730	8.00	17.5	130	7.8	81	1800	K700
JUN										
03...	0800	69700	734	8.10	21.5	50	7.8	88	1000	K150
JUL										
17...	0900	73800	618	8.00	27.0	650	5.1	63	45000	4200
AUG										
14...	0830	79400	505	7.90	22.0	790	5.2	59	37000	32000
SEP										
03...	0800	54200	720	8.30	22.5	35	8.1	93	540	K80

DATE	HARD- NESS (MG/L AS CaCO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD 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)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CaCO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT										
09...	260	76	66	23	55	31	2	5.4	183	170
NOV										
13...	260	68	66	24	61	33	2	4.1	195	180
DEC										
11...	310	110	80	26	67	32	2	5.2	190	190
JAN										
14...	280	120	71	25	61	32	2	5.8	164	170
FEB										
04...	280	81	72	24	57	30	2	5.5	198	160
MAR										
06...	230	69	61	20	46	29	1	7.8	166	140
APR										
02...	260	81	69	22	37	23	1	7.6	181	130
MAY										
07...	310	110	77	28	35	19	0.9	7.4	193	170
JUN										
03...	280	90	70	25	50	27	1	7.8	183	200
JUL										
17...	220	47	58	18	41	28	1	6.6	169	140
AUG										
14...	170	54	45	13	38	32	1	5.7	110	120
SEP										
03...	250	81	65	22	66	36	2	6.1	169	200

K--Results based on colony count outside the acceptable range (non-ideal colony count).

MISSOURI RIVER MAIN STEM

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT 09...	19	0.50	13	476	470	0.65	62200	--	--
NOV 13...	22	0.50	13	477	490	0.65	60400	1.10	0.050
DEC 11...	23	0.50	13	510	520	0.69	41300	1.30	0.120
JAN 14...	25	0.50	17	525	470	0.71	48200	1.40	0.210
FEB 04...	22	0.40	18	491	480	0.67	45700	1.50	0.130
MAR 06...	20	0.40	15	426	410	0.58	47600	1.80	0.190
APR 02...	18	0.40	16	439	410	0.60	67800	2.40	0.060
MAY 07...	15	0.30	14	478	470	0.65	96800	3.20	0.070
JUN 03...	12	0.40	11	489	490	0.67	92000	2.00	0.040
JUL 17...	13	0.40	11	393	390	0.53	78300	1.90	0.040
AUG 14...	10	0.40	8.8	325	310	0.44	69700	0.930	0.100
SEP 03...	18	0.50	10	516	490	0.70	75500	0.520	0.040

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 09...	--	--	--	--	--	--	--	--	--
NOV 13...	0.06	0.80	0.150	0.46	0.060	0.060	754	95500	10
DEC 11...	0.15	0.70	0.090	--	0.060	0.070	66	5350	76
JAN 14...	0.27	0.80	0.160	--	0.090	0.090	28	2570	19
FEB 04...	0.17	0.70	0.200	--	0.090	0.080	--	--	--
MAR 06...	0.24	2.1	0.560	--	0.110	0.100	918	103000	55
APR 02...	0.08	1.6	0.390	--	0.120	0.110	1210	187000	33
MAY 07...	0.09	1.0	0.220	--	0.120	0.100	1130	229000	52
JUN 03...	0.05	1.0	0.280	--	0.100	0.090	644	121000	33
JUL 17...	0.05	0.80	0.630	--	0.150	0.120	2530	504000	86
AUG 14...	0.13	4.3	1.40	--	0.080	0.080	3700	793000	77
SEP 03...	0.05	4.9	0.350	--	0.140	0.070	554	81100	26

MISSOURI RIVER MAIN STEM

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1							---	---	---	16.0	15.5	15.5
2							---	---	---	16.0	15.5	15.5
3							---	---	---	16.0	16.0	16.0
4							---	---	---	16.5	16.0	16.0
5							---	---	---	17.0	16.0	16.5
6							---	---	---	17.5	16.5	17.0
7							---	---	---	19.0	17.5	18.0
8							---	---	---	19.5	19.0	19.0
9							---	---	---	20.0	19.0	19.5
10							---	---	---	20.0	19.5	19.5
11							---	---	---	20.0	19.5	19.5
12							---	---	---	20.0	19.0	19.5
13							---	---	---	20.0	20.0	20.0
14							---	---	---	20.5	20.0	20.0
15							11.0	9.5	9.5	20.5	20.0	20.0
16							9.5	8.5	9.0	20.0	18.5	19.5
17							8.5	8.0	8.0	19.0	18.0	18.5
18							9.0	8.0	8.5	18.0	17.5	17.5
19							9.0	8.5	9.0	18.0	17.5	17.5
20							10.5	9.5	10.0	18.0	17.5	18.0
21							10.5	10.0	10.5	19.0	18.0	18.5
22							12.0	10.0	11.0	19.5	18.5	19.0
23							12.0	11.0	11.5	19.5	19.0	19.0
24							13.0	11.5	12.5	19.5	19.0	19.0
25							14.0	13.0	13.5	19.5	19.0	19.0
26							15.5	13.5	14.5	20.0	19.0	19.5
27							15.5	15.0	15.5	19.5	19.0	19.5
28							16.0	15.5	16.0	19.0	18.5	19.0
29							16.5	16.0	16.0	19.0	18.5	19.0
30							16.0	15.5	15.5	19.5	18.5	19.0
31							---	---	---	20.0	19.0	19.5
MONTH							---	---	---	20.5	15.5	18.5
	JUNE			JULY			AUGUST			SEPTEMBER		
1	21.0	20.0	20.5	26.5	26.0	26.5	29.5	28.0	29.0	22.5	21.5	22.0
2	21.5	21.0	21.0	26.0	25.5	26.0	28.0	27.0	27.5	22.5	22.0	22.0
3	22.0	21.0	21.5	25.5	25.5	25.5	27.0	26.0	26.5	23.0	22.0	22.5
4	22.5	21.5	22.0	26.0	25.0	25.5	26.5	25.5	26.0	24.0	23.0	23.5
5	23.0	22.0	22.5	26.5	25.5	26.0	25.0	24.0	24.5	23.5	23.0	23.5
6	23.0	22.5	23.0	26.5	25.0	26.0	24.5	24.0	24.0	23.5	22.0	22.5
7	23.5	22.5	23.0	25.5	24.0	24.5	24.5	24.0	24.5	22.0	21.5	22.0
8	24.0	23.0	23.5	25.5	24.5	25.0	25.5	24.5	25.0	21.5	21.0	21.5
9	23.5	23.0	23.5	26.0	25.5	25.5	25.0	24.5	25.0	21.0	20.5	21.0
10	24.0	23.0	23.5	---	---	---	25.0	24.5	24.5	21.0	20.5	21.0
11	23.5	23.0	23.5	---	---	---	25.0	24.5	24.5	21.0	20.5	20.5
12	24.0	23.0	23.5	---	---	---	24.5	23.5	24.0	21.5	20.5	21.0
13	24.0	23.0	23.5	---	---	---	23.5	21.5	22.0	21.5	20.5	21.0
14	24.5	23.5	24.0	---	---	---	22.5	21.0	22.0	21.5	21.0	21.5
15	24.5	23.5	24.0	---	---	---	23.5	22.5	23.0	22.0	21.0	21.5
16	24.0	23.5	23.5	---	---	---	24.5	23.5	24.0	21.5	20.5	21.0
17	24.5	23.5	24.0	---	---	---	25.5	24.5	25.0	20.5	20.0	20.0
18	25.5	24.0	24.5	---	---	---	25.5	25.0	25.5	20.0	19.5	19.5
19	26.0	25.0	25.5	---	---	---	26.0	25.0	25.5	20.5	19.5	20.0
20	26.5	25.5	26.0	---	---	---	26.0	25.5	25.5	20.5	20.0	20.0
21	26.0	25.5	26.0	---	---	---	26.5	25.5	26.0	21.5	20.0	21.0
22	26.0	24.5	25.5	---	---	---	26.0	25.5	25.5	21.5	21.5	21.5
23	26.0	25.0	25.5	---	---	---	25.5	24.5	25.0	21.5	20.5	21.0
24	26.0	25.0	25.5	---	---	---	24.5	24.0	24.0	20.5	20.0	20.5
25	26.0	25.0	25.5	---	---	---	24.5	24.0	24.5	21.0	20.5	21.0
26	26.0	25.5	25.5	---	---	---	24.5	24.0	24.0	21.5	21.0	21.0
27	26.0	25.5	25.5	---	---	---	24.5	23.5	24.0	21.0	20.5	21.0
28	26.5	25.5	26.0	---	---	---	24.0	23.5	23.5	21.5	21.0	21.0
29	27.0	26.5	26.5	---	---	---	23.5	22.5	23.0	21.5	20.5	21.0
30	27.0	26.0	26.5	30.5	29.5	30.0	23.0	22.5	22.5	20.5	20.0	20.0
31	---	---	---	30.5	30.0	30.0	22.5	21.5	22.0	---	---	---
MONTH	27.0	20.0	24.5	---	---	---	29.5	21.0	24.5	24.0	19.5	21.0

MISSOURI RIVER MAIN STEM

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

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	9.3	8.9	9.2									
2	9.6	9.3	9.5									
3	9.8	9.5	9.7									
4	9.7	9.6	9.6									
5	9.8	9.6	9.7									
6	9.7	9.6	9.7									
7	9.7	9.6	9.6									
8	9.6	9.4	9.6									
9	9.8	9.5	9.5									
10	---	---	---									
11	---	---	---									
12	---	---	---									
13	---	---	---									
14	---	---	---									
15	---	---	---									
16	---	---	---									
17	---	---	---									
18	---	---	---									
19	---	---	---									
20	---	---	---									
21	---	---	---									
22	---	---	---									
23	---	---	---									
24	---	---	---									
25	---	---	---									
26	---	---	---									
27	---	---	---									
28	---	---	---									
29	---	---	---									
30	---	---	---									
31	---	---	---									
MONTH	---	---	---									
	FEBRUARY			MARCH			APRIL			MAY		
1										---	---	---
2										---	---	---
3										---	---	---
4										---	---	---
5										---	---	---
6										---	---	---
7										---	---	---
8										7.3	6.6	6.9
9										7.2	6.4	7.0
10										6.5	5.9	6.2
11										6.1	4.3	5.6
12										5.2	4.2	4.5
13										5.6	4.9	5.3
14										6.1	5.1	5.7
15										6.4	6.1	6.3
16										9.7	6.1	7.2
17										10.0	8.7	9.4
18										9.8	8.6	9.2
19										9.5	8.6	9.1
20										9.7	6.9	8.1
21										8.2	7.0	7.6
22										7.8	6.6	7.4
23										8.2	7.0	7.4
24										8.4	7.0	7.4
25										8.3	6.9	7.5
26										8.1	7.0	7.6
27										8.2	7.3	7.6
28										8.6	7.4	7.7
29										8.7	7.3	7.9
30										8.7	7.0	7.6
31										8.6	6.9	7.9
MONTH										---	---	---

MISSOURI RIVER MAIN STEM

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

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.6	7.1	7.8	---	---	---	6.7	6.4	6.5	9.5	8.6	9.0
2	8.5	7.0	8.1	---	---	---	7.2	6.6	6.9	9.0	8.4	8.7
3	---	---	---	---	---	---	7.4	7.1	7.2	8.4	8.1	8.2
4	---	---	---	---	---	---	7.4	7.2	7.3	8.7	7.9	8.2
5	---	---	---	---	---	---	7.4	7.2	7.3	8.5	7.9	8.2
6	---	---	---	---	---	---	7.3	7.0	7.2	8.0	7.6	7.8
7	---	---	---	---	---	---	7.5	7.2	7.3	8.2	7.7	7.9
8	---	---	---	---	---	---	7.2	7.0	7.1	8.5	7.9	8.2
9	---	---	---	---	---	---	7.1	6.8	6.9	8.5	8.3	8.4
10	---	---	---	---	---	---	7.1	6.8	6.9	8.8	8.3	8.5
11	---	---	---	---	---	---	7.3	6.9	7.1	9.0	7.5	7.9
12	---	---	---	---	---	---	7.1	6.9	7.0	8.3	7.9	8.1
13	---	---	---	---	---	---	7.0	3.6	4.9	8.7	8.2	8.4
14	---	---	---	---	---	---	5.7	5.3	5.6	8.9	8.3	8.6
15	---	---	---	---	---	---	6.1	5.7	6.0	9.3	8.4	8.8
16	---	---	---	---	---	---	6.5	6.1	6.4	8.9	8.4	8.7
17	---	---	---	---	---	---	6.5	5.9	6.2	8.5	.0	7.1
18	---	---	---	5.8	5.5	5.7	6.7	6.2	6.5	8.4	7.1	8.0
19	---	---	---	5.9	5.7	5.8	6.7	6.3	6.5	8.0	5.4	7.4
20	---	---	---	6.0	5.7	5.8	6.4	6.3	6.3	5.8	5.0	5.5
21	---	---	---	6.1	5.8	5.9	7.0	6.3	6.7	6.4	5.1	5.7
22	---	---	---	6.2	5.9	6.0	6.8	5.2	6.5	7.6	6.4	6.9
23	---	---	---	6.3	6.0	6.1	5.8	5.0	5.5	6.9	5.0	5.8
24	---	---	---	6.5	5.9	6.3	6.4	5.7	6.2	6.6	5.1	5.7
25	---	---	---	6.7	6.3	6.4	6.7	6.3	6.5	7.0	6.6	6.8
26	---	---	---	6.6	6.3	6.4	8.1	6.5	7.6	7.4	7.0	7.2
27	---	---	---	6.4	6.2	6.3	8.3	7.7	8.0	7.5	7.4	7.5
28	---	---	---	6.5	6.1	6.3	8.7	7.9	8.3	7.5	7.4	7.5
29	---	---	---	6.4	6.1	6.2	8.8	8.3	8.5	7.6	5.6	6.7
30	---	---	---	6.3	6.0	6.1	9.1	8.4	8.7	6.8	5.9	6.4
31	---	---	---	6.4	6.1	6.2	9.1	8.5	8.8	---	---	---
MONTH	---	---	---	---	---	---	9.1	3.6	6.9	9.5	.0	7.6

PLATTE RIVER BASIN (IOWA-MISSOURI)

85

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 upstream from bridge on U.S. Highway 136, 0.3 mi downstream from Thill Branch, 1 mi east of Maryville and at mile 64.0.

DRAINAGE AREA.--515 mi².

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 above National Geodetic Vertical Datum of 1929. Nonrecording gage prior to September 15, 1958. Prior to June 20, 1934, at present site and datum. June 20, 1934, to October 31, 1971, at site 3 mi upstream at datum 5.68 ft higher.

REMARKS.--Estimated daily discharges: Oct. 8, 9, May 10, 11, 13, 14, 16-18, July 9-11, 14, 15, and Aug. 12-15. Records fair. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--54 years, 235 ft³/s, 6.20 in/yr, 170,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft³/s, October 12, 1973, gage height, 19.25 ft; no flow at times in several years.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 9	2115	9,060	12.71	July 15	^a 0600	*16,800	^b *17.00
May 11	^a 0300	13,000	^b 15.10	Sept. 20	0100	13,700	15.57
July 9	0700	13,200	15.10	Sept. 29	0900	8,260	12.17

^aAbout

^bFrom floodmark

Minimum discharge, 15 ft³/s, Sept. 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	677	124	38	47	48	122	996	1270	181	841	85	19
2	249	127	44	52	53	133	719	549	148	401	83	19
3	161	109	45	73	84	126	1770	411	123	201	83	19
4	121	96	45	89	1200	106	2320	442	121	151	80	18
5	89	91	48	96	2090	91	1580	345	399	129	85	18
6	69	89	51	98	560	91	852	277	303	1150	99	42
7	57	91	53	76	238	71	581	314	188	1800	168	48
8	423	87	56	48	161	51	447	271	164	884	99	31
9	6150	85	66	34	85	59	344	796	127	10300	78	27
10	5240	81	69	32	83	270	297	4790	109	7280	72	25
11	1550	80	65	37	64	310	270	7840	249	2360	60	128
12	3710	103	65	51	65	394	244	1210	245	1790	100	186
13	1210	190	69	69	60	1960	217	2400	135	1520	788	65
14	529	184	66	85	49	647	291	1630	1370	3740	742	41
15	365	147	57	94	51	369	379	609	908	7950	249	25
16	280	138	52	97	49	278	264	2160	346	928	116	18
17	230	140	52	120	52	284	239	6200	226	536	67	16
18	220	132	51	322	57	1270	521	2240	160	435	67	31
19	643	127	47	442	80	1190	908	894	133	357	64	7620
20	992	94	41	270	83	552	411	603	119	308	57	5690
21	556	60	40	207	68	316	337	467	164	273	51	553
22	388	99	42	173	57	277	283	375	349	241	47	481
23	466	84	46	122	65	252	243	309	282	172	48	5740
24	380	37	61	104	108	211	215	271	137	208	48	760
25	250	54	99	107	195	190	189	244	104	289	42	289
26	204	88	85	95	332	176	171	216	86	162	41	197
27	190	47	55	92	481	152	1020	198	82	133	36	91
28	158	55	57	54	197	132	1550	473	76	153	28	65
29	136	50	56	43	---	128	968	425	72	127	21	5270
30	127	43	49	40	---	117	1580	294	792	104	18	4300
31	122	---	44	43	---	106	---	218	---	87	18	---
TOTAL	25942	2932	1714	3312	6715	10431	20206	38741	7898	45010	3640	31832
MEAN	837	97.7	55.3	107	240	336	674	1250	263	1452	117	1061
MAX	6150	190	99	442	2090	1960	2320	7840	1370	10300	788	7620
MIN	57	37	38	32	48	51	171	198	72	87	18	16
CAL YR 1985		TOTAL	68834.97	MEAN	189	MAX	6150	MIN	.00			
WTR YR 1986		TOTAL	198373	MEAN	543	MAX	10300	MIN	16			

PLATTE RIVER BASIN (IOWA-MISSOURI)

06820500 PLATTE RIVER NEAR AGENCY, MO

LOCATION.--Lat 39°41'19", long 94°42'15", in NE¼NW¼ sec.10, T.56 N., R.34 W., Buchanan County, Hydrologic Unit 10240012, on left bank 10 ft downstream from bridge of U.S. Highway 169, 1.5 mi downstream from Third Fork, 3.5 mi northeast of Agency, and at mile 66.8.

DRAINAGE AREA.--1,760 mi², 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 above National Geodetic Vertical Datum of 1929. May 22, 1924 to Aug. 9, 1930, nonrecording gage at site 4 mi downstream at different datum. May 13, 1932 to Nov. 14, 1965, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 29 to Jan. 20, Jan. 27-30, Feb. 11-17, 19-22, and July 8, 9. Records fair except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage height and U.S. Army Corps of Engineers satellite telemeters at stations.

AVERAGE DISCHARGE.--59 years (1924-29, 1932-86), 940 ft³/s, 7.25 in/yr, 681,000 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 11	1015	16,800	24.95	Aug. 14	1115	7,490	18.53
Apr. 5	0930	13,200	21.92	Sept. 11	0645	11,000	21.71
May 1	2115	9,050	19.27	Sept. 21	0500	10,900	21.60
May 12	0545	8,020	18.36	Sept. 24	1630	12,500	22.59
May 18	0600	*24,600	*26.20	Sept. 30	0815	10,900	21.64
July 13	1345	15,500	24.29				

Minimum discharge, 96 ft³/s, Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5940	626	320	380	271	1010	410	5330	1050	1220	338	140
2	2040	602	300	400	251	707	776	4760	895	3370	312	127
3	1180	583	310	450	298	620	2540	1580	798	1430	294	123
4	1130	572	330	420	1360	549	10600	1200	788	839	281	112
5	756	539	335	400	2710	515	12500	1120	944	624	433	110
6	621	517	330	370	3170	446	6740	1010	916	5240	449	108
7	535	509	340	345	1310	374	2520	1220	1080	12400	649	121
8	470	484	350	350	803	322	1750	1000	855	12600	543	126
9	3740	478	340	360	487	322	1400	985	734	8510	495	150
10	14100	472	320	380	314	373	1200	1930	690	12700	469	131
11	16000	456	300	400	300	738	1090	6000	717	13700	347	8690
12	11400	795	280	420	250	1100	1010	7480	779	13100	346	4860
13	6780	1270	260	400	260	1430	937	3260	823	14800	2840	993
14	3460	965	270	410	280	3840	961	4990	671	12300	6540	703
15	1820	1280	290	420	300	1850	973	3540	2530	11900	2290	465
16	1390	1080	320	450	350	1200	1110	5670	1870	12200	1020	357
17	1190	842	300	500	450	1020	980	17100	983	6680	690	325
18	1130	1330	280	600	508	1600	1040	23000	763	1790	507	415
19	3100	2350	270	700	500	3460	1200	17100	643	1290	420	330
20	2210	930	260	900	450	2800	1650	7390	560	1100	360	7590
21	2420	747	260	964	420	1680	1170	2710	511	968	316	9610
22	1630	672	280	691	450	1160	1000	1960	2720	787	280	3220
23	1300	624	300	537	485	1010	934	1570	1760	677	253	4090
24	1300	566	325	590	544	924	853	1360	1080	755	231	11100
25	1650	498	300	475	530	833	789	1220	737	696	233	6290
26	1100	523	330	374	1020	743	730	1140	580	613	250	2030
27	908	489	340	350	1200	657	800	1080	499	619	243	1460
28	809	473	330	370	1340	592	3200	1120	453	508	216	1110
29	745	370	330	380	---	535	4270	1170	420	447	181	4210
30	684	350	340	370	---	470	1860	1370	450	422	149	10400
31	646	---	350	331	---	424	---	1150	---	383	138	---
TOTAL	92184	21992	9590	14487	20611	33304	66993	131515	28299	154668	22113	79496
MEAN	2974	733	309	467	736	1074	2233	4242	943	4989	713	2650
MAX	16000	2350	350	964	3170	3840	12500	23000	2720	14800	6540	11100
MIN	470	350	260	331	250	322	410	985	420	383	138	108
CAL YR 1985		TOTAL	242090		MEAN	663	MAX	16000		MIN	30	
WTR YR 1986		TOTAL	675252		MEAN	1850	MAX	23000		MIN	108	

PLATTE RIVER BASIN (IOWA-MISSOURI)

87

06821140 SMITHVILLE RESERVOIR NEAR SMITHVILLE, MO

LOCATION.--Lat 39°23'50", long 94°33'25", SW¼ sec.13, T.53 N., R.33 W., Clay County, Hydrologic Unit 10240012, in control tower at outlet works on the Little Platte River, and 1.0 mi northeast of Smithville and 5.0 mi north of Kansas City.

DRAINAGE AREA.--213 mi².

PERIOD OF RECORD.--July 1981 to current year. Records collected at same site since 1976 and are available from U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929.

REMARKS.--Lake is formed by a rolled earthfill type dam. Storage began on July 13, 1976. An uncontrolled limited service type spillway, 50 ft wide, is located at the right abutment. Capacity of surcharge pool (elevations 876.2 ft to 891.1 ft), 182,209 acre-ft; of flood control pool (elevations 864.2 to 876.2 ft), 101,800 acre-ft; and of multipurpose pool (elevations 799.0 ft to 864.2 ft), 144,600 acre-ft. Lake is used for flood control, water supply, water quality control, recreation, and fish and wildlife enhancement.

COOPERATION.--Records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 217,000 acre-ft, Nov. 15-17, 1985, maximum elevation, 873.17 ft, Nov. 16, 17, 1985; minimum, 2,360 acre-ft, Jan. 13, 1980, elevation, 819.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 217,000 acre-ft, Nov. 15-17, maximum elevation, 873.17 ft, Nov. 16, 17; minimum, 142,000 acre-ft, Sept. 10, elevation, 863.91 ft.

RESERVOIR STORAGE (AC/FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171000	176000	158000	149000	145000	147000	146000	145000	150000	146000	149000	143000
2	172000	173000	157000	149000	145000	147000	144000	145000	150000	146000	149000	143000
3	172000	169000	156000	150000	145000	147000	145000	145000	150000	146000	148000	143000
4	173000	165000	154000	150000	146000	147000	145000	145000	149000	146000	148000	143000
5	174000	162000	154000	150000	147000	147000	146000	145000	150000	146000	148000	143000
6	174000	160000	154000	149000	147000	147000	146000	145000	149000	147000	147000	143000
7	174000	158000	153000	149000	147000	147000	146000	146000	149000	155000	147000	143000
8	174000	156000	153000	148000	146000	147000	146000	146000	149000	161000	147000	143000
9	175000	155000	153000	148000	146000	147000	146000	146000	148000	162000	147000	143000
10	199000	155000	153000	148000	146000	148000	146000	146000	148000	162000	147000	142000
11	208000	154000	153000	148000	146000	148000	146000	146000	147000	163000	146000	144000
12	213000	154000	153000	148000	145000	148000	145000	146000	147000	163000	146000	145000
13	216000	156000	153000	148000	145000	148000	145000	147000	146000	164000	146000	145000
14	216000	157000	152000	147000	145000	148000	145000	147000	146000	164000	145000	145000
15	217000	161000	152000	147000	145000	148000	144000	147000	146000	166000	145000	145000
16	217000	163000	152000	147000	145000	147000	144000	147000	145000	166000	145000	145000
17	217000	163000	152000	147000	145000	147000	144000	150000	145000	166000	145000	145000
18	216000	163000	151000	147000	145000	147000	144000	152000	145000	166000	145000	145000
19	215000	167000	151000	147000	145000	148000	144000	152000	145000	165000	145000	145000
20	213000	167000	151000	147000	146000	147000	144000	153000	145000	165000	145000	145000
21	211000	166000	150000	147000	146000	147000	144000	153000	144000	164000	145000	145000
22	209000	165000	150000	147000	146000	147000	144000	153000	145000	163000	145000	145000
23	207000	165000	150000	146000	146000	147000	144000	153000	146000	161000	145000	146000
24	204000	164000	151000	146000	146000	146000	144000	153000	146000	159000	144000	147000
25	200000	163000	150000	146000	160000	146000	144000	152000	146000	158000	144000	147000
26	197000	162000	150000	145000	146000	146000	144000	152000	146000	157000	144000	147000
27	193000	161000	150000	145000	147000	146000	145000	152000	146000	155000	144000	150000
28	190000	160000	150000	144000	147000	145000	145000	152000	146000	154000	144000	150000
29	186000	159000	150000	145000	---	145000	145000	151000	146000	152000	144000	152000
30	183000	158000	149000	145000	---	145000	145000	151000	146000	151000	143000	155000
31	179000	---	149000	145000	---	145000	---	151000	---	150000	143000	---

WTR YR 1986

(†)	868.75	866.06	864.86	864.22	864.50	864.23	864.22	865.06	864.34	864.94	864.03	865.65
(‡)	+9000	-21000	-9000	-4000	+2000	-2000	0	+6000	-5000	+4000	-7000	+12000
MAX	217000	176000	158000	150000	160000	148000	146000	153000	150000	166000	149000	155000
MIN	171000	154000	149000	144000	145000	145000	144000	145000	144000	146000	143000	142000

CAL YR 1985.....+1000

WTR YR 1986.....-15000

(†) Elevation, in feet NGVD, at end of month.

(‡) Change in contents, in acre-feet.

PLATTE RIVER BASIN (IOWA-MISSOURI)

06821150 LITTLE PLATTE RIVER AT SMITHVILLE, MO

LOCATION.--Lat 39°23'17", long 94°34'44", in NW¼SW¼ 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 upstream from town bridge in Smithville, 1,500 ft upstream from bridge on U.S. Highway 159, 0.5 mi downstream from Wilkerson Creek, 2.4 mile downstream from Smithville Lake and at mile 11.1.

DRAINAGE AREA.--234 mi².

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

REVISED RECORDS.--WDR MO 1970: Drainage area.

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

REMARKS.--Estimated daily discharges: July 6, 7. Records fair. Construction of dam for Smithville Lake (station 06821140) began in June 1974 and partial regulation began Aug. 6, 1977. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--21 years, 166 ft³/s, 120,300 acre-ft/yr.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1947 reached a stage of 37.4 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,250 ft³/s, Sept. 27, gage height, 28.45 ft; maximum gage height, 31.42 ft, Oct. 10, backwater from unknown source; minimum 2.3 ft³/s, Sept. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	1750	572	225	9.7	62	86	17	220	20	207	14
2	47	1740	566	272	9.6	62	86	16	218	14	207	14
3	43	1730	565	263	12	62	98	10	217	12	205	15
4	165	1640	565	218	108	61	112	10	217	11	203	12
5	37	1370	378	209	191	60	100	14	222	11	209	10
6	28	1120	213	203	251	60	67	24	220	30	208	10
7	22	859	214	198	246	59	21	72	219	300	217	10
8	19	616	233	199	236	59	19	22	215	216	210	10
9	1110	395	253	200	229	61	94	20	215	27	208	10
10	2260	218	234	200	227	81	210	115	216	92	96	10
11	567	184	227	208	234	136	210	46	216	123	207	93
12	1020	361	220	215	224	222	210	18	214	427	205	8.0
13	305	707	214	203	141	222	209	37	212	42	206	3.8
14	467	869	211	201	65	219	218	18	212	21	122	5.7
15	154	856	211	202	64	217	144	32	211	18	15	9.7
16	94	444	211	226	64	216	56	61	211	11	14	9.6
17	810	410	211	230	66	214	40	581	152	9.3	14	9.9
18	1300	692	208	227	73	264	21	76	10	7.7	14	19
19	1440	59	206	220	70	230	20	34	11	6.9	14	11
20	1310	380	206	213	66	220	19	72	9.9	216	14	10
21	1100	602	206	218	62	219	18	47	9.3	705	14	6.8
22	1290	596	208	210	63	219	18	14	28	839	14	33
23	1670	591	264	206	64	216	17	12	12	834	14	352
24	1810	585	305	208	64	216	17	98	9.9	721	14	22
25	1840	582	219	208	63	216	17	225	11	822	14	8.3
26	1830	583	217	206	64	218	17	225	11	821	14	32
27	1810	580	249	204	65	216	18	224	11	821	14	1610
28	1800	574	214	108	64	215	20	221	11	821	14	31
29	1790	570	211	9.0	---	215	18	220	11	821	14	922
30	1770	571	226	8.5	---	212	17	220	12	542	14	291
31	1770	---	253	9.1	---	162	---	220	---	207	14	---
TOTAL	29748	22234	8490	5926.6	3095.3	5111	2217	3021	3764.1	9568.9	2949	3602.8
MEAN	960	741	274	191	111	165	73.9	97.5	125	309	95.1	120
MAX	2260	1750	572	272	251	264	218	581	222	839	217	1610
MIN	19	59	206	8.5	9.6	59	17	10	9.3	6.9	14	3.8
CAL YR 1985	TOTAL		119558.3	MEAN	328	MAX	2260	MIN	6.5			
WTR YR 1986	TOTAL		99727.7	MEAN	273	MAX	2260	MIN	3.8			

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 upstream from Jowler Creek, 3.3 mi downstream from Little Platte River, 3.6 mi south of Camden Point, and at mile 25.1.

DRAINAGE AREA.--2,380 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 754.23 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Estimated daily discharges: Nov. 24, 25, Dec. 18-21, Jan. 7-9, Feb. 12-16, and July 4-6. Water discharge records fair except for estimated daily discharges, which are poor. Some regulation from Smithville Lake (station 06821140) 17.0 mi upstream. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--7 years, 1,890 ft³/s, 1,369,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft³/s, June 10, 1984, gage height 34.55 ft; minimum, 19 ft³/s, Dec. 4, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27,400 ft³/s, May 20, gage height, 32.35 ft; maximum gage height, 33.14 ft, Oct. 12; minimum discharge, 216 ft³/s, Sept. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11300	2660	1100	1060	852	1950	924	3100	1790	592	811	309
2	11300	2630	1120	1220	835	1490	939	8380	1600	2330	742	283
3	5040	2600	1290	1450	840	1190	1590	5690	1370	3650	696	272
4	2310	2560	1350	1420	1100	1090	5670	2520	1250	2500	664	252
5	1880	2280	1300	1330	3710	1020	11100	1850	1330	1500	667	240
6	1030	1960	950	1160	5620	959	13400	1790	1460	5000	858	233
7	813	1630	918	1100	5140	875	13700	1910	1450	15900	988	236
8	698	1410	975	1000	2890	799	5200	2000	1590	18100	1250	251
9	3050	1120	1110	900	1860	766	2580	1600	1290	21000	1090	250
10	15900	896	1140	973	1280	815	2220	1940	1150	19600	1140	282
11	21500	788	1080	908	1110	949	1990	4190	1100	17900	984	3190
12	23300	1130	1060	967	1000	1380	1830	8950	1120	18600	803	9720
13	22500	2780	1020	974	900	1720	1710	10500	1180	19400	767	7880
14	19100	3040	1070	981	940	2850	1720	5750	1210	19500	5740	1930
15	13900	4740	971	970	985	4260	1670	7080	1040	20300	8090	928
16	5560	3820	869	1030	1010	2440	1550	4950	3610	19300	3560	625
17	2580	2400	849	1210	937	1650	1690	10600	2480	18400	1540	492
18	2900	2190	825	1370	928	1570	1530	15200	1240	17100	1020	580
19	3810	3700	800	1560	984	2810	1670	21100	894	8180	785	711
20	5670	3340	750	1610	1200	4200	2010	26600	748	2300	666	1580
21	4380	2000	820	2010	1130	3440	2390	24300	653	2130	590	8540
22	4160	1720	877	2110	983	2210	1760	15200	905	2150	531	10600
23	3670	1630	952	1540	1100	1600	1510	4610	4180	2010	481	10300
24	3580	1470	1500	1460	1100	1420	1430	2650	2290	1770	443	8060
25	3820	1390	1740	1470	1150	1340	1320	2380	1310	1940	417	10400
26	3930	1410	1740	1290	1200	1260	1230	2100	860	1930	410	11600
27	3270	1420	1450	994	1750	1260	1150	1900	679	1830	397	7980
28	2980	1340	1240	828	1980	1170	1550	1820	587	1830	409	3140
29	2850	1240	1160	792	---	1140	5200	1870	536	1700	397	3380
30	2770	1150	1060	820	---	1140	5160	1990	515	1570	361	8990
31	2700	---	1150	854	---	1060	---	2150	---	920	340	---
TOTAL	212251	62444	34236	37359	44514	51823	97393	206670	41417	270932	37637	113234
MEAN	6847	2081	1104	1205	1590	1672	3246	6667	1381	8740	1214	3774
MAX	23300	4740	1740	2110	5620	4260	13700	26600	4180	21000	8090	11600
MIN	698	788	750	792	835	766	924	1600	515	592	340	233
CAL YR 1985	TOTAL		592331	MEAN		1623	MAX	23300	MIN		45	
WTR YR 1986	TOTAL		1209910	MEAN		3315	MAX	26600	MIN		233	

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 to September 1981.

WATER TEMPERATURE: April 1979 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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)
NOV										
12...	1505	1230	384	7.80	8.0	240	11.1	94	22000	26000
JAN										
13...	1650	973	394	7.60	1.0	8.1	15.6	109	K600	K3200
MAY										
07...	1330	2010	376	7.50	20.5	750	6.3	70	23000	35000
JUL										
17...	1615	18400	137	7.30	27.0	700	5.1	63	3000	2000

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD 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)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
NOV										
12...	180	1	56	10	9.7	10	0.3	4.3	176	28
JAN										
13...	190	21	57	11	11	11	0.4	3.9	166	23
MAY										
07...	150	20	44	9.7	14	16	0.5	4.0	126	33
JUL										
17...	54	0	16	3.4	2.5	8	0.2	3.7	55	8.6

DATE	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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
NOV									
12...	10	0.20	9.9	237	240	0.32	787	1.40	0.100
JAN									
13...	11	0.20	10	239	230	0.33	628	1.40	0.120
MAY									
07...	12	0.30	11	231	210	0.31	1250	4.30	0.170
JUL									
17...	2.8	0.30	8.3	86	79	0.12	4270	1.00	0.110

K--Results based on colony count outside the acceptable range (non-ideal colony count).

PLATTE RIVER BASIN

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06821190 PLATTE RIVER AT SHARPS STATION, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN (70331)
NOV 12...	0.13	2.1	0.240	0.74	0.060	0.030	1170	3890	92
JAN 13...	0.15	0.70	0.090	--	0.030	0.020	9	23	12
MAY 07...	0.22	1.8	0.550	--	0.140	0.120	4250	23100	94
JUL 17...	0.14	1.0	0.530	--	0.080	0.070	1200	59600	97

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 12...	120	1	140	<0.5	1	<1	<3	4	100	4
JAN 13...	20	<1	120	<0.5	<1	<1	<3	1	18	<1
MAY 07...	100	2	140	<0.5	<1	<1	<3	6	100	3

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 12...	8	440	0.3	<10	5	<1	<1	240	<6	26
JAN 13...	7	260	<0.1	<10	5	<1	<1	260	<6	19
MAY 07...	6	170	<0.1	<10	3	1	<1	210	<6	10

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 upstream from Kill Creek and at mile 31.0.

DRAINAGE AREA.--59,756 mi², of which a large area is noncontributing.

WATER-DISCHARGE RECORDS

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 above National Geodetic Vertical Datum of 1929. July 9, 1917 to Apr. 23, 1934, nonrecording gage; Apr. 24, 1934 to Nov. 25, 1960, water-stage recorder at site 9.7 mi downstream at datum 11.81 ft lower; Nov. 26, 1960 to Feb. 9, 1961, nonrecording gage; Feb. 10, 1961 to Sept. 30, 1971, water-stage recorder at site 10.2 mi downstream at datum 17.81 ft lower; and Oct. 1, 1971 to Sept. 30, 1973, at site 10.2 mi downstream at datum 22.81 ft lower.

REMARKS.--Estimated daily discharges: Dec. 3-7, 10, 19-31, and Jan. 1-15. Records good except those for estimated daily discharges, which are poor. Natural flow of stream affected by lake and reservoirs in Colorado, Nebraska, and Kansas, and by numerous diversions upstream from station. Diurnal fluctuations caused by hydroelectric plant 20.8 mi upstream; since storage capacity is small, daily flows are not affected appreciably. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--69 years, 7,149 ft³/s, 5,179,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 510,000 ft³/s, July 13, 1951, gage height, 37.3 ft, from floodmarks, present site and datum, from rating curve extended above 128,000 ft³/s on basis of slope-area measurement of peak flow at mile 19.52 and at mile 18.60; minimum discharge observed, 160 ft³/s, Oct. 11, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1844, July 13, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 91,800 ft³/s, Oct. 10, gage height, 21.43 ft; minimum, 3,580 ft³/s, Mar 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34100	11800	5810	4100	4480	4740	3650	4520	21300	7710	5810	6530
2	27400	7040	4890	4100	4470	4690	3810	4180	16900	19400	5180	5380
3	23700	6200	4200	4000	4520	4610	4430	4520	13900	14600	4900	4840
4	20500	5950	4700	3700	4930	4590	11200	4890	10600	10800	4630	4610
5	18600	5740	5500	3800	9870	4570	21400	4490	9850	11300	4400	4480
6	17100	5510	7000	3900	13300	4890	13100	7310	10300	19400	4420	4380
7	16200	5010	9000	3800	10200	4930	7680	11500	9190	38900	4870	4290
8	15600	4780	9680	3800	9310	4960	11300	18700	8370	37400	5190	4220
9	20600	4750	10300	3900	8420	4720	8960	14800	7730	27800	5400	4110
10	74400	4950	10000	4000	8710	4480	8800	41500	6260	26500	6610	4040
11	81100	4520	9620	4100	8640	4520	8990	37600	5760	28800	8380	5280
12	58300	4500	8990	4200	8760	4470	7930	28000	5920	32700	6620	15000
13	45700	5650	7740	4500	8640	4570	7620	26400	7180	37800	6570	14600
14	40800	6550	6450	4600	8750	5870	7430	18800	7440	29700	11100	10900
15	34700	13600	6080	4700	7850	6560	7240	15400	8410	25000	15300	10700
16	27400	11300	6140	4760	7400	5560	7160	15100	8460	24100	17800	9720
17	24600	9160	6430	4740	6460	5390	6950	29700	8390	23300	20000	9400
18	25500	8430	6830	4830	5930	5550	6140	53600	7650	23400	20100	11500
19	24600	8270	6400	4810	5700	5740	6030	33300	5340	27100	17000	11500
20	25800	7660	6000	4660	5620	6090	6010	22300	4460	28800	13600	11700
21	23500	6970	5500	4590	5230	6260	5760	17100	4540	28300	9890	12000
22	22100	5930	4800	4530	4930	6130	5330	19100	6880	28400	9280	9540
23	21800	5730	4600	4440	4820	6030	5310	22900	8310	22800	11400	25800
24	21400	5600	4300	4360	4810	6660	5430	30500	8550	18000	13500	22800
25	20900	5500	4000	4410	4710	6940	5140	34400	6540	14000	13500	16600
26	20600	5450	3700	4270	4620	6380	4500	33800	6350	11800	12600	15300
27	20300	5810	3800	4100	4520	5860	4210	33500	6150	11300	12300	18900
28	20100	6000	4200	3860	4640	4970	4770	33500	5620	9610	12100	14200
29	16400	5910	4300	4290	---	4130	5940	36400	4780	7870	11800	17900
30	15600	5920	4400	4800	---	3820	5350	33900	4510	7390	10500	32900
31	14400	---	4300	4750	---	3690	---	28400	---	7140	8520	---
TOTAL	873800	200190	189660	133400	190240	162370	217570	720110	245640	661120	313270	343120
MEAN	28190	6673	6118	4303	6794	5238	7252	23230	8188	21330	10110	11440
MAX	81100	13600	10300	4830	13300	6940	21400	53600	21300	38900	20100	32900
MIN	14400	4500	3700	3700	4470	3690	3650	4180	4460	7140	4400	4040
CAL YR 1985	TOTAL		3812270	MEAN		10440	MAX	81100	MIN	2000		
WTR YR 1986	TOTAL		4250490	MEAN		11650	MAX	81100	MIN	3650		

MISSOURI RIVER MAIN STEM

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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 Unity 10300101, on downstream side of right pier of Chicago, Burlington and Quincy Railroad bridge at Kansas City, 1.4 mi downstream from Kansas River, and at mile 366.1.

DRAINAGE AREA.--485,200 mi², 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 above 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 upstream at same datum. May 16, 1947, to Feb. 28, 1948, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--89 years, 55,590 ft³/s, 40,270,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 573,000 ft³/s, July 14, 1951; maximum gage height, 36.2 ft, July 14, 1951; minimum discharge, about 1,500 ft³/s, Jan. 9, 10, 1937.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 16, 1844, reached a stage of 38.0 ft, discharge, about 625,000 ft³/s, computed by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 212,000 ft³/s, Oct. 11, gage height, 21.11 ft; minimum, 28,300 ft³/s, Dec. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	115000	66600	51300	35200	35800	73200	60800	118000	103000	74000	61800	62800
2	95100	61600	47600	37000	37000	55300	60800	106000	94800	102000	58900	61300
3	88500	58200	46300	38700	37600	49200	62900	99100	89500	111000	57800	61000
4	80000	57200	47600	39100	38200	47700	83900	90700	84900	93300	57200	59500
5	75300	56500	52100	38700	46000	50100	120000	87500	86200	82700	58200	59600
6	70300	55500	54200	39600	62900	49000	107000	86800	89500	98900	60100	60100
7	67000	54800	53500	37700	58700	47600	92200	89000	85500	160000	60900	60800
8	64500	53100	54100	37000	53600	47200	88000	95300	83400	160000	63600	61500
9	78400	52400	51100	34700	49100	47300	83000	90500	81300	129000	64700	61600
10	188000	53100	49600	32400	44600	47900	78400	115000	80800	137000	65400	60800
11	201000	52800	46200	32400	42600	47800	77200	133000	78800	147000	67100	83500
12	166000	54700	43500	34100	40800	47500	75400	141000	80600	151000	66500	78400
13	139000	58500	39000	36800	38100	50500	73100	127000	86600	163000	80300	81100
14	126000	59700	32600	40600	36800	58600	71400	118000	84600	160000	113000	71700
15	113000	73300	29800	42100	36600	85900	70400	105000	82900	140000	91700	67400
16	95200	69900	31500	42300	36800	75400	71100	103000	99000	132000	86600	66700
17	83100	63800	30900	42700	37000	65700	73600	151000	107000	118000	84700	67700
18	82400	62200	31400	43000	37100	63300	73100	189000	91900	110000	79400	90500
19	84900	64900	30800	44300	37200	69200	69900	168000	81700	107000	78500	87500
20	88600	63600	31100	46800	37400	112000	72400	143000	73400	99900	75600	105000
21	88600	61900	30500	49400	38400	117000	75900	130000	71000	95300	67500	116000
22	83200	58500	28900	43700	38700	96700	76100	125000	83100	94000	65300	103000
23	80200	53200	29000	43000	39100	82500	74700	117000	83500	89400	74900	157000
24	79400	51800	32900	41800	39800	76300	73600	115000	80400	82300	76200	152000
25	79500	52500	33500	41600	40800	74300	73800	119000	76400	76500	71100	120000
26	78100	52800	35300	40700	41400	73300	72200	115000	73200	72000	67700	110000
27	75900	52100	36400	39800	42600	70400	71300	113000	71400	70400	66500	119000
28	74900	52200	35600	38600	60500	68000	79200	113000	69700	70200	66800	103000
29	73200	52200	34800	36900	---	66700	98300	115000	67300	67600	67600	111000
30	70200	52900	32700	36900	---	66100	120000	116000	67500	66000	66800	153000
31	68700	---	33100	36700	---	63300	---	112000	---	63800	64100	---
TOTAL	2953200	1732500	1216900	1224300	1185200	2045000	2379700	3645900	2488900	3323300	2186500	2652500
MEAN	95260	57750	39250	39490	42330	65970	79320	117600	82960	107200	70530	88420
MAX	201000	73300	54200	49400	62900	117000	120000	189000	107000	163000	113000	157000
MIN	64500	51800	28900	32400	35800	47200	60800	86800	67300	63800	57200	59500
CAL YR 1985	TOTAL		21937300	MEAN	60100	MAX	201000	MIN	28900			
WTR YR 1986	TOTAL		27033900	MEAN	74070	MAX	201000	MIN	28900			

BLUE RIVER BASIN

06893500 BLUE RIVER NEAR KANSAS CITY, MO

LOCATION.--Lat 38°57'26", long 94°33'31", in SE¼NE¼ sec.28, T.48 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on downstream side of right pier of bridge on Bannister Road, 0.4 mi downstream from Indian Creek, in Kansas City and at river mile 23.2.

DRAINAGE AREA.--188 mi².

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

REVISED RECORDS.--WSP 926: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 753.73 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to July 1, 1939, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 1, 2. Records good. Low flow regulated by commercial plants above station. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--47 years, 157 ft³/s, 11.34 in/yr, 113,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,000 ft³/s, Sept. 13, 1961, gage height, 44.46 ft; no flow September 1939 to February 1940 and in August 1946.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 17, 1928, reached a stage of about 39 ft, from information by City of Kansas City.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 10	1030	11,000	26.26	Sept. 23	2145	11,100	26.32
Oct. 12	1000	6,790	20.35	Sept. 27	0900	12,200	27.61
Nov. 15	0715	8,310	22.61	Sept. 29	1515	9,180	23.82
Sept. 18	0845	*14,000	*29.54				

Minimum discharge, 20 ft³/s, Sept. 6, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	318	106	120	158	69	65	84	157	91	281	37	26
2	209	96	115	186	75	63	176	81	79	85	42	29
3	156	89	114	236	118	64	275	232	72	48	38	46
4	381	86	113	148	283	61	510	171	73	41	40	34
5	191	81	122	113	235	59	246	97	72	38	78	28
6	133	80	120	110	174	59	170	83	228	1580	227	24
7	111	82	128	85	187	61	156	159	82	1790	349	25
8	114	77	228	87	145	59	282	78	71	260	124	25
9	2180	73	409	83	119	59	155	69	58	132	162	25
10	8950	72	442	83	105	473	121	2210	107	302	181	24
11	1900	70	600	86	96	257	111	432	144	973	92	466
12	3950	265	301	93	87	171	103	218	79	1090	77	57
13	755	290	216	86	85	154	97	2410	62	361	75	37
14	630	350	181	82	87	131	147	612	70	180	52	32
15	465	5580	177	78	83	114	88	474	105	122	131	43
16	309	765	190	86	87	104	80	318	60	91	61	38
17	250	427	172	111	96	100	80	2460	48	78	40	142
18	740	2240	138	103	93	241	91	636	45	65	37	7980
19	480	929	126	105	92	166	89	339	39	54	43	593
20	301	403	121	95	86	116	94	238	40	49	38	176
21	250	311	113	92	79	105	72	193	38	44	34	108
22	215	273	164	92	74	100	67	165	147	46	32	534
23	190	243	476	81	72	97	62	149	61	41	37	7500
24	174	205	525	79	73	93	58	136	48	42	31	2790
25	154	184	186	77	71	91	57	118	48	41	30	383
26	139	170	195	74	73	138	56	104	40	63	32	527
27	129	120	236	65	72	106	139	138	38	75	41	9540
28	121	103	164	65	69	91	112	193	40	53	31	1390
29	143	96	152	66	---	87	74	120	36	46	28	5080
30	128	104	186	65	---	80	89	145	57	42	27	4140
31	113	---	250	65	---	79	---	117	---	38	26	---
TOTAL	24279	13970	6780	3035	2985	3644	3941	13052	2178	8151	2273	41842
MEAN	783	466	219	97.9	107	118	131	421	72.6	263	73.3	1395
MAX	8950	5580	600	236	283	473	510	2460	228	1790	349	9540
MIN	111	70	113	65	69	59	56	69	36	38	26	24
CAL YR 1985		TOTAL	120938	MEAN	331	MAX	8950	MIN	32			
WTR YR 1986		TOTAL	126130	MEAN	346	MAX	9540	MIN	24			

LITTLE BLUE RIVER BASIN

95

06893791 LONGVIEW RESERVOIR AT KANSAS CITY, MO

LOCATION.--Lat 38°55'29", long 94°27'35", SE¼ NE¼ NW¼ sec.4, T.48 N., R.32 W., Jackson County, Hydrologic Unit 10300101, in the U.S. Army Corps of Engineers Administration building at the right end of dam on Little Blue River at Kansas City and 3.1 miles upstream from Cedar Creek.

DRAINAGE AREA.--50.3 mi².

PERIOD OF RECORD.--October 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Lake is formed by a rolled earthfill type dam. Closure began June 16, 1983. Storage began on Sept. 16, 1985. An uncontrolled limited service type spillway 200 ft wide is located at the left abutment. Capacity of surcharge pool (909.0 ft to 922.9 ft), 82,310 acre-ft; of flood control pool (elevation 891.0 ft to 909.0 ft), 24,800 acre-ft; and of multipurpose pool (elevation 816.0 ft to 891.0 ft), 22,100 acre-ft. Lake is used for flood control, water quality control, recreation and fish and wildlife enhancement.

COOPERATION.--Records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 28,500 acre-ft, Sept. 27, elevation 897.00 ft; minimum, 2,680 acre-ft, Oct. 1, elevation 849.40 ft.

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2680	4470	6360	9450	9990	10700	12100	13300	15200	15500	16700	17200
2	2730	4470	6370	9490	10000	10700	12200	13300	15200	15600	16700	17200
3	2760	4490	6390	9540	10100	10700	12300	13300	15200	15600	16600	17200
4	2820	4490	6410	9570	10200	11100	12700	13300	15200	15600	16600	17200
5	2930	4500	6430	9580	10400	11100	12900	13300	15200	15500	16600	17200
6	2930	4500	6440	9590	10500	11100	12900	13300	15200	15600	16700	17200
7	2940	4510	6460	9560	10600	11100	13000	13300	15200	16100	16900	17200
8	2940	4520	6490	9550	10600	11100	13000	13400	15300	16100	17100	17200
9	2980	4520	6670	9580	10700	11100	13100	13400	15300	16100	17100	17100
10	4600	4530	7330	9610	10700	11300	13100	13400	15300	16100	17300	17100
11	5490	4530	8120	9630	10700	11600	13100	13400	15500	16400	17300	17300
12	5200	4540	8250	9640	10700	11600	13100	13400	15500	16500	17300	17400
13	4650	4600	8290	9650	10700	11700	13100	13400	15500	16800	17300	17400
14	3690	4670	8330	9670	10700	11700	13100	13900	15500	16800	17300	17300
15	3620	7880	8420	9670	10700	11800	13100	14000	15700	16800	17300	17300
16	3690	8500	8460	9690	10700	11800	13100	14000	15700	16800	17300	17300
17	3750	7800	8550	9740	10700	11800	13100	14200	15700	16800	17300	17300
18	3800	6390	8490	9780	10700	11900	13200	14700	15700	16700	17300	19900
19	4130	7480	8520	9800	10700	11900	13200	14800	15700	16700	17400	21200
20	4220	6360	8550	9830	10700	12000	13200	14800	15600	16700	17400	21300
21	4270	5930	8550	9880	10700	12000	13200	14800	15600	16700	17400	21300
22	4290	5990	8600	9880	10700	12000	13200	14800	15600	16700	17400	21300
23	4340	6060	8760	9890	10700	12000	13200	14800	15600	16600	17400	23400
24	4370	6090	8760	9930	10700	12000	13200	14800	15600	16600	17300	26200
25	4390	6120	9120	9930	10700	12000	13200	14900	15600	16600	17300	24800
26	4420	6190	9180	9940	10700	12100	13200	14800	15600	16600	17300	23900
27	4420	6220	9240	9940	10700	12100	13200	14800	15600	16700	17300	28500
28	4440	6240	9260	9930	10700	12100	13300	15100	15500	16700	17300	27100
29	4440	6260	9300	9950	---	12100	13300	15200	15500	16700	17300	25600
30	4440	6290	9330	9940	---	12100	13300	15200	15500	16700	17300	27900
31	4470	---	9440	9960	---	12100	---	15200	---	16700	17300	---

WTR YR 1986

(+)	857.90	864.10	871.98	873.09	874.49	877.25	879.21	882.20	882.71	884.36	885.15	896.50
(+)	+1890	+1820	+3150	+520	+740	+1400	+1200	+1900	+300	+1200	+600	+10600
MAX	5490	8500	9440	9960	10700	12100	13300	15200	15700	16800	17400	28500
MIN	2680	4470	6360	9450	9990	10700	12100	13300	15200	15500	16600	17100

WTR YR 1986.....+25320

(+) Elevation, in feet NGVD, at end of month.

(+) Change in contents, in acre-feet.

LOCATION.--Lat 38°55'26", long 94°28'05", in NE¼SW¼NW¼ sec.4, T.47 N., R.32 W., Jackson County, Hydrologic Unit 10300101, on right bank 300 ft downstream from Longview Dam.

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

REVISSED RECORDS.--WDR MO-77-1: 1975-76.

GAGE.--Water-stage recorder. Datum of gage is 798.60 ft above National Geodetic Vertical Datum of 1929. August 1, 1966 to October 24, 1974 at site 0.7 mi upstream at datum 24.90 ft higher. October 25, 1974 to September 30, 1985 at site 0.5 mi downstream at present datum.

REMARKS.--No estimated daily discharges. Records good. Construction of dam began Oct. 1982 and storage began Sept. 1985. Several observations of water temperature and specific conductance were made during the year. Complete regulation by Longview Reservoir (station 06893791) 300 ft upstream.

AVERAGE DISCHARGE.--20 years, 41.3 ft³/s, 29,920 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,700 ft³/s, Aug. 13, 1982, gage height, 21.24 ft, from highwater mark. No flow at times during Sept. 1983, Aug. to Sept. 1984, and April 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,280 ft³/s, Sept. 27, gage height, 8.62 ft; no flow Apr. 21, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.9	6.4	7.1	9.9	4.9	5.9	5.7	4.9	4.3	5.6	3.7	4.0
2	9.5	6.4	7.1	9.9	4.9	6.0	5.5	4.9	4.1	5.5	3.7	4.0
3	9.1	6.4	7.1	10	5.1	5.6	6.0	4.9	4.1	5.4	3.7	4.2
4	9.8	6.4	7.1	11	5.9	5.9	8.1	4.7	1.9	5.3	3.5	4.0
5	7.3	6.4	7.1	10	5.9	5.9	6.5	4.6	2.2	5.2	3.5	4.1
6	9.5	6.4	7.1	9.9	5.4	5.8	6.2	4.7	4.6	5.9	3.6	4.0
7	9.1	6.4	7.3	9.9	5.2	5.7	6.1	5.1	4.6	6.2	3.8	4.0
8	8.7	6.4	7.8	9.6	5.2	6.0	5.9	4.9	4.7	5.5	3.7	4.0
9	13	6.4	8.8	7.3	5.2	5.9	5.9	4.9	4.8	5.5	3.7	3.7
10	220	6.4	10	5.3	5.1	8.9	6.0	4.9	4.7	5.6	3.7	3.7
11	684	6.4	11	5.3	5.2	6.1	5.9	5.1	4.8	7.9	3.7	4.2
12	689	7.1	8.8	5.2	5.3	5.5	6.0	5.2	4.9	7.4	3.7	3.7
13	656	7.9	8.6	5.2	5.2	5.3	5.8	6.8	4.8	6.0	3.5	3.5
14	276	8.9	8.3	5.2	5.4	5.3	5.8	6.7	5.4	5.4	3.6	3.2
15	1.4	29	8.3	5.2	5.3	5.3	5.7	6.4	5.1	5.3	3.7	3.6
16	.75	215	8.5	5.2	5.6	5.3	5.7	6.0	5.2	5.4	3.8	3.6
17	3.8	711	8.7	5.2	5.6	5.2	5.6	9.2	5.0	5.5	3.7	3.5
18	8.7	420	8.7	5.0	5.7	5.6	5.2	6.8	5.0	5.3	3.7	39
19	8.1	378	8.7	5.2	5.9	5.4	5.4	6.1	5.2	5.4	3.8	4.9
20	7.2	488	8.7	5.2	5.9	5.3	2.0	5.8	5.2	5.4	3.7	4.0
21	7.1	8.0	8.7	5.2	5.8	5.2	.00	5.8	5.3	5.2	3.8	3.7
22	6.9	7.9	8.7	5.2	6.0	5.1	.00	5.6	5.2	5.0	3.7	6.6
23	6.5	7.9	10	5.2	5.9	5.3	.71	5.5	5.3	5.2	3.8	409
24	6.4	7.5	10	5.1	6.0	5.3	4.9	5.6	5.5	4.3	3.8	1020
25	6.4	7.2	9.4	4.9	5.9	5.1	4.9	5.8	5.6	3.6	3.8	589
26	6.3	7.1	9.5	4.9	6.3	5.6	4.8	5.7	5.5	3.9	3.8	352
27	6.3	7.1	9.9	4.9	5.9	5.4	4.7	5.8	5.6	3.6	3.8	1090
28	6.3	7.1	9.8	5.0	5.9	5.5	4.9	5.9	5.8	3.6	4.0	1060
29	6.4	7.1	9.6	5.4	---	5.5	4.7	4.9	5.6	3.6	4.1	1050
30	6.4	7.1	9.7	5.5	---	5.5	4.8	4.6	5.4	3.6	4.0	1070
31	6.4	---	9.9	4.9	---	5.5	---	4.6	---	3.7	4.0	---
TOTAL	2712.25	2409.3	270.0	200.9	155.6	174.9	149.41	172.4	145.4	160.0	116.1	6763.2
MEAN	87.5	80.3	8.71	6.48	5.56	5.64	4.98	5.56	4.85	5.16	3.75	225
MAX	689	711	11	11	6.3	8.9	8.1	9.2	5.8	7.9	4.1	1090
MIN	.75	6.4	7.1	4.9	4.9	5.1	.00	4.6	1.9	3.6	3.5	3.2
CAL YR 1985	TOTAL		24711.11		MEAN	67.7	MAX	1080	MIN	.10		
WTR YR 1986	TOTAL		13429.46		MEAN	36.8	MAX	1090	MIN	.00		

LITTLE BLUE RIVER BASIN

97

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 for U.S. Highway 40, 2.6 mi west of Blue Springs and 1.5 miles upstream from mouth.

DRAINAGE AREA.--34.4 mi².

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 753.09 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Estimated daily discharges: Oct. 1-27, Jan. 23 to Feb. 2, Feb. 5-10, and Apr. 4-24. Records poor. Several observations of water temperature and specific conductance were made during the year. Flow impounded or detained in Jackson County Lake at times, and by Blue Springs Reservoir subsequent to July 1986.

AVERAGE DISCHARGE.--12 years, 28.2 ft³/s, 20,430 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft³/s, Aug. 13, 1982, gage height, 22.14 ft; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 559 ft³/s, Sept. 23, gage height, 11.98 ft; minimum, .01 ft³/s, Aug. 18, Sept. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	27	42	22	23	15	19	3.4	3.5	23	.47	.04
2	40	24	32	25	20	14	10	1.4	3.1	18	.39	.04
3	30	22	22	27	26	8.5	32	1.8	1.8	13	.37	.04
4	35	20	21	24	50	8.8	100	11	2.4	16	.32	.03
5	25	26	18	31	45	11	70	15	1.9	16	.34	.03
6	20	28	15	16	40	8.1	60	5.6	6.7	31	.35	.03
7	18	8.5	15	11	45	7.1	40	18	2.8	106	2.8	.03
8	17	16	18	10	40	13	30	10	15	52	2.7	.04
9	80	24	36	10	35	29	27	7.1	13	27	1.5	.04
10	200	4.1	47	11	33	62	25	29	74	20	3.8	.04
11	150	3.6	47	11	30	81	20	10	67	79	1.2	2.0
12	170	9.8	45	12	27	74	16	5.9	27	124	.50	.07
13	190	28	49	12	24	54	12	39	11	92	.17	.07
14	200	24	46	12	26	35	15	58	38	47	.12	.06
15	55	131	33	12	27	23	13	80	138	28	.11	.05
16	30	123	32	13	25	19	10	62	58	17	.10	.04
17	25	136	30	15	25	19	8.0	149	25	12	.07	1.3
18	45	166	36	16	27	35	9.0	137	14	4.2	.03	143
19	50	138	28	17	28	24	9.5	69	10	7.0	.07	214
20	35	125	24	17	25	9.2	6.0	39	6.5	3.0	.08	214
21	30	96	21	28	24	11	3.3	25	6.6	1.6	.07	200
22	25	53	23	29	21	22	3.0	18	5.7	.95	.07	170
23	24	38	42	27	28	11	2.5	11	3.6	.31	.08	379
24	22	28	49	30	20	12	5.0	7.5	1.5	.30	.06	369
25	21	26	51	28	20	31	11	6.4	.17	.28	.06	374
26	20	26	48	25	20	21	14	5.4	.26	.32	.07	363
27	20	24	33	20	17	5.1	20	4.8	25	.27	.06	390
28	19	22	25	21	15	12	18	7.7	69	.30	.05	381
29	19	19	21	22	---	16	11	4.5	21	.26	.05	443
30	19	19	22	22	---	10	13	4.2	18	.53	.05	422
31	20	---	25	23	---	16	---	3.9	---	.55	.05	---
TOTAL	1704	1435.0	996	599	786	716.8	632.3	849.6	669.53	740.87	16.16	4065.95
MEAN	55.0	47.8	32.1	19.3	28.1	23.1	21.1	27.4	22.3	23.9	.52	136
MAX	200	166	51	31	50	81	100	149	138	124	3.8	443
MIN	17	3.6	15	10	15	5.1	2.5	1.4	.17	.26	.03	.03
CAL YR 1985	TOTAL		12351.41	MEAN	33.8	MAX	289	MIN	.56			
WTR YR 1986	TOTAL		13211.21	MEAN	36.2	MAX	443	MIN	.03			

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, on right bank 50 ft downstream from bridge on west bound lane of State Highway 78, 3 mi southwest of Lake City, and 10.5 mi upstream from mouth.

DRAINAGE AREA.--184 mi².

PERIOD OF RECORD.--March 1948 to current year.

GAGE.--Water-stage recorder. Datum of gage is 719.15 ft above National Geodetic Vertical Datum of 1929. Prior to July 24, 1957, nonrecording gage at site 50 ft downstream at same datum. Water-stage recorder July 24, 1957 to Apr. 28, 1977. Nonrecording gage Apr. 29, 1977 to May 10, 1979. May 11, 1979 to Sept 12, 1983 water-stage recorder at site 50 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 17, 18, May 7-10, and May 13-18. Records fair except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--38 years, 152 ft³/s, 11.22 in/yr, 110,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,300 ft³/s, Aug. 13, 1982; maximum gage height, 27.94 ft, Sept. 14, 1961; no flow at times during 1953-54, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 10	0515	4,340	12.25	Sept. 18	1030	3,910	14.62
Nov. 15	0700	5,550	13.63	Sept. 23	1145	*6,730	*18.31
July 7	0230	3,120	10.68	Sept. 29	1430	5,600	16.88
July 12	0845	3,160	10.72				

Minimum discharge, 1.2 ft³/s, June 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	509	87	150	104	44	42	46	30	36	118	9.1	4.0
2	263	77	170	131	35	48	45	23	29	78	9.8	4.1
3	157	71	89	144	78	39	177	22	26	34	9.1	4.2
4	294	69	82	99	281	39	447	25	25	28	7.3	6.8
5	184	66	78	71	208	42	250	28	23	28	9.8	7.5
6	133	75	70	71	153	40	198	26	119	215	14	5.5
7	108	56	72	82	168	38	138	105	56	1160	41	4.3
8	109	53	113	58	127	34	106	50	81	146	44	5.1
9	782	62	203	52	101	45	80	40	178	79	18	4.7
10	3840	44	401	48	98	305	70	150	161	210	30	4.0
11	2550	41	626	49	94	258	63	57	173	540	25	275
12	3510	108	399	50	103	178	60	32	69	1250	13	58
13	1800	151	285	41	71	142	54	130	42	326	12	18
14	1870	110	226	39	68	111	71	300	79	142	9.8	9.1
15	530	3730	166	36	71	89	57	400	283	88	8.3	6.3
16	264	1090	135	45	69	77	41	350	113	62	10	5.4
17	200	350	116	60	66	72	37	500	58	49	11	89
18	476	500	109	62	63	113	55	250	39	39	9.6	2330
19	456	792	123	62	62	103	57	182	31	28	8.3	353
20	299	1290	117	55	57	64	39	116	24	25	7.4	203
21	216	467	106	63	52	57	36	86	17	20	6.7	165
22	176	199	117	58	51	63	30	69	66	17	6.0	154
23	162	164	278	71	49	64	26	58	33	17	5.8	4300
24	135	136	358	67	49	49	37	48	19	17	5.6	3370
25	117	124	301	51	46	63	30	44	6.7	15	5.6	1520
26	111	130	194	39	49	81	30	40	14	13	5.4	963
27	98	114	163	32	47	55	40	65	22	26	5.2	2850
28	91	102	110	37	45	48	61	53	129	17	4.9	1820
29	89	94	101	39	---	53	36	64	43	11	5.5	3600
30	86	95	116	38	---	48	35	46	33	9.8	4.7	3170
31	84	---	155	42	---	41	---	45	---	9.7	4.0	---
TOTAL	19699	10447	5729	1896	2405	2501	2452	3434	2027.7	4817.5	365.9	25309.0
MEAN	635	348	185	61.2	85.9	80.7	81.7	111	67.6	155	11.8	844
MAX	3840	3730	626	144	281	305	447	500	283	1250	44	4300
MIN	84	41	70	32	35	34	26	22	6.7	9.7	4.0	4.0
CAL YR 1985		TOTAL	97815	MEAN	268	MAX	4210	MIN	14			
WTR YR 1986		TOTAL	81083.1	MEAN	222	MAX	4300	MIN	4.0			

MISSOURI RIVER MAIN STEM

99

06895500 MISSOURI RIVER AT WAVERLY, MO

LOCATION.--Lat 39°12'54", long 93°30'54", sec.14, T.51 N., R.23 W., Lafayette County, Hydrologic Unit 10300101 on downstream side of pier of bridge on State Highway 24, and U.S. Highway 65 at Waverly, and at mile 293.5

DRAINAGE AREA.--487,200 mi², 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 computed 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 above National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1934, at datum 5.00 ft 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, Sept. 16, 1944, to May 28, 1969, water-stage recorder all at present site and datum; May 29, 1969 to Jan. 8, 1984, water-stage recorder at site 450 ft downstream, present datum. Jan. 9, 1984, to May 24, 1984, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 29 to Dec. 6, Dec. 14 to Jan. 14, Jan. 23 to Feb. 5, and Feb. 13 to Mar. 7. Records good except for estimated daily discharges, which are fair. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--56 years (1929-76, 1979-86), 50,890 ft³/s, 36,870,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 549,000 ft³/s, July 16, 1951; maximum gage height, 29.22 ft, June 23, 1984; minimum discharge, about 1,700 ft³/s, Jan. 9, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 213,000 ft³/s, Oct. 11, gage height, 26.69 ft; minimum daily, 29,000 ft³/s, Dec. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117000	69500	49000	33500	35000	60000	61100	111000	100000	74400	58200	59800
2	94600	67500	47500	35000	36000	65000	60100	103000	91400	89100	56300	58700
3	85200	63400	47000	37500	36500	55000	62200	93400	85900	114000	54500	58500
4	79600	62200	47000	38000	37500	50000	70600	88200	80900	108000	54000	58000
5	75200	60600	50000	37500	44000	50000	110000	83000	77600	94100	53900	57200
6	70400	59500	49000	38000	56400	48000	117000	81900	82900	91900	55100	58000
7	66600	58400	48100	37000	66200	45000	98400	83100	82700	141000	56000	58500
8	64300	57000	47900	36000	59300	44300	90700	85100	80000	167000	57500	59600
9	63900	55300	48000	34500	55000	44200	87800	88500	77800	148000	59100	59900
10	139000	54600	47100	32000	50300	45300	80900	88900	77400	137000	60000	59400
11	204000	55100	48000	32000	46900	47100	87700	124000	75800	146000	60300	65500
12	197000	55200	44400	33000	45000	46400	77400	129000	73800	153000	61800	82000
13	167000	63400	40900	34500	43000	46500	75500	124000	76800	155000	61900	75600
14	137000	65600	33000	36000	41000	49500	74200	119000	78900	161000	92300	72100
15	123000	82700	30000	38100	39000	66500	72500	107000	77900	147000	90600	65500
16	104000	94700	32000	39300	38500	77900	72400	104000	79400	133000	81200	64100
17	87600	74700	31000	40300	37000	64700	73100	122000	94100	120000	78200	64200
18	82200	65200	31000	41300	37500	60500	75400	167000	88000	109000	76500	75400
19	90700	72600	31000	42100	37000	60500	72600	174000	78300	102000	74000	93200
20	87000	66500	30500	43800	37500	81400	71300	151000	71300	98500	72700	84300
21	89100	61100	31000	46900	38500	112000	73800	137000	66100	91700	68500	109000
22	84500	58900	30000	47000	38500	99000	75100	127000	66700	88500	62900	99000
23	79400	54400	29000	43500	39000	82700	73100	120000	81600	86200	64500	121000
24	77500	50000	31000	42500	39500	73800	71800	113000	75000	79500	72400	158000
25	76400	49300	32000	41000	40500	71400	71100	114000	74400	74400	69700	135000
26	76200	49900	33000	40000	41000	71000	70300	113000	71000	69300	65800	114000
27	75100	48800	33000	39500	42000	69200	68100	109000	70100	66100	63600	115000
28	74000	47500	33000	38000	50000	66300	70900	107000	70800	65000	63000	120000
29	74200	47000	33000	36000	---	64000	80700	107000	70300	63500	63100	107000
30	71900	48000	32500	36000	---	62900	106000	109000	70200	61400	63200	145000
31	70600	---	32500	36000	---	62300	---	107000	---	60300	61600	---
TOTAL	2984200	1818600	1182400	1185800	1207600	1942400	2342800	3490100	2347100	3294900	2032400	2552500
MEAN	96260	60620	38140	38250	43130	62660	78090	112600	78240	106300	65560	85080
MAX	204000	94700	50000	47000	66200	112000	117000	174000	100000	167000	92300	158000
MIN	63900	47000	29000	32000	35000	44200	60100	81900	66100	60300	53900	57200
CAL YR 1985	TOTAL		21892700	MEAN	59980	MAX	204000	MIN	29000			
WTR YR 1986	TOTAL		26380800	MEAN	72280	MAX	204000	MIN	29000			

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., Davies County, Hydrologic Unit 10280101, on left bank 100 ft upstream from bridge on State Highway 6, 50 ft downstream from Chicago, Rock Island and Pacific Railroad Co. Bridge, 1 mi northeast of Gallatin, and 6 mi upstream from Honey Creek, and at mile 90.

DRAINAGE AREA.--2,250 mi², approximately.

PERIOD OF RECORD.--June 1921 to current year.

REVISED RECORDS.--WSP 786: 1933-34. WSP 1280: 1922. WDR MO-81-1: 1981.

GAGE.--Water-stage recorder. Datum of gage is 717.56 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 31, 1922, nonrecording gage at site 100 ft upstream at datum at 5.00 ft lower. Jan. 31, 1922, to Nov. 15, 1936, nonrecording gage, at site about 1,100 ft upstream at datum 4.83 ft lower. 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 datum 5.00 ft lower. Sept. 22-27, 1961, nonrecording gage at railroad bridge, 100 ft upstream at datum, 5.00 ft lower. 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 at datum 5.00 ft lower. Mar. 5, 1964 to Mar. 5, 1982 at present site at datum 5.00 ft. lower.

REMARKS.--Estimated daily discharges: Jan. 17-20, and Jan. 22 to Feb. 4. Records fair. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--65 years, 1,179 ft³/s, 7.12 in/yr, 854,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,100 ft³/s, June 24, 1947, gage height, 39.55 ft; maximum gage height, 42.02 ft, June 2, 1929, (present site and datum); minimum discharge, 2.2 ft³/s, June 3, 4, Oct. 27, 28, 29, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 45 ft, July 8, 1909, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 18,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 10	1630	27,700	26.54	July 10	1330	26,500	26.23
Apr. 4	1545	27,400	26.22	July 13	0700	28,800	27.19
May 19	0400	*39,100	*30.55	July 15	0800	22,900	24.53
July 8	0215	25,300	25.68	Sept. 30	0500	19,500	22.98

Minimum discharge, 113 ft³/s, Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4510	372	163	252	280	1020	421	655	733	2610	263	168
2	1980	349	299	273	250	729	399	1170	626	4400	261	164
3	852	328	287	355	230	695	9050	870	491	1750	257	158
4	491	303	281	556	700	637	26200	590	410	831	246	148
5	377	285	250	545	5320	572	21300	505	368	481	261	140
6	282	278	238	460	3830	544	7060	456	361	8740	370	139
7	224	277	227	393	1420	504	3120	521	469	23900	595	137
8	191	271	223	325	711	451	2090	882	489	18300	612	137
9	2410	259	241	259	397	396	1560	676	389	15100	427	135
10	24400	249	280	199	287	450	1240	1490	325	23600	288	137
11	21900	244	285	171	230	678	1060	9270	383	10000	255	1340
12	8150	253	260	181	232	1100	950	7830	377	14700	233	2740
13	5340	894	244	224	240	1570	848	2500	412	23700	1120	603
14	3180	1610	230	269	217	3610	783	1940	369	11500	10500	280
15	1810	1750	189	267	196	2000	803	1530	1380	21400	7550	235
16	1230	1640	165	262	164	1160	780	2760	1430	15700	2610	184
17	946	1010	168	700	146	895	709	28700	636	5030	1350	156
18	814	755	183	1500	149	1240	676	37000	393	1990	794	142
19	4540	7400	180	2000	195	4440	743	31400	302	1390	584	137
20	4850	5280	159	1900	428	2990	821	6370	255	1060	470	8260
21	2850	1480	157	1750	369	1540	725	3200	229	846	380	7270
22	2150	819	157	1200	296	990	661	2240	722	704	316	3990
23	1260	627	167	700	284	831	594	1700	715	597	288	3520
24	1750	504	210	550	320	747	551	1370	579	526	257	9610
25	1380	346	278	450	767	671	518	1150	321	550	235	6430
26	1090	328	320	350	1100	608	482	986	248	512	235	2990
27	751	336	316	250	1580	566	456	869	204	449	224	1250
28	597	259	303	330	1710	522	458	798	190	411	218	756
29	507	207	321	400	---	502	793	760	170	353	204	7510
30	447	197	292	350	---	477	735	1360	161	313	189	17000
31	405	---	264	300	---	445	---	1040	---	303	180	---
TOTAL	101664	28910	7337	17721	22028	33580	86586	152588	14137	211746	31772	75866
MEAN	3279	964	237	572	787	1083	2886	4922	471	6831	1025	2529
MAX	24400	7400	321	2000	5320	4440	26200	37000	1430	23900	10500	17000
MIN	191	197	157	171	146	396	399	456	161	303	180	135
CAL YR 1985		TOTAL	220691		MEAN	605	MAX	24400	MIN	22		
WTR YR 1986		TOTAL	783935		MEAN	2148	MAX	37000	MIN	135		

06899500 THOMPSON RIVER AT TRENTON, MO

LOCATION.--Lat 40°04'46", long 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 downstream from Weldon River, and at mile 26.0.

DRAINAGE AREA.--1,670 mi², 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). WDR MO-83-1: 1981

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 721.87 ft above National Geodetic Vertical Datum of 1929. June 25, 1921 to Aug. 26, 1923, nonrecording gage at two sites 12 mi 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 downstream at datum 3.46 ft lower. June 1, 1945, to Dec. 7, 1959, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 30 to Dec. 5, and Dec. 7 to Jan. 1. Records fair except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--60 years (1921-23, 1928-86), 964 ft³/s, 7.84 in/yr, 698,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,000 ft³/s, June 6, 1947, gage height, 25.7 ft, from floodmark; minimum daily, 1 ft³/s, June 17, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 30.7 ft, July 6, 1909, present site and datum, from information by local residents, discharge, 50,000 ft³/s, determination by U.S. Army Corps of Engineers, occurred before new channel was dredged.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 10	0615	19,300	14.45	July 14	1715	26,000	15.95
May 17	1430	*30,100	*16.38	Sept. 29	1545	18,400	13.90
July 10	0645	15,700	13.49				

Minimum discharge, 69 ft³/s, Sept. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4630	522	200	400	405	1250	526	3800	893	3690	469	132
2	1970	503	405	459	355	916	522	5630	664	2530	441	119
3	1160	503	500	608	330	775	4640	2160	540	750	409	121
4	756	503	450	720	1370	708	9750	1300	475	451	377	110
5	517	504	400	793	5680	638	8940	1000	455	338	546	97
6	390	489	386	784	3230	613	6820	986	610	529	992	87
7	302	481	370	699	1780	540	3570	951	793	4670	726	101
8	246	481	350	585	1090	481	2360	933	655	4440	513	99
9	4070	480	400	484	656	442	1790	1170	504	7590	450	126
10	14500	480	430	443	751	546	1450	4130	426	9280	456	129
11	7660	480	410	427	665	1710	1240	10100	618	3290	404	237
12	5180	608	370	456	608	1750	1090	5630	426	8550	366	189
13	5110	3410	350	515	544	5030	973	3270	485	6670	321	184
14	3020	2760	300	633	510	4630	874	2120	2110	16200	8890	137
15	2050	2010	250	756	470	2720	819	1710	1130	8640	4520	126
16	1430	1560	200	776	446	1640	772	6120	548	5260	2290	120
17	1080	1240	185	944	426	1180	739	25700	406	4510	1410	93
18	987	1490	180	2420	408	2560	701	13800	312	2780	922	87
19	5030	7150	180	3110	573	4510	690	6300	266	1760	699	1880
20	3970	2920	175	2370	718	3030	712	3630	227	1440	560	11100
21	2070	1170	175	1850	702	1940	740	2520	203	1240	457	6300
22	1500	797	180	1340	721	1320	800	1960	2210	1100	384	2670
23	1350	669	200	876	782	1030	809	1600	847	987	327	9050
24	3000	545	250	704	928	880	681	1340	385	890	284	9110
25	1630	360	350	630	1310	780	596	1140	257	816	258	6490
26	1340	405	400	487	1770	709	526	1000	195	741	236	2700
27	970	397	150	365	2450	723	481	1050	168	693	223	1420
28	775	210	450	454	1980	709	477	1000	188	671	186	1030
29	657	222	420	559	---	668	482	982	156	607	165	9400
30	584	220	440	461	---	608	587	1470	150	550	149	7320
31	535	---	430	409	---	560	---	1520	---	506	144	---
TOTAL	78469	33569	10236	26517	31658	45596	55157	116022	17302	102169	28574	70764
MEAN	2531	1119	330	855	1131	1471	1839	3743	577	3296	922	2359
MAX	14500	7150	500	3110	5680	5030	9750	25700	2210	16200	8890	11100
MIN	246	210	175	365	330	442	477	933	150	338	144	87

CAL YR 1985	TOTAL	254802.1	MEAN	698	MAX	14500	MIN	8.5
WTR YR 1986	TOTAL	616033	MEAN	1688	MAX	25700	MIN	87

GRAND RIVER BASIN

06899620 THOMPSON RIVER NEAR CHILLICOTHE, MO

- WATER QUALITY RECORDS

LOCATION.--Lat 39°49'46", long 93°36'24", in SE¼NE¼NW¼ sec.21, T.58 N., R.24 W., Livingston County, Hydrologic Unit 10280102, at bridge on State Highway 190, 3.0 mi northwest of Chillicothe.

PERIOD OF RECORD.--November 1968 to July 1975, November 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CaCO3) (00900)
OCT 09...	1600	1200	120	7.80	10.5	9.3	83	130	>6000	54
NOV 13...	1300	2400	284	7.70	9.5	10.1	88	110	>6000	--
DEC 11...	1515	260	540	7.60	0.0	10.4	69	25	150	--
JAN 14...	1320	80	400	7.50	0.0	14.3	97	28	110	180
FEB 04...	1230	130	336	7.80	1.5	14.1	102	60	K1800	--
MAR 06...	1130	746	350	8.20	3.0	13.0	95	34	410	--
APR 02...	1450	510	455	8.20	13.5	9.2	87	40	1100	220
MAY 06...	1450	660	376	7.80	20.0	8.5	93	70	K1400	--
JUN 03...	1350	370	420	7.90	24.5	8.2	97	26	420	--
JUL 16...	1730	6100	182	7.60	27.0	6.0	74	120	K15000	82
AUG 13...	1530	96	397	8.00	25.5	8.9	107	39	600	--
SEP 03...	1345	177	409	8.20	25.0	9.0	108	--	53	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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 09...	5	16	3.3	3.2	4.4	48	1.5	23	3.6	0.20
NOV 13...	--	--	--	--	--	122	4.8	--	--	--
DEC 11...	--	--	--	--	--	216	11	--	--	--
JAN 14...	20	55	11	11	4.4	163	10	33	9.6	0.20
FEB 04...	--	--	--	--	--	130	4.0	--	--	--
MAR 06...	--	--	--	--	--	137	1.7	--	--	--
APR 02...	25	64	14	12	4.5	188	2.3	36	10	0.20
MAY 06...	--	--	--	--	--	138	4.4	--	--	--
JUN 03...	--	--	--	--	--	169	4.2	--	--	--
JUL 16...	2	25	4.7	3.9	4.4	77	3.9	12	3.8	0.20
AUG 13...	--	--	--	--	--	149	2.9	--	--	--
SEP 03...	--	--	--	--	--	195	2.4	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[illegible]

GRAND RIVER BASIN

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 upstream from bridge on State Highway 6, 1.2 mi east of Galt, 2 mi upstream from West Medicine Creek, and at mile 32.0.

DRAINAGE AREA.--225 mi².

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. Datum of gage is 767.48 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 3, 1934, nonrecording gage at site 150 ft downstream at following datums: prior to Oct. 1, 1924, at datum 6.97 ft higher; Oct. 1, 1924 to Sept. 30, 1926, at datum 4.97 ft higher; Oct. 1, 1926 to Dec. 2, 1934, at datum 1.97 ft higher; Dec. 3, 1934, to Apr. 25, 1956, nonrecording gage, and Apr. 26 to Sept. 30, 1956; water-stage recorder at site 30 ft downstream at datum 2.00 ft higher; Oct. 1, 1956 to Apr. 5, 1969, water-stage recorder at site 30 ft 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.--No estimated daily discharges. Records fair. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--63 years (water year 1922-75, 78-86), 147 ft³/s, 8.87 in/yr, 106,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,200 ft³/s, June 6, 1947, gage height, 20.9 ft, 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 was determined for flood of July 1909 by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 9	2330	6,560	10.34	May 17	1730	8,190	12.43
Oct. 12	0530	3,210	6.01	July 10	0415	4,180	7.26
Oct. 24	0415	3,600	6.60	July 14	0615	*10,400	*15.17
Apr. 3	2115	3,600	6.58	Sept. 30	0700	3,100	5.86
May 10	1730	3,970	7.03				

Minimum discharge, 2.0 ft³/s, Sept. 15, 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	454	83	16	29	32	81	38	409	42	1130	12	6.6
2	126	135	19	37	39	81	35	113	31	543	12	6.8
3	70	69	17	90	70	78	1150	62	25	95	9.8	18
4	52	44	12	101	552	69	2200	47	24	54	9.5	8.0
5	33	31	15	97	781	62	1330	39	23	36	42	6.9
6	24	62	19	76	238	65	418	233	87	40	56	8.2
7	19	90	22	52	123	49	213	235	57	802	48	9.2
8	24	63	26	33	77	35	128	309	44	676	35	7.8
9	2560	43	33	19	42	46	89	359	27	418	20	6.8
10	5610	57	35	15	35	171	72	1790	21	1280	27	10
11	2270	51	28	27	25	363	63	1830	38	237	21	180
12	1820	526	31	85	20	365	57	447	24	972	26	18
13	643	1270	30	250	13	789	53	261	16	605	21	5.8
14	310	869	25	173	8.3	449	55	145	360	3390	80	3.9
15	214	564	25	90	9.4	226	55	282	76	440	177	3.5
16	139	327	28	128	9.8	144	54	2160	33	146	72	2.6
17	81	206	31	423	13	119	47	7500	19	79	38	3.9
18	98	563	32	1030	70	344	50	4140	15	57	24	6.5
19	1220	1510	30	979	137	790	61	689	12	43	17	7.5
20	1220	304	28	351	126	353	63	311	9.9	32	13	384
21	389	101	29	183	88	127	52	188	14	28	11	121
22	207	76	33	115	77	97	48	125	636	24	9.8	140
23	562	65	33	70	73	89	44	95	104	22	9.2	449
24	2280	39	38	69	78	76	39	81	42	22	8.2	395
25	417	41	46	62	108	66	40	69	22	21	8.4	536
26	178	48	41	36	455	61	39	61	16	17	8.5	187
27	104	43	32	19	562	77	40	54	16	17	10	73
28	74	26	44	32	207	67	43	55	30	23	7.1	42
29	56	12	46	21	---	57	44	47	14	18	6.2	937
30	48	16	36	20	---	50	63	55	19	15	5.4	2320
31	43	---	29	23	---	42	---	59	---	13	6.0	---
TOTAL	21345	7334	909	4735	4068.5	5488	6683	22250	1896.9	11295	850.1	5904.0
MEAN	689	244	29.3	153	145	177	223	718	63.2	364	27.4	197
MAX	5610	1510	46	1030	781	790	2200	7500	636	3390	177	2320
MIN	19	12	12	15	8.3	35	35	39	9.9	13	5.4	2.6
CAL YR 1985		TOTAL	71521.25		MEAN	196	MAX	5610	MIN	15		
WTR YR 1986		TOTAL	92758.5		MEAN	254	MAX	7500	MIN	2.6		

06902000 GRAND RIVER NEAR SUMNER, MO

LOCATION.--Lat 39°38'25", long 93°16'25", 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 downstream from Chicago, Burlington and Quincy Railroad bridge, 2 mi southwest of Sumner, 2.5 mi downstream from Locust Creek and at mile 41.0.

DRAINAGE AREA.--6,880 mi², 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 above National Geodetic Vertical Datum of 1929. Prior to July 11, 1926, nonrecording gage at site 200 ft 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 upstream at same datum. Aug. 9, 1952 to Nov. 12, 1953, nonrecording gage at site 120 ft upstream and at same datum. Nov. 13, 1953 to July 6, 1964, water-stage recorder and nonrecording gage, for stages below 8.3 ft, at site 120 ft 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 downstream from base gage at datum 631.30 ft above National Geodetic Vertical Datum of 1929. 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.--Estimated daily discharges: Dec. 1-4, 14-19, Jan. 3-18, Jan. 25 to Feb. 4, Feb. 10-22, Apr. 4-7, and Apr. 30 to May 12. Water-discharge records poor. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--63 years, 3,918 ft³/s, 7.73 in/yr, 2,839,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft³/s, June 7, 8, 1947, gage height, 39.5 ft, from floodmark; minimum observed, 10 ft³/s, Aug. 12, 1934; minimum gage height, 2.19 ft, Aug. 22, 23, 31, Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 9, 1909, reached a stage of 36.7 ft from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base discharge of 38,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 12	2300	*67,500	37.06	May 19	2100	63,600	36.22
Oct. 13	1215	^a	^b 37.20	July 16	0800	53,800	35.04
Apr. 6	0900	41,300	33.20	Sept. 30	2400	44,000	32.83

^aVariable slope
^bFrom floodmark

Minimum discharge 292 ft³/s, Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18900	2780	1500	1910	1700	5340	1760	1400	3370	662	1010	430
2	12700	2990	2000	1940	1650	3820	1670	5000	2480	12000	900	405
3	5560	2740	3000	2100	1650	3160	2840	6500	2020	9390	807	374
4	2800	2200	2800	2400	2400	2920	25400	3500	1710	4450	778	370
5	2750	1820	2550	2500	6980	2720	38400	2000	1560	2400	759	351
6	2090	1600	2200	2450	15300	2600	39700	1550	1530	1590	868	315
7	1490	1860	2050	2300	9900	2420	20300	1650	1670	14900	1370	310
8	1130	2600	2030	2200	5520	2150	9800	3500	1730	34500	1580	306
9	2940	2080	2330	2000	3550	1940	6760	4000	1880	30700	1490	296
10	39500	2060	2520	1850	3000	2030	5180	3700	1530	36000	1240	323
11	56100	3080	2570	1700	2000	4830	4180	10000	1230	37400	1060	2530
12	67200	2820	2640	1650	1500	5810	3510	20000	1240	26700	919	11000
13	62800	12900	2490	1650	1450	9600	3130	12100	1270	37200	837	7410
14	43300	16600	2400	1700	1500	13900	2920	6920	1220	39900	2830	2630
15	25100	22600	2150	2000	1400	10300	2730	5280	6120	50200	16900	1330
16	13400	23200	1900	2200	1300	6250	2610	6560	4810	48600	11200	949
17	7100	15900	1800	3100	1200	4350	2470	35300	3050	30000	5780	764
18	5410	9980	1700	5000	1150	4160	2300	50600	1760	12000	3510	623
19	10900	23800	1900	7490	1200	8160	2230	62600	1260	6030	2220	541
20	19500	25800	1660	7350	1400	12100	2260	53600	1030	4480	1700	2860
21	12300	12800	1490	5620	2700	7230	2420	23100	858	3690	1410	19000
22	7560	6130	1550	3610	2500	4700	2250	8680	778	3010	1180	12300
23	5690	4850	1550	2240	2400	3440	2140	6100	6710	2660	1000	11500
24	13500	3960	1650	1660	2440	3020	2030	5200	4660	2350	879	28100
25	14400	3310	2010	1500	2650	2820	1840	4360	2250	1910	778	31100
26	7590	2910	2100	1350	3820	2550	1690	3700	1360	1590	697	19700
27	4850	2840	2210	1250	6600	2320	1580	3190	1020	1540	647	10200
28	3650	2540	2390	1300	7700	2220	1530	2950	817	1350	623	7260
29	3080	2050	2360	1400	---	2140	1490	2910	750	1310	578	6290
30	2800	1620	2120	1800	---	2010	1450	2850	692	1190	514	39300
31	2490	---	1980	1750	---	1900	---	3900	---	1090	471	---
TOTAL	478580	222420	65600	78970	96560	142910	198570	362700	62365	460792	66535	218867
MEAN	15440	7414	2116	2547	3449	4610	6619	11700	2079	14860	2146	7296
MAX	67200	25800	3000	7490	15300	13900	39700	62600	6710	50200	16900	39300
MIN	1130	1600	1490	1250	1150	1900	1450	1400	692	662	471	296
CAL YR 1985	TOTAL	1474176	MEAN	4039	MAX	67200	MIN	105				
WTR YR 1986	TOTAL	2454869	MEAN	6726	MAX	67200	MIN	296				

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 September 1981.

WATER TEMPERATURE: January 1974 to September 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 100 ML) (31673)
OCT										
10...	1000	37700	124	7.30	9.5	140	7.7	67	K33000	K26000
NOV										
13...	1515	15300	212	7.40	8.5	370	10.2	87	>12000	>20000
DEC										
12...	0930	2580	470	7.60	0.5	14	10.2	69	K300	580
JAN										
14...	1520	1700	340	7.40	0.0	34	15.6	106	1200	4800
FEB										
04...	1420	2520	418	7.90	2.5	57	14.7	109	3500	1200
MAR										
06...	1400	2640	370	8.00	4.0	60	11.7	88	420	440
APR										
02...	1600	1650	472	8.00	14.0	33	10.0	96	350	K170
MAY										
06...	1310	1620	354	7.70	19.0	200	8.4	90	1400	500
JUN										
03...	1525	1980	400	7.70	24.5	120	7.6	90	480	K280
JUL										
16...	1300	46400	132	7.40	24.5	500	5.1	60	K14000	3700
AUG										
13...	1330	848	409	7.60	24.0	33	9.5	111	800	640
SEP										
03...	1530	374	481	8.00	24.5	15	9.1	108	410	72

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD 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)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT										
10...	59	10	18	3.5	2.8	9	0.2	3.7	48	28
NOV										
13...	100	11	31	5.7	5.0	9	0.2	4.5	89	24
DEC										
12...	210	24	66	12	13	11	0.4	3.7	184	52
JAN										
14...	150	22	47	8.9	8.8	11	0.3	4.8	132	30
FEB										
04...	200	28	60	12	11	10	0.4	3.9	167	50
MAR										
06...	170	32	53	10	9.7	10	0.3	5.3	138	39
APR										
02...	230	24	69	13	13	11	0.4	4.3	195	60
MAY										
06...	160	25	47	9.6	8.3	10	0.3	4.7	130	33
JUN										
03...	190	22	57	11	9.0	9	0.3	4.6	162	36
JUL										
16...	56	0	17	3.2	2.1	7	0.1	3.7	58	10
AUG										
13...	180	35	55	11	11	11	0.4	4.0	147	38
SEP										
03...	230	20	70	14	12	10	0.4	4.7	204	33

K--Results based on colony count outside the acceptable range (non-ideal colony count).

GRAND RIVER BASIN

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06902000 GRAND RIVER NEAR SUMNER, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT									
10...	3.6	0.20	7.1	100	96	0.14	10200	--	--
NOV									
13...	5.0	0.20	11	157	150	0.21	6490	0.940	0.070
DEC									
12...	9.6	0.20	13	288	280	0.39	2010	0.920	0.190
JAN									
14...	8.1	0.10	9.5	206	200	0.28	946	0.770	0.330
FEB									
04...	8.8	0.20	11	268	260	0.36	1820	0.780	0.240
MAR									
06...	10	0.20	9.1	233	220	0.32	1660	1.10	0.250
APR									
02...	11	0.20	8.2	291	300	0.40	1300	0.120	0.030
MAY									
06...	8.7	0.30	9.3	224	200	0.30	980	2.10	0.070
JUN									
03...	7.5	0.30	11	241	240	0.33	1290	1.20	0.040
JUL									
16...	2.4	0.20	7.9	90	80	0.12	11300	0.550	0.050
AUG									
13...	8.9	0.30	5.8	244	220	0.33	559	<0.100	0.030
SEP									
03...	9.3	0.30	13	293	280	0.40	296	<0.100	0.030

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	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									
10...	--	--	--	--	--	--	--	--	--
NOV									
13...	0.09	3.7	0.520	1.6	0.090	0.050	1370	56600	82
DEC									
12...	0.24	0.70	0.070	--	0.020	0.030	32	223	60
JAN									
14...	0.43	1.3	0.220	--	0.050	0.040	111	509	74
FEB									
04...	0.31	0.90	0.230	--	0.030	0.030	--	--	--
MAR									
06...	0.32	1.2	0.230	--	0.040	0.040	179	1280	95
APR									
02...	0.04	1.0	0.210	--	0.060	0.040	139	619	73
MAY									
06...	0.09	1.5	0.230	--	0.170	0.100	591	2590	93
JUN									
03...	0.05	0.80	0.240	--	0.080	0.070	341	1820	95
JUL									
16...	0.06	0.70	0.730	--	0.380	0.040	2780	348000	86
AUG									
13...	0.04	0.90	0.240	--	0.020	<0.010	75	172	92
SEP									
03...	0.04	0.40	0.170	--	0.060	0.050	50	50	67

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 13...	240	1	65	<0.5	1	<1	<3	5	220	2
JAN 14...	80	<1	93	<0.5	<1	<1	<3	3	110	<1
MAY 06...	20	1	110	<0.5	<1	<1	<3	4	42	1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 13...	<4	3	0.2	<10	5	<1	<1	110	<6	13
JAN 14...	5	200	0.2	<10	7	<1	<1	180	<6	16
MAY 06...	5	3	<0.1	<10	2	1	<1	180	<6	21

CHARITON RIVER BASIN

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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 downstream from bridge on U.S. Highway 136, 1 mi upstream from Shoal Creek, and 0.5 mi east of Livonia, and at mile 90.9.

DRAINAGE AREA.--864 mi².

PERIOD OF RECORD.--May 1974 to current year. Occasional discharge measurements were made from October 1962 to May 1974.

REVISED RECORDS.--WDR MO-83-1: 1981.

GAGE.--Water-stage recorder. Datum of gage is 770.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 26 to Jan. 13. Records poor. Several observations of water temperature and specific conductance were made during the year. Considerable regulation by Rathbun Lake (station 06903880) 51 mi upstream. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--12 years, 718 ft³/s, 520,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,170 ft³/s, Apr. 3, 1983; maximum gage height, 24.26 ft, July 4, 1974; minimum, 13 ft³/s, Jan. 11 to Feb. 9, 1977, July 24, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,800 ft³/s, May 17, gage height, 24.00 ft; minimum, 61 ft³/s, Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	926	1810	800	1140	866	376	1360	4670	783	1450	1250	1240
2	406	1470	695	1160	872	283	1210	3630	864	1550	1240	1240
3	195	1040	658	1200	890	274	1120	2760	1020	1340	1240	937
4	124	944	479	1170	1120	254	878	900	1020	1320	1240	242
5	96	875	1030	1160	1440	234	691	492	1020	1320	1260	130
6	79	983	1190	1130	1300	219	533	457	697	1350	1360	121
7	69	1120	1150	1000	1040	187	433	1180	661	2310	1100	118
8	63	946	1100	1100	1060	156	561	1280	684	1970	1240	123
9	1780	889	1070	1200	1210	154	996	1440	1010	2060	1240	120
10	4460	897	1100	1300	1210	570	977	1130	1010	1180	952	120
11	4040	938	1260	1360	1190	929	970	368	1000	1480	380	137
12	4230	1280	1270	1500	1180	1070	965	259	928	2380	232	142
13	2880	2380	1310	1250	1190	2050	956	394	976	2290	362	136
14	1060	1650	1420	1050	1200	1340	952	906	999	1770	1380	121
15	466	1240	1430	1000	1190	838	947	2660	995	1810	1060	114
16	331	964	909	1060	1190	1010	942	3920	991	1660	1100	111
17	335	795	740	1600	1210	941	785	6230	735	1380	1330	121
18	1050	1420	708	1910	1220	1250	231	6430	232	1440	1310	125
19	2340	2620	1090	1950	1310	1390	143	4880	196	1440	1280	172
20	2200	1560	1380	1400	1040	1190	127	3570	885	1420	1260	917
21	1050	834	1610	1170	323	1220	131	1770	945	1390	1120	621
22	557	770	1540	1080	201	1430	132	819	1120	1370	963	459
23	947	882	1420	976	191	1430	131	488	1030	1250	1050	1700
24	2330	838	1330	955	213	1410	125	447	799	618	1220	1820
25	869	802	1250	950	190	1410	117	524	250	752	1240	1980
26	662	803	1100	923	521	1400	111	694	136	1170	1100	1150
27	872	794	1200	882	1450	1400	106	651	398	1220	952	496
28	841	774	1260	938	838	1400	105	658	911	1260	992	422
29	821	765	1200	862	---	1400	105	512	735	1230	1190	2150
30	809	768	1160	859	---	1390	1890	523	240	919	1210	2740
31	908	---	1150	858	---	1370	---	579	---	1240	1220	---
TOTAL	37796	33851	35009	36093	26855	29975	18730	55221	23270	45339	34073	20025
MEAN	1219	1128	1129	1164	959	967	624	1781	776	1463	1099	668
MAX	4460	2620	1610	1950	1450	2050	1890	6430	1120	2380	1380	2740
MIN	63	765	479	858	190	154	105	259	136	618	232	111
CAL YR 1985	TOTAL		208132	MEAN		570	MAX	4660	MIN		19	
WTR YR 1986	TOTAL		396237	MEAN		1086	MAX	6430	MIN		63	

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 east of Novinger, 1 mi downstream from Rye Creek, 2 mi upstream from Spring Creek, and at mile 73.1.

DRAINAGE AREA.--1,370 mi², 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 above National Geodetic Vertical Datum of 1929. Prior to Dec. 20, 1939, nonrecording gage at bridge over old channel, 500 ft east, at the 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. 3, 1956, to May 16, 1957, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Oct. 9, 10, Nov. 15, 16, 18, 19, Dec. 12-19, Jan. 16-21, Feb. 23, 26, May 7, 8, June 10, 11, 20-24, and June 27 to July 1. Records poor. Several observations of water temperature and specific conductance were made during the year. Some regulation by Rathbun Lake (station 06903880). U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--54 years, 851 ft³/s, 8.44 in/yr, 616,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,900 ft³/s, June 7, 13, 1947, gage height, 28.50 ft; minimum, 0.1 ft³/s, Aug. 31, Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 28.6 ft in June 1917.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 10	Unknown	*18,600	^a 23.40	May 6	2030	11,000	^a 16.69
Oct. 12	1530	15,400	20.82	May 18	Unknown	18,300	^a 23.10
Nov. 13	2215	8,580	14.08	July 12	1230	10,300	16.05
Nov. 19	Unknown	8,620	^a 14.10	Sept. 29	1915	14,600	17.97
May 1	1600	8,940	14.58				

^aFrom floodmark

Minimum discharge, 146 ft³/s, Sept. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1880	5110	1410	1410	1070	913	1620	8130	918	2000	1390	1430
2	949	2890	1130	1430	1110	791	1550	5810	966	3670	1380	1450
3	591	1830	978	1510	1170	746	1430	4130	1010	1630	1370	1320
4	446	1490	878	1440	2110	684	2340	1770	1060	1540	1370	615
5	361	1350	1090	1380	2700	650	2080	957	1090	1440	1400	308
6	340	1660	1560	1360	2090	613	1250	3820	881	1370	2080	237
7	303	2690	1550	1250	1530	526	954	5000	916	5020	1340	209
8	276	1670	1520	1350	1370	426	815	2420	776	5110	1400	189
9	8140	1450	1490	1480	1550	451	1200	3230	1070	3460	1380	179
10	17900	1620	1430	1650	1540	2650	1270	2040	1060	3810	1320	172
11	10500	1620	1500	1670	1520	2440	1250	1140	1060	2220	734	589
12	11600	2290	1700	2180	1490	2620	1220	813	970	6650	430	346
13	6180	5960	1800	2150	1490	4690	1210	2560	930	4540	314	232
14	2650	4850	1850	2050	1490	2770	1220	1280	1140	3050	1480	190
15	1290	3500	1900	1910	1480	1550	1230	7110	1080	2800	1850	165
16	867	2560	1600	2100	1470	1500	1240	9710	1060	2300	1230	153
17	652	1770	1200	2400	1480	1390	1220	16000	989	1650	1490	151
18	2920	3780	1000	2800	2050	1850	715	15600	527	1620	1520	160
19	6400	6970	1300	3000	2260	2300	431	8980	267	1570	1450	235
20	3880	2980	1620	2000	2070	1700	370	5950	1000	1500	1410	900
21	2220	1620	1700	1650	912	1430	366	3230	1500	1460	1330	1130
22	1180	1310	1690	1420	600	1760	365	1410	2000	1430	1060	637
23	1260	1390	1730	1240	644	1750	339	955	1500	1400	1050	2940
24	5680	1270	1620	1200	550	1730	321	781	900	982	1320	5460
25	2130	1200	1440	1200	507	1710	308	948	589	748	1360	4210
26	1180	1220	1280	1130	1590	1690	282	937	296	1230	1280	2230
27	1300	1140	1520	1030	2780	1670	262	1010	600	1350	1010	1010
28	1230	1110	1520	1060	1700	1670	263	863	1300	1460	1000	685
29	1190	1060	1440	1060	---	1640	257	1020	1000	1420	1290	7040
30	1180	1060	1460	1030	---	1630	2080	966	600	1040	1400	8710
31	1360	---	1450	1030	---	1620	---	769	---	1340	1400	---
TOTAL	98035	70420	45356	49570	42323	49560	29458	119339	29055	70810	39838	43282
MEAN	3162	2347	1463	1599	1512	1599	982	3850	969	2284	1285	1443
MAX	17900	6970	1900	3000	2780	4690	2340	16000	2000	6650	2080	8710
MIN	276	1060	878	1030	507	426	257	769	267	748	314	151
CAL YR 1985		TOTAL	421193	MEAN	1154	MAX	17900	MIN	30			
WTR YR 1986		TOTAL	687046	MEAN	1882	MAX	17900	MIN	151			

CHARITON RIVER BASIN

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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 northwest of Prairie Hill, 13.5 mi upstream from Puzzle Creek, and at mile 19.6.

DRAINAGE AREA.--1,870 mi², 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 above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1953, nonrecording gage at site 8.2 mi downstream at datum 13.68 ft lower. Oct. 1, 1953, to July 2, 1958, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Oct. 6, 7, Dec. 1 to Jan. 20, Jan. 23 to Feb. 3, Feb. 9-19 and May 17-19. Water discharge records poor. Some regulation by Rathbun Lake (station 06903880). National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--58 years, 1,245 ft³/s, 9.04 in/yr, 902,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,900 ft³/s, Apr. 23, 1973, gage height, 21.96 ft; maximum gage height, 25.3, from floodmark, at site and datum then in use, June 8, 9, 1947; minimum, 4.6 ft³/s, Aug. 7, 9, 10, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 10	2030	*28,700	*20.63	May 7	0915	9,550	12.04
Oct. 19	0915	14,700	15.18	May 18	--	Unknown	Unknown
Oct. 24	2130	9,460	12.23	July 10	2100	10,500	12.64
Nov. 15	1245	19,700	17.52	July 14	1700	18,200	16.64
Nov. 19	1400	15,500	15.59	Sept. 24	0830	9,610	12.33
May 2	0530	10,800	12.82	Sept. 30	0300	18,500	16.98

Minimum discharge, 154 ft³/s, Sept. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4590	5910	1700	1730	1280	1670	1540	4070	1020	789	1290	1290
2	2200	6890	1500	1700	1300	933	1530	9530	1040	2770	1430	1320
3	1100	3390	1350	1720	1350	790	1540	5890	1060	3560	1430	1350
4	767	2010	1150	1770	2560	720	2300	4310	1170	1820	1410	1270
5	682	1520	1210	1700	3830	646	3820	1660	1210	1630	1400	678
6	508	1300	1850	1650	3310	643	2620	958	1260	1540	1490	345
7	448	2100	1840	1500	2230	607	1350	7730	1170	2850	2250	252
8	390	2750	1800	1700	1510	522	962	6250	1040	7570	1400	209
9	1760	1680	1760	1800	1700	458	775	4460	869	6540	1380	189
10	25200	2070	1730	1850	1900	562	1070	3650	1100	6600	1430	176
11	19100	2750	1850	1910	1960	4900	1300	2290	1220	5980	1380	261
12	14200	4680	2000	2460	1950	3000	1290	1210	1210	4140	820	463
13	16100	11100	2220	2550	1920	5620	1290	996	1150	2150	491	519
14	8050	11000	2300	2400	1920	5960	1360	3070	1380	12300	371	279
15	4200	15400	2310	2250	1930	3080	1370	3570	2640	8330	1220	211
16	2420	8910	2110	1840	1900	1710	1310	12800	1470	4160	1950	178
17	1570	4430	1820	2460	1890	1550	1270	24000	1190	2980	1260	211
18	3000	4510	1400	3500	2200	1510	1150	25000	1090	2040	1480	182
19	13200	13000	1600	3600	2210	2470	808	15000	712	1940	1560	159
20	7630	5060	1860	3700	2440	2590	534	10600	403	1820	1470	167
21	4890	3770	2100	2290	1270	1700	468	7490	378	1710	1430	495
22	2720	1970	2000	1720	862	1440	460	3970	991	1650	1340	1140
23	1560	1490	2000	1600	596	1740	415	2160	3600	1610	1050	2050
24	5950	1450	1850	1460	567	1730	440	1510	1770	1560	995	7690
25	6650	1260	1800	1400	610	1680	438	1220	1200	1140	1270	6830
26	2580	1250	1600	1350	1130	1670	407	1300	793	752	1340	3960
27	1500	1270	1800	1270	3580	1660	376	1220	435	1220	1300	2440
28	1420	1090	1790	1240	2540	1600	382	1290	302	1480	1010	1900
29	1300	1000	1740	1300	---	1610	387	1070	573	1580	937	7300
30	1200	928	1750	1300	---	1600	364	1200	974	1510	1160	16000
31	1230	---	1750	1280	---	1570	---	1340	---	1120	1290	---
TOTAL	158115	125938	55540	60000	52445	57941	33326	170814	34420	96841	40034	59514
MEAN	5100	4198	1792	1935	1873	1869	1111	5510	1147	3124	1291	1984
MAX	25200	15400	2310	3700	3830	5960	3820	25000	3600	12300	2250	16000
MIN	390	928	1150	1240	567	458	364	958	302	752	371	159
CAL YR 1985		TOTAL	707420		MEAN	1938	MAX	28900	MIN	51		
WTR YR 1986		TOTAL	944928		MEAN	2589	MAX	25200	MIN	159		

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 September 1986
(discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1978 to September 1981.

WATER TEMPERATURE: March 1978 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 735 microsiemens, Jan. 29, 1980; minimum daily, 135 microsiemens, Sept. 3, 1980.

WATER TEMPERATURE: 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 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 100 ML) (31673)
NOV										
14...	0745	12300	190	7.30	8.0	400	10.6	88	11000	20000
JAN										
15...	0820	1590	304	7.60	0.0	37	15.6	106	K320	3300
MAR										
07...	0830	617	389	8.10	2.0	49	14.2	100	K34	K24
MAY										
06...	0930	972	308	7.70	19.0	210	9.0	96	K670	310
JUL										
16...	1015	3980	225	7.60	26.0	430	6.3	76	8000	2000
SEP										
03...	1700	1350	247	8.00	23.5	77	9.0	105	100	580

DATE	HARD- NESS (MG/L AS CaCO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD 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)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CaCO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
NOV										
14...	94	18	28	5.9	4.4	9	0.2	3.7	73	30
JAN										
15...	130	33	39	9.0	7.5	10	0.3	5.8	99	39
MAR										
07...	200	64	58	13	9.9	10	0.3	4.1	130	77
MAY										
06...	130	45	38	8.7	6.5	9	0.3	4.6	84	53
JUL										
16...	91	15	28	5.2	3.8	8	0.2	3.6	74	31
SEP										
03...	110	2	32	6.9	6.0	10	0.3	5.1	105	23

DATE	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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
NOV									
14...	3.5	0.10	9.9	138	130	0.19	4580	0.460	0.060
JAN									
15...	7.1	0.20	6.4	193	180	0.26	829	0.710	0.280
MAR									
07...	6.5	0.20	9.3	255	260	0.35	425	0.590	0.200
MAY									
06...	6.1	0.20	8.6	186	180	0.25	488	1.50	0.060
JUL									
16...	3.1	0.20	8.9	148	130	0.20	1590	0.430	0.040
SEP									
03...	6.7	0.30	1.9	140	150	0.19	510	0.620	0.040

K--Results based on colony count outside the acceptable range (non-ideal colony count).

CHARITON RIVER BASIN

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06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 14...	0.08	2.7	0.390	1.2	0.050	0.030	1560	51800	64
JAN 15...	0.36	1.2	0.200	--	0.050	0.040	82	352	77
MAR 07...	0.26	0.60	0.150	--	0.030	0.020	90	150	89
MAY 06...	0.08	1.3	0.230	--	0.050	0.030	46	121	29
JUL 16...	0.05	0.80	0.300	--	0.050	0.040	1370	14700	87
SEP 03...	0.05	0.50	0.140	--	0.050	0.040	257	937	92

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 14...	290	<1	49	<0.5	<1	<1	<3	4	360	1
JAN 15...	50	<1	61	<0.5	<1	<1	<3	3	17	<1
MAY 06...	920	<1	68	<0.5	<1	<1	<3	11	2900	1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 14...	<4	3	<0.1	<10	4	<1	<1	90	<6	15
JAN 15...	4	<1	0.2	<10	4	<1	<1	140	<6	7
MAY 06...	4	80	<0.1	<10	6	1	<1	130	<6	140

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 southwest of Mussel fork, and 1.5 mi upstream from Long Branch.

DRAINAGE AREA.--267 mi².

PERIOD OF RECORD.--October 1948 to December 1951, October 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 639.25 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1952, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 1-3, Dec. 1-19, 24-31, and Jan. 4-8, 14, 15. Records poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--27 years (1948-51, 1962-86), 245 ft³/s, 12.46 in/yr, 177,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,100 ft³/s, Apr. 22, 1973, gage height, 22.11 ft; 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 greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 12	1100	*11,500	*21.53	July 17	1115	5,000	19.34
Nov. 15	1430	3,990	19.80	Sept. 30	0445	3,550	19.62
May 19	2015	10,000	20.69				

Minimum daily discharge, 3.1 ft³/s, Sept. 3-8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	902	65	65	25	207	42	19	38	26	15	3.2
2	200	1090	60	64	28	137	38	18	33	23	14	3.2
3	180	464	60	69	33	132	153	17	29	81	13	3.1
4	344	261	70	66	389	113	208	16	26	90	12	3.1
5	276	197	75	66	744	99	604	16	24	38	11	3.1
6	172	160	73	64	538	97	774	15	24	23	11	3.1
7	128	168	65	60	300	97	255	100	74	18	11	3.1
8	99	168	70	55	171	77	138	278	71	412	14	3.1
9	87	219	65	48	114	68	90	216	33	510	15	3.2
10	2100	183	60	38	78	146	63	503	25	497	14	3.4
11	5880	570	55	33	68	536	51	162	23	790	12	16
12	10300	976	50	31	58	548	47	73	19	861	12	23
13	5210	2650	50	32	51	688	43	53	16	398	10	18
14	2650	2470	48	50	29	800	40	61	42	1330	11	33
15	1430	3380	50	70	26	361	37	394	365	1960	10	30
16	447	2990	60	77	27	211	36	1540	427	2290	9.0	21
17	295	3200	70	115	29	155	35	4520	100	3600	7.9	18
18	737	1820	65	425	50	142	33	8360	47	511	6.8	15
19	1750	2200	59	492	335	297	32	9010	30	110	5.9	11
20	1740	2350	49	388	776	342	33	4540	23	67	7.4	10
21	700	1280	42	231	452	173	35	676	19	49	9.0	7.6
22	297	355	40	140	200	108	36	195	16	39	6.4	7.2
23	215	244	51	90	154	91	34	132	37	32	5.4	177
24	606	190	49	74	153	84	31	99	522	29	4.7	1550
25	1470	144	45	62	177	74	27	78	108	26	4.2	1080
26	509	148	50	46	461	69	25	66	47	23	4.0	231
27	208	183	60	30	843	68	23	59	29	22	3.8	300
28	171	159	61	33	609	64	21	53	21	21	3.5	273
29	143	97	62	30	---	58	21	152	17	23	3.4	1160
30	127	71	63	24	---	52	19	87	14	20	3.3	2810
31	140	---	64	21	---	47	---	46	---	16	3.2	---
TOTAL	38641	29289	1806	3089	6918	6141	3024	31554	2299	13935	272.9	7822.4
MEAN	1246	976	58.3	99.6	247	198	101	1018	76.6	450	8.80	261
MAX	10300	3380	75	492	843	800	774	9010	522	3600	15	2810
MIN	30	71	40	21	25	47	19	15	14	16	3.2	3.1
CAL YR 1985		TOTAL	135248.4	MEAN	371	MAX	13000	MIN	5.0			
WTR YR 1986		TOTAL	144791.3	MEAN	397	MAX	10300	MIN	3.1			

LITTLE CHARITON RIVER BASIN

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06906190 LONG BRANCH RESERVOIR NEAR MACON, MO

LOCATION.--Lat 39°45'05", long 92°30'20", NW¼ sec.10, T.57 N., R.14 W., Macon County, in Administration building at left end of dam on East Fork Little Chariton River, 2 mi west of junction U.S. Highway 63 and 36 in Macon and 2 mi below confluence with Long Branch.

DRAINAGE AREA.--109 mi².

PERIOD OF RECORD.--September 1978 to current year. Contents published 1982 to current year. Records collected at same site since 1978 and are available from U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Lake is formed by a rolled earthfill type dam. Closure began on September 3, 1976. Storage began on Aug. 2, 1978. An uncontrolled limited service type spillway, 50 ft wide, is located at the right abutment. Capacity of surcharge pool (elevations 801.0 ft to 820.7 ft), 98,590 acre-ft; of flood control pool (elevations 791.0 ft to 801.0 ft), 30,600 acre-ft; and of multipurpose pool (elevations 751.1 ft to 791.0), 34,640 acre-ft. Lake is used for flood control, water supply, water quality control, and recreation.

COOPERATION.--Records furnished by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 59,800 acre-ft, July 28, 1981, elevation, 799.56 ft; minimum, 14,300 acre-ft, Dec. 5, 1980, elevation, 780.21 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 53,700 acre-ft, Nov. 20, elevation, 797.73 ft; minimum, 31,000 acre-ft, Sept. 10, elevation, 789.47.

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33700	43900	47300	38400	36500	38600	36500	34600	42000	35400	36600	32200
2	33800	45100	47600	38300	36400	38500	36400	34600	41500	35400	36400	32100
3	33800	45000	47100	38300	36400	38300	36300	34500	41000	35200	36200	31900
4	33900	44600	46600	38400	37100	38200	36300	34400	40600	35000	36000	31800
5	33900	44000	46100	38200	38700	38100	36300	34300	40200	34900	35800	31700
6	33900	43500	45700	38100	38900	37900	36200	34400	39800	34800	35900	31600
7	33900	43200	45200	38000	38900	37900	36100	34600	39400	34700	35700	31500
8	33800	42800	44800	37900	38800	37600	36000	34600	39100	34500	35600	31300
9	33900	42400	44400	37700	38600	37500	35800	35100	38900	34500	35500	31100
10	35200	42200	44200	37600	38300	37500	35700	35200	38600	34400	35400	31000
11	39600	42500	44400	37600	38100	37900	35500	35300	38600	34600	35300	31500
12	41400	42400	44200	37500	37900	38000	35400	35400	38400	35100	35200	31600
13	42200	44500	43900	37500	37600	38400	35300	35500	38200	35200	35000	31600
14	42800	46400	43400	37500	37500	39000	35300	35600	38100	35500	34900	31500
15	42600	47700	42900	37500	37300	38900	35100	35900	38200	38100	34500	31500
16	42200	50500	42600	37500	37200	38800	35000	36900	38100	41000	34400	31500
17	41900	50900	42100	37600	37000	38600	34800	38600	37900	40700	34300	31700
18	41500	50500	41700	38000	36900	38400	34800	46900	37700	40300	34200	31700
19	43600	52200	41300	38300	36900	38500	34800	50000	37500	39700	34100	31800
20	45600	53700	41000	38400	37300	38400	34800	49400	37300	39400	33900	31700
21	45400	53000	40600	38400	37500	38200	34900	48800	37000	39100	33800	31700
22	45000	52100	40200	38300	37400	37900	34800	48100	36800	38700	33700	31800
23	44500	51300	40000	38100	37300	37800	34800	47400	36700	38400	33600	32400
24	45000	50600	39900	37900	37200	37700	34700	46600	36500	38200	33400	35000
25	45800	49900	39700	37700	37000	37400	34700	46000	36300	38000	33300	36300
26	45400	49300	39500	37700	37100	37400	34700	45400	36100	37800	33100	36300
27	45000	48700	39300	37400	38000	37200	34600	44800	35900	37500	33000	36400
28	44500	48300	39100	37200	38700	37000	34600	44200	35800	37400	32800	36500
29	44000	47600	38900	37100	---	36900	34600	43600	35700	37200	32600	36700
30	43500	47100	38700	36800	---	36800	34600	43100	35500	37000	32500	41000
31	43100	---	38600	36700	---	36600	---	42600	---	36800	32400	---

WTR YR 1986

(+)	794.24	795.61	792.58	791.82	792.61	791.81	791.00	794.04	791.37	791.87	790.04	793.48
(-)	+9900	+4000	-8500	-1900	+2000	-2100	-2000	+8000	-7100	+1300	-4400	+8600
MAX	45800	53700	47600	38400	38900	39000	36500	50000	42000	41000	36600	41000
MIN	33700	42200	38600	36700	36400	36600	34600	34300	35500	34400	32400	31000

CAL YR 1985.....-1700
WTR YR 1986.....+7800

(+) Elevation, in feet NGVD, at end of month.
(-) Change in contents, in acre-feet.

LITTLE CHARITON RIVER BASIN

06906200 EAST FORK LITTLE CHARITON RIVER NEAR MACON, MO

LOCATION.--Lat 39°44'59", long 92°31'03", NW¼NW¼NW¼ sec.18, T.57 N., R.14 W., Macon County, Hydrologic Unit 10280203, on right bank 250 ft downstream from Long Branch Lake and 3 mi west of Macon. Prior to Aug. 1, 1985 at site 400 ft downstream.

DRAINAGE AREA.--112 mi².

PERIOD OF RECORD.--September 1971 to current year. Partial-record station May 1970 to August 1971.

GAGE.--Water-stage recorder. Datum of gage is 741.43 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 1, 1985 water-stage recorder at site 400 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 1-12. Records fair. Several observations of water temperatures and specific conductance were made during the year. Complete regulation from Long Branch Reservoir (station 06906190) 250 ft upstream.

AVERAGE DISCHARGE.--15 years, 114 ft³/s, 82,590 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,700 ft³/s, Apr. 21, 1973, gage height, 20.60 ft; no flow in most years prior to completion of Long Branch Reservoir.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 741 ft³/s, Sept. 29, gage height, 12.12 ft; minimum, 0.18 ft³/s, Apr. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	266	326	95	87	163	90	9.1	326	65	71	57
2	30	283	320	92	86	160	85	9.2	313	64	67	57
3	10	279	313	90	86	156	85	9.5	297	62	62	56
4	10	270	307	91	113	151	83	9.8	281	60	60	56
5	10	265	300	89	153	146	83	9.8	266	59	60	56
6	10	256	295	86	160	142	81	9.8	252	58	61	56
7	10	247	288	80	158	136	60	9.9	238	57	60	55
8	10	235	280	74	151	127	75	10	226	57	59	56
9	10	224	273	65	143	120	70	13	150	57	58	31
10	15	220	273	59	135	125	66	15	98	57	58	8.9
11	165	221	274	57	129	140	64	17	95	57	58	8.9
12	200	279	270	55	124	147	62	17	86	61	58	8.6
13	221	303	264	57	117	164	60	20	77	61	58	8.3
14	226	305	258	57	112	175	58	22	78	75	58	8.7
15	226	332	248	56	108	173	57	30	78	168	57	8.9
16	216	445	239	56	102	168	56	48	96	236	57	8.8
17	260	463	229	61	97	163	56	244	129	225	58	8.9
18	210	481	226	76	96	159	26	388	121	212	58	8.8
19	256	596	212	86	98	160	10	430	113	199	57	8.9
20	286	650	204	88	105	156	12	433	107	187	58	8.8
21	282	573	193	116	109	148	12	434	100	174	58	8.7
22	272	507	168	133	107	140	11	422	96	162	46	9.2
23	265	456	152	128	104	135	12	419	93	150	57	8.7
24	285	414	143	123	102	127	12	413	90	139	56	20
25	296	381	133	118	99	117	12	405	83	130	56	32
26	287	361	129	114	104	116	12	393	78	121	56	33
27	278	343	123	105	151	110	12	386	74	110	57	35
28	267	332	116	100	166	104	12	374	71	103	56	41
29	256	324	109	96	---	99	7.8	364	68	94	56	239
30	246	316	103	92	---	96	9.2	354	66	84	56	287
31	242	---	98	89	---	92	---	343	---	78	56	---
TOTAL	5347	10627	6866	2684	3302	4315	1351.0	6061.1	4246	3422	1803	1290.1
MEAN	172	354	221	86.6	118	139	45.0	196	142	110	58.2	43.0
MAX	296	650	326	133	166	175	90	434	326	236	71	287
MIN	10	220	98	55	86	92	7.8	9.1	66	57	46	8.3
CAL YR 1985	TOTAL		58056.3	MEAN	159	MAX	1000	MIN	9.6			
WTR YR 1986	TOTAL		51314.2	MEAN	141	MAX	650	MIN	7.8			

LITTLE CHARITON RIVER BASIN

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06906300 EAST FORK LITTLE CHARITON RIVER NEAR HUNTSVILLE, MO

LOCATION.--Lat 39°27'18", long 92°34'07", in NW¼NW¼NW¼ sec.26, T.54 N., R.15 W., Randolph County, Hydrologic Unit 10280203, on right bank downstream end of bridge on State Highway C, 1 mi downstream from Sugar Creek, and 1.5 mi northwest of Huntsville.

DRAINAGE AREA.--220 mi².

WATER-DISCHARGE RECORDS

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 above National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway and Transportation Commission). From July 18, 1972, to Sept. 23, 1974, at datum 0.63 ft higher and from Sept. 24, 1974, at present datum.

REMARKS.--Estimated daily discharges: Dec. 1-3, 9-15, 21, 26, and Feb. 12-16. Water discharge records fair except for estimated daily discharges, which are poor. Some regulation by Long Branch Reservoir (station 06906190) 34 mi upstream since 1978. Low flow affected by operation of pump 7 mi upstream. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--24 years, 245 ft³/s, 15.12 in/yr, 177,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft³/s, Apr. 21, 1973, gage height, 20.78 ft, at datum then in use from rating curve extended above 4,000 ft³/s on basis of slope-area measurement of peak flow; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 18	2030	2,000	14.68	May 17	2030	2,890	16.38
Nov. 14	0045	2,330	15.52	Sept. 24	0900	2,760	15.69
Nov. 16	1530	2,560	16.03	Sept. 29	2000	*6,830	*18.06
Nov. 19	1345	2,460	15.86				

Minimum discharge, 2.6 ft³/s, Sept. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	1120	350	128	141	269	112	22	299	90	83	53
2	26	560	355	117	131	262	105	21	278	129	78	52
3	15	420	360	125	148	249	128	23	264	76	73	51
4	117	367	361	115	411	228	121	24	259	71	70	52
5	77	331	347	123	327	227	110	20	254	65	69	52
6	32	299	340	142	282	224	104	21	354	63	74	54
7	20	299	336	159	269	219	98	22	236	62	68	54
8	18	272	327	141	248	202	77	41	208	62	65	53
9	21	330	320	115	236	201	87	46	193	62	62	53
10	874	499	310	96	229	310	83	49	135	61	63	34
11	623	368	305	87	211	303	79	50	129	69	60	27
12	577	617	300	82	200	285	78	40	115	72	59	25
13	439	1650	290	84	190	333	76	43	101	83	58	9.0
14	664	1720	285	76	180	307	77	44	105	195	55	5.2
15	544	1500	270	72	170	277	76	218	143	157	57	3.4
16	343	1660	278	76	175	258	72	180	100	205	56	5.2
17	287	866	250	103	252	243	70	2050	122	221	56	13
18	937	1370	270	109	305	247	71	2060	138	205	55	31
19	1170	2020	286	121	493	289	51	580	125	192	55	8.4
20	493	1370	301	112	408	248	33	464	117	180	54	5.3
21	393	770	290	121	276	220	41	438	110	168	55	4.2
22	354	612	301	148	256	211	33	417	91	157	54	6.6
23	332	534	241	159	238	200	29	397	102	145	45	401
24	435	483	241	158	227	193	25	381	96	137	54	1950
25	408	444	195	159	271	176	25	372	84	129	54	236
26	365	561	190	154	390	145	24	369	87	121	54	86
27	347	473	193	155	406	140	25	352	84	115	53	143
28	331	420	207	198	310	132	29	345	95	108	53	267
29	317	386	197	166	---	125	25	337	80	103	53	2820
30	306	374	172	173	---	120	25	327	74	95	53	5050
31	438	---	147	154	---	115	---	315	---	88	53	---
TOTAL	11374	22695	8615	3928	7380	6958	1989	10068	4578	3686	1851	11604.3
MEAN	367	757	278	127	264	224	66.3	325	153	119	59.7	387
MAX	1170	2020	361	198	493	333	128	2060	354	221	83	5050
MIN	15	272	147	72	131	115	24	20	74	61	45	3.4
CAL YR 1985		TOTAL	117688.3	MEAN	322	MAX	6230	MIN	8.8			
WTR YR 1986		TOTAL	94726.3	MEAN	260	MAX	5050	MIN	3.4			

LITTLE CHARITON RIVER BASIN

06906300 EAST FORK LITTLE CHARITON RIVER NEAR HUNTSVILLE, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1963 to September 1968, October 1973 to July 1975, October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CAO3) (00900)
OCT										
10...	1450	1290	403	7.30	11.0	9.2	83	72	K23000	190
NOV										
14...	1035	1760	320	5.30	10.0	9.9	86	50	2900	--
DEC										
12...	1300	300	472	7.20	1.0	8.4	58	25	K340	--
JAN										
15...	1125	66	878	7.40	0.5	13.1	90	21	K52	390
FEB										
05...	0920	320	618	7.40	2.0	13.1	95	54	410	--
MAR										
07...	1030	220	1040	7.80	0.5	14.4	97	28	K30	--
APR										
03...	1200	130	708	7.30	12.0	12.2	112	60	420	340
MAY										
06...	0800	21	1640	7.60	18.5	8.7	92	26	K84	--
JUN										
04...	0930	274	285	7.40	22.5	8.2	93	21	120	--
JUL										
16...	0745	196	490	7.60	26.0	7.2	87	42	3900	180
AUG										
12...	1510	60	430	7.80	23.0	9.9	113	24	230	--
SEP										
04...	0745	51	371	7.90	22.0	8.3	94	--	52	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CAO3 (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)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CAO3 (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										
10...	150	48	17	11	4.9	44	4.0	150	5.1	0.20
NOV										
14...	--	--	--	--	--	25	542	--	--	--
DEC										
12...	--	--	--	--	--	25	3.3	--	--	--
JAN										
15...	340	87	42	40	4.6	46	3.6	400	5.4	0.20
FEB										
05...	--	--	--	--	--	74	5.8	--	--	--
MAR										
07...	--	--	--	--	--	81	2.5	--	--	--
APR										
03...	260	81	33	24	4.1	76	7.4	290	5.7	0.30
MAY										
06...	--	--	--	--	--	136	6.5	--	--	--
JUN										
04...	--	--	--	--	--	65	5.3	--	--	--
JUL										
16...	100	44	17	20	4.0	74	3.7	150	4.9	0.20
AUG										
12...	--	--	--	--	--	70	2.2	--	--	--
SEP										
04...	--	--	--	--	--	79	2.0	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 10...	286	674	0.600	0.280	0.470	<1	<1	23	4	24000
NOV 14...	--	238	0.300	0.140	0.280	--	--	--	--	--
DEC 12...	--	71	0.400	0.110	0.040	--	--	--	--	--
JAN 15...	643	50	0.500	0.180	0.070	<1	<1	13	1	5600
FEB 05...	--	376	1.40	0.320	0.260	--	--	--	--	--
MAR 07...	--	46	0.400	0.060	0.060	--	--	--	--	--
APR 03...	510	67	0.300	0.060	0.060	<1	<1	5	1	3400
MAY 06...	--	30	<0.100	0.130	0.040	--	--	--	--	--
JUN 04...	--	117	0.500	0.060	0.110	--	--	--	--	--
JUL 16...	296	335	0.300	0.070	0.100	1	<1	26	4	8600
AUG 12...	--	66	0.100	0.040	0.070	--	--	--	--	--
SEP 04...	--	79	0.100	0.060	0.110	--	--	--	--	--

[illegible]

CHARITON RIVER BASIN

06906470 MIDDLE FORK LITTLE CHARITON RIVER BELOW SALISBURY, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 39°24'58", long 92°46'19", in NE¼NW¼ sec.12, T.53 N., R.17 W., Chariton County, Hydrologic Unit 10280203, at bridge on County Highway PP, 1.0 mi downstream from Muncas Creek, 1.2 mi east of Salisbury.

DRAINAGE AREA.--201 mi².

PERIOD OF RECORD.--November 1983 to February 1986 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 10...	1300	275	468	7.20	11.0	8.9	80	99	K32000	180
NOV 14...	0935	630	216	7.40	11.0	9.5	85	53	5000	--
DEC 12...	1145	460	265	7.20	1.0	9.2	63	16	110	--
JAN 15...	0930	18	298	7.70	0.5	12.4	85	16	K64	130
FEB 05...	0810	38	380	7.60	3.5	13.3	100	57	490	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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 10...	140	45	16	13	5.1	39	4.8	180	12	0.30
NOV 14...	--	--	--	--	--	58	4.7	--	--	--
DEC 12...	--	--	--	--	--	22	2.7	--	--	--
JAN 15...	64	37	9.0	9.5	3.7	63	2.5	85	4.7	0.20
FEB 05...	--	--	--	--	--	77	3.8	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SOLIDS, RESIDUE AT 180	SOLIDS, RESIDUE AT 105	NITRO- GEN, NO2+NO3	NITRO- GEN, AMMONIA TOTAL	PHOS- PHORUS, TOTAL	CADMIUM TOTAL RECOV- ERABLE	CADMIUM DIS- SOLVED	COPPER, TOTAL RECOV- ERABLE	COPPER, DIS- SOLVED	IRON, TOTAL RECOV- ERABLE
	DEG. C	DEG. C,	(MG/L	(MG/L	(MG/L	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L
	DIS- SOLVED	SUS- PENDE	AS N)	AS N)	AS P)	AS CD)	AS CD)	AS CU)	AS CU)	AS FE)
	(70300)	(00530)	(00630)	(00610)	(00665)	(01027)	(01025)	(01042)	(01040)	(01045)
OCT 10...	330	1060	0.700	0.340	0.850	<1	3	33	6	3700
NOV 14...	--	220	0.700	0.200	0.250	--	--	--	--	--
DEC 12...	--	39	0.500	0.140	0.060	--	--	--	--	--
JAN 15...	211	29	0.400	0.140	0.070	<1	<1	6	5	1300
FEB 05...	--	200	2.10	0.510	0.200	--	--	--	--	--

[illegible]

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 mi downstream from Finney Creek, 1 mi south of Blue Lick, and at mile 30.8.

DRAINAGE AREA.--1,120 mi².

PERIOD OF RECORD.--June 1922 to September 1933, May 1938 to current year.

REVISED RECORDS.--WSP 1006: 1929. WDR MO-83-1: 1982.

GAGE.--Water-stage recorder. Datum of gage is 593.79 ft above National Geodetic Vertical Datum of 1929. Prior to July 25, 1925, nonrecording gage at site 75 ft downstream at datum 0.10 ft lower. July 25 to Sept. 30, 1933 and May 23, 1938 to Dec. 3, 1956, nonrecording gage at site 25 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 14-16, Nov. 23-27, Dec. 1-6, 19, 25, 26, and Apr. 25. Records poor. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--59 years, 750 ft³/s, 9.09 in/yr, 543,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,000 ft³/s, Nov. 18, 1928, gage height 41.25 ft, from floodmarks, from rating curve extended above 32,000 ft³/s; minimum, 0.08 ft³/s, Aug. 9, 10, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 17	1615	17,700	34.82	Sept. 30	0830	*27,100	*38.07

Minimum discharge, 5.1 ft³/s, July 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2930	417	500	473	159	316	131	265	163	66	10	25
2	677	367	480	418	737	278	530	192	136	73	10	21
3	284	219	470	429	2990	277	1960	160	110	114	11	18
4	439	147	480	492	5740	258	3010	122	96	84	11	15
5	302	112	460	387	5650	239	4430	111	93	53	11	14
6	147	95	550	292	5510	228	4180	105	448	38	10	13
7	93	93	687	253	5050	213	2860	95	2070	30	15	12
8	69	87	859	212	2990	192	1030	109	3070	26	25	11
9	291	88	1630	167	1360	183	576	157	2090	23	84	9.7
10	3650	137	2910	129	767	218	401	199	678	22	54	10
11	4950	107	5640	136	490	476	338	167	673	130	186	30
12	5300	254	5260	163	435	560	302	116	341	2280	122	232
13	5320	2280	4460	182	416	419	272	101	222	2270	58	182
14	4000	7350	2390	175	353	378	251	127	310	725	37	75
15	1500	10400	3480	183	334	303	238	208	546	273	31	48
16	800	13600	1530	191	341	226	219	276	687	140	138	36
17	416	16100	1180	270	500	214	189	3500	235	90	258	65
18	1360	15300	844	352	1070	233	178	6050	122	65	101	669
19	4440	12000	593	412	1320	229	183	6190	86	50	56	3120
20	4750	10100	436	411	977	194	190	6620	66	39	37	3280
21	4810	8640	460	354	660	175	184	6680	55	32	27	3580
22	3280	7170	593	343	448	158	164	3540	49	27	21	2000
23	825	5800	789	302	399	150	152	649	58	23	16	4700
24	567	4500	728	245	403	150	141	373	45	18	13	6640
25	514	3800	700	230	381	145	130	430	37	17	12	8590
26	291	3000	650	227	383	143	122	317	35	11	12	11900
27	215	2350	610	202	410	172	118	207	98	12	78	16200
28	179	1250	519	171	385	225	112	246	187	11	319	16400
29	150	685	458	146	---	190	111	464	265	9.5	127	20800
30	134	529	387	156	---	167	176	283	113	10	62	26700
31	140	---	395	147	---	153	---	199	---	11	41	---
TOTAL	52823	126977	41128	8250	40658	7462	22878	38258	13184	6772.5	1993	125395.7
MEAN	1704	4233	1327	266	1452	241	763	1234	439	218	64.3	4180
MAX	5320	16100	5640	492	5740	560	4430	6680	3070	2280	319	26700
MIN	69	87	387	129	159	143	111	95	35	9.5	10	9.7
CAL YR 1985	TOTAL		797706.3	MEAN	2185	MAX	27200	MIN	9.3			
WTR YR 1986	TOTAL		485779.2	MEAN	1331	MAX	26700	MIN	9.5			

LAMINE RIVER BASIN

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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 NW¼NE¼ sec.12, T.48 N., R.19 W., Cooper County, Hydrologic Unit 10300103 at bridge on county road 0.5 mi downstream from Blackwater River.

DRAINAGE AREA.--2610 mi².

PERIOD OF RECORD.--March 1979 to September 1986 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1979 to September 1981.

WATER TEMPERATURE: March 1979 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,450 microsiemens, Oct. 27-29, Nov. 5, 6, 1979; minimum daily, 93 microsiemens, June 13, 1981.

WATER TEMPERATURE: Maximum daily, 36.0°C, Aug. 6, 1979; minimum daily, 0.0°C on several days during winter period of water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (PER- CENT SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT										
08...	1215	215	375	8.10	14.0	42	7.5	72	K1300	180
NOV										
12...	1110	80	460	8.10	9.5	34	9.9	86	K670	1800
DEC										
10...	1230	85	370	7.50	2.0	32	10.6	74	150	190
JAN										
13...	1255	75	568	7.70	0.5	3.9	16.1	110	K32	170
FEB										
03...	1210	170	278	7.10	6.0	540	13.1	105	4600	14000
MAR										
05...	1045	100	500	8.20	4.0	11	13.8	104	24	24
APR										
01...	1300	100	549	8.30	17.0	10	12.0	122	K8	K10
MAY										
08...	0900	100	490	8.10	22.0	1.8	11.1	125	23	250
JUN										
02...	1315	100	405	8.30	23.5	30	9.0	104	220	K64
JUL										
18...	0815	2000	290	7.60	28.0	60	6.7	84	88	140
AUG										
14...	1620	100	670	8.20	24.5	21	5.8	69	230	220
SEP										
02...	1400	300	540	8.70	23.5	15	7.2	83	K12	K4

K--Results based on colony count outside the acceptable range (non-ideal colony count).

LAMINE RIVER BASIN

06908800 LAMINE RIVER NEAR BLACKWATER, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD 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)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 08...	150	27	38	13	17	19	0.6	4.9	122	27
NOV 12...	180	37	50	13	23	21	0.8	4.3	143	38
DEC 10...	160	16	43	13	11	13	0.4	3.1	136	17
JAN 13...	210	50	58	16	32	24	1	3.7	162	37
FEB 03...	120	33	33	9.0	9.7	14	0.4	4.9	86	34
MAR 05...	200	48	57	14	25	21	0.8	3.2	146	58
APR 01...	220	46	61	16	29	22	0.9	3.5	170	62
MAY 08...	210	40	56	17	18	15	0.6	4.0	168	43
JUN 02...	160	31	46	12	17	18	0.6	3.5	129	32
JUL 18...	120	12	31	9.4	11	16	0.5	4.7	103	22
AUG 14...	190	43	51	14	62	41	2	5.7	139	33
SEP 02...	160	21	44	12	45	37	2	5.3	136	26

DATE	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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT 08...	25	0.20	5.8	229	200	0.31	133	--	--
NOV 12...	40	0.20	13	281	280	0.38	61	2.90	0.130
DEC 10...	15	0.10	11	196	200	0.27	45	1.40	0.120
JAN 13...	50	0.20	13	333	310	0.45	67	2.80	0.530
FEB 03...	14	0.20	8.2	--	170	0.23	76	1.80	0.300
MAR 05...	38	0.20	9.3	293	300	0.40	79	2.50	0.130
APR 01...	41	0.20	2.2	315	320	0.43	85	0.630	0.040
MAY 08...	27	0.20	4.2	279	270	0.38	75	0.440	0.060
JUN 02...	22	0.20	10	242	220	0.33	65	2.30	0.030
JUL 18...	13	<0.20	7.4	169	160	0.23	913	0.830	0.060
AUG 14...	110	0.30	7.8	394	370	0.54	106	0.430	0.030
SEP 02...	76	0.30	6.6	318	290	0.43	258	0.110	0.030

LAMINE RIVER BASIN

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06908800 LAMINE RIVER NEAR BLACKWATER, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, DIS- CHARGE, 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...	--	--	--	--	--	--	--	--	--
NOV 12...	0.17	1.3	0.260	0.80	0.140	0.100	54	12	76
DEC 10...	0.15	1.0	0.140	--	0.050	0.050	44	10	56
JAN 13...	0.68	0.80	0.150	--	0.070	0.070	10	2.0	85
FEB 03...	0.39	4.5	0.340	--	0.150	0.110	--	--	--
MAR 05...	0.17	0.70	0.120	--	0.050	0.050	4	0.97	--
APR 01...	0.05	0.90	0.140	--	0.060	0.030	56	15	77
MAY 08...	0.08	0.70	0.090	--	0.060	0.040	26	7.0	60
JUN 02...	0.04	1.3	0.160	--	0.160	0.040	52	14	85
JUL 18...	0.08	0.90	0.200	--	0.110	0.100	66	356	94
AUG 14...	0.04	1.4	0.150	--	0.120	0.040	2	0.54	--
SEP 02...	0.04	0.70	0.240	--	0.080	0.030	8	6.2	--

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 12...	120	1	130	<0.5	<1	<1	<3	4	160	2
JAN 13...	<10	<1	120	<0.5	<1	<1	<3	<1	8	<1
MAY 08...	<10	1	140	<0.5	<1	<1	<3	1	11	1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 12...	11	190	0.2	<10	6	<1	<1	250	<6	77
JAN 13...	17	430	<0.1	<10	6	<1	<1	310	<6	69
MAY 08...	8	11	<0.1	<10	2	<1	<1	210	<6	12

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, and at mile 196.6.

DRAINAGE AREA.--501,700 mi², 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 above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1928, nonrecording gage at site 0.4 mi downstream at datum 3.14 ft lower. Oct. 1, 1928 to May 9, 1931, nonrecording gage at site 50 ft upstream from present site a present datum. May 10, 1931, to Apr. 12, 1934, water-stage recorder at site 0.4 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Discharge measurements made weekly except during ice-flow periods. Some regulation from many upstream reservoirs. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--61 years, 60,600 ft³/s, 43,900,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 550,000 ft³/s, July 17, 1951; maximum gage height, 32.82 ft, July 17, 1951; minimum discharge, about 1,800 ft³/s, Jan. 10, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 21, 1844, reached a stage of 32.7 ft, discharge, about 710,000 ft³/s, computed by U.S. Army Corps of Engineers. Flood of June 6, 1903, reached a stage of 30.5 ft, discharge, about 612,000 ft³/s, computed by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 283,000 ft³/s, Oct. 13, gage height, 28.27 ft; minimum, 30,000 ft³/s, Dec. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	144000	76900	66100	36900	39400	62500	65700	118000	116000	71300	64300	65200
2	141000	83200	72600	37900	41300	88400	63700	125000	106000	74700	62600	63100
3	112000	77700	63300	40200	49500	70400	67300	118000	95900	109000	61000	61600
4	95000	68600	52900	44800	63100	58400	80900	108000	89800	123000	59300	61900
5	85300	63700	51100	47700	72500	53400	122000	95600	84800	105000	58900	61300
6	79000	60800	52500	46500	74600	52900	161000	86700	83800	88700	59100	60300
7	72700	58500	56100	44000	90700	53200	152000	84700	94300	95000	60700	61300
8	68600	57900	56700	43200	89600	51300	128000	91800	95400	166000	62300	62400
9	65200	57100	59000	41300	73600	49400	106000	94000	90400	180000	63500	63700
10	106000	54700	62400	40000	64300	49300	91700	94600	85100	159000	65100	63800
11	224000	54300	82900	37400	55100	52200	84300	109000	83400	162000	65600	64400
12	269000	56200	83100	35700	49500	60500	83300	149000	80100	172000	65700	79200
13	277000	71900	67700	36100	46200	59700	82900	153000	76600	181000	66600	94900
14	262000	114000	51300	38800	44200	65800	82300	139000	78300	187000	69100	86200
15	232000	147000	44000	42500	41600	71500	82900	128000	81900	197000	112000	76300
16	193000	182000	39000	45700	40800	92000	83100	126000	83800	178000	111000	69700
17	156000	174000	36500	46900	41100	87800	81800	153000	84900	169000	96200	69300
18	125000	156000	35900	49900	42700	72000	81800	219000	94600	158000	88400	70800
19	133000	161000	34200	55700	46400	66400	81600	252000	84100	139000	83500	98200
20	141000	180000	33700	59300	47700	72700	75800	252000	74300	117000	80800	105000
21	134000	163000	33500	59100	47200	116000	73300	231000	68800	103000	78700	110000
22	123000	127000	35500	60000	43900	128000	75200	206000	65900	94300	73900	134000
23	106000	92900	34800	56600	42600	107000	75700	174000	70900	91000	68800	126000
24	98700	75200	37200	49700	42600	90200	74100	144000	90900	86400	70600	188000
25	109000	64100	39300	47300	42900	80900	72400	128000	83500	80500	77200	213000
26	106000	63700	39400	46200	44800	78400	71700	127000	79500	75000	75000	186000
27	94600	71500	39000	44700	48900	76200	70400	122000	74700	70500	70600	160000
28	86500	69100	39200	42400	55000	73600	68000	119000	73600	69200	68000	166000
29	81400	58600	40100	41500	---	70600	72100	118000	72600	68800	67400	167000
30	78700	55900	39100	41000	---	68200	89100	119000	71700	67800	67100	214000
31	75400	---	37700	39600	---	66600	---	120000	---	65900	67000	---
TOTAL	4074100	2796500	1515800	1398600	1481800	2245500	2600100	4304400	2515600	3704100	2240000	3102600
MEAN	131400	93220	48900	45120	52920	72440	86670	138900	83850	119500	72260	103400
MAX	277000	182000	83100	60000	90700	128000	161000	252000	116000	197000	112000	214000
MIN	65200	54300	33500	35700	39400	49300	63700	84700	65900	65900	58900	60300
CAL YR 1985	TOTAL		27202900	MEAN		74530	MAX		284000	MIN		32900
WTR YR 1986	TOTAL		31979100	MEAN		87610	MAX		277000	MIN		33500

CEDAR CREEK BASIN

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06910414 CEDAR CREEK NEAR ASHLAND, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°45'29", long 92°10'28", in NW¼NW¼ sec.21, T.46 N., R.11 W., Boone County, Hydrologic Unit 10300102, at bridge on County Highway Y, 5.0 mi east of Ashland.

PERIOD OF RECORD.--November 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 11...	1000	0.50	445	7.70	15.5	2.4	24	13	120	230
NOV 14...	1415	1600	208	5.10	11.0	10.3	92	110	K16000	--
DEC 10...	1000	400	194	7.00	1.0	9.6	65	26	4000	--
JAN 15...	1405	35	644	7.80	1.0	12.6	88	<10	180	320
FEB 05...	1215	80	224	7.40	5.5	13.2	104	52	490	--
MAR 07...	1330	32	529	8.30	5.0	14.7	112	15	K3	--
APR 01...	1020	3.0	548	8.00	16.0	8.4	83	25	92	260
MAY 05...	1100	7.6	656	8.00	17.5	8.9	92	27	42	--
JUN 02...	1045	26	536	7.90	22.5	8.0	91	<10	140	--
JUL 15...	1130	515	179	7.20	23.5	7.6	87	75	K24000	71
AUG 12...	1030	12	390	7.70	21.0	5.0	55	20	45	--
SEP 04...	1500	14	491	7.90	23.5	8.1	94	39	K12	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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 11...	93	71	12	5.7	3.5	131	5.2	84	5.0	2.5
NOV 14...	--	--	--	--	--	20	606	--	--	--
DEC 10...	--	--	--	--	--	36	7.3	--	--	--
JAN 15...	250	94	20	9.1	3.2	70	2.2	180	6.9	0.20
FEB 05...	--	--	--	--	--	47	3.7	--	--	--
MAR 07...	--	--	--	--	--	102	1.0	--	--	--
APR 01...	130	78	16	11	3.5	125	2.5	140	7.9	0.20
MAY 05...	--	--	--	--	--	140	2.8	--	--	--
JUN 02...	--	--	--	--	--	110	2.7	--	--	--
JUL 15...	39	21	4.6	3.1	4.5	32	3.9	41	3.3	0.20
AUG 12...	--	--	--	--	--	112	4.5	--	--	--
SEP 04...	--	--	--	--	--	150	3.9	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[illegible]

OSAGE RIVER BASIN

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06918070 OSAGE RIVER ABOVE SCHELL CITY, MO

LOCATION.--Lat 38°03'20", long 94°08'44", in SE¼SW¼NW¼ sec.20, T.38 N., R.29 W., Bates County, Hydrologic Unit 10290105, 0.8 mi downstream from Shaw Branch, 0.2 mi upstream from McKenzie Creek, and 3.0 mi northwest of Schell City.

DRAINAGE AREA.--5,410 mi², by U.S. Army Corps of Engineers.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and slope gage 1.7 miles downstream. Datum of gage is 700.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. No estimated daily discharges. Periods of low flow could not be calculated using fall computations. Stage discharge relation affected by backwater from Truman Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 70,800 ft³/s, Feb. 26, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 49,900 ft³/s, Nov. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16400	---	6370	---	671	1330	1110	1980	2160	12700	---	496
2	16700	---	7610	---	700	1170	975	2850	1690	18900	---	393
3	13500	---	5060	---	4610	1380	1850	2520	1300	20500	---	367
4	8030	---	4110	---	9340	1990	9100	1670	938	17700	---	---
5	5570	---	4620	---	10400	2060	13700	1630	1380	11000	---	---
6	4600	---	4660	---	11600	2020	16000	1440	2970	6650	269	---
7	4070	4970	4850	---	12700	1680	17300	1210	7860	11300	250	---
8	3520	4890	4910	---	11600	1140	18800	---	7630	12700	248	---
9	3170	4810	6070	---	9910	749	21400	---	4330	9500	241	---
10	3180	4770	8840	---	7740	770	17600	---	2240	5890	634	---
11	7920	4630	14100	---	4980	858	10600	---	2700	7300	936	---
12	13200	4690	16700	---	3200	1470	6540	2800	2020	17600	841	341
13	16000	7260	16500	---	2720	3760	5150	2340	1370	22700	745	855
14	18100	12800	15000	---	2350	4580	3880	5810	---	26400	632	989
15	18900	22800	12500	---	2000	2960	3380	10800	---	22500	595	637
16	20400	34500	9190	---	1930	2040	3180	10000	8110	12400	700	472
17	23200	43700	7190	---	3160	1650	2800	11000	7120	6860	789	486
18	26100	49900	---	---	5530	1480	2430	17200	3170	5240	1090	2190
19	28800	46000	---	---	5050	1340	2230	22300	1600	3910	1150	3990
20	26600	44000	---	---	3770	1410	2150	25000	---	3340	1000	5030
21	22300	42400	---	---	2900	1570	1960	24400	---	3070	1080	2810
22	17400	40400	---	---	2280	1490	1560	16900	---	2830	1020	1110
23	13100	27700	---	---	1850	1320	1370	10900	---	2690	783	647
24	9950	14100	---	---	2060	1220	1270	9280	---	2620	713	6040
25	9500	10900	---	---	2560	1120	1190	8130	---	2520	681	8410
26	8990	11400	---	---	2550	1100	---	6610	---	---	658	3840
27	7500	9610	---	---	2420	1030	---	5180	---	---	653	1400
28	6290	8370	---	---	1910	1150	---	4600	---	---	1160	5810
29	5880	7100	---	733	---	1230	---	4660	---	---	1210	13500
30	---	6310	---	673	---	1290	1550	4130	---	---	825	25700
31	---	---	---	653	---	1250	---	2850	---	---	622	---
TOTAL	---	---	---	---	132491	49607	---	---	---	---	---	---
MEAN	---	---	---	---	4732	1600	---	---	---	---	---	---
MAX	---	---	---	---	12700	4580	---	---	---	---	---	---
MIN	---	---	---	---	671	749	---	---	---	---	---	---

OSAGE RIVER BASIN

06918070 OSAGE RIVER ABOVE SCHELL CITY, MO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1979 to current year, formerly published as 06918080 Osage River near Schell City, Mo.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1979 to September 1981.

WATER TEMPERATURE: March 1979 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,950 microsiemens, Oct. 11, 1980; minimum daily, 114 microsiemens, June 12, 1981.

WATER TEMPERATURE: Maximum daily, 32.0°C, July 11, 1980; minimum daily, 0.0°C, Feb. 5, 1980, Feb. 11-14, 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 100 ML) (31673)
NOV 13...	1230	7030	349	7.70	12.0	67	5.2	48	K7200	K11000
JAN 09...	1630	1000	460	8.10	0.5	13	14.0	95	K12	K4
MAR 19...	0845	1310	540	8.20	9.0	18	12.0	103	54	86
MAY 14...	1530	7460	355	8.00	21.5	600	6.1	69	11000	15000
JUL 08...	1000	13200	224	7.50	24.5	4300	5.4	64	4200	5800
SEP 16...	1200	470	400	7.90	22.5	* 70	6.0	68	460	220

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD 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)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
NOV 13...	150	30	47	8.9	11	13	0.4	3.6	118	51
JAN 09...	230	58	72	12	14	12	0.4	3.4	169	70
MAR 19...	230	67	71	13	16	13	0.5	2.6	160	100
MAY 14...	150	18	48	6.9	9.7	12	0.4	3.4	127	35
JUL 08...	96	20	32	4.0	5.6	11	0.3	3.2	75	25
SEP 16...	160	37	44	11	17	19	0.6	4.3	111	78

DATE	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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
NOV 13...	6.0	0.20	7.0	214	210	0.29	4060	0.450	0.040
JAN 09...	9.6	0.20	8.2	301	290	0.41	813	0.780	0.120
MAR 19...	10	0.30	4.5	328	320	0.45	1160	0.190	0.050
MAY 14...	7.5	0.30	6.4	220	200	0.30	4430	1.20	0.050
JUL 08...	4.4	0.20	5.9	132	130	0.18	4700	0.600	0.040
SEP 16...	8.5	0.20	6.2	258	240	0.35	327	0.340	0.070

K--Results based on colony count outside the acceptable range (non-ideal colony count).

OSAGE RIVER BASIN

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06918070 OSAGE RIVER ABOVE SCHELL CITY, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITRO- GEN, AM- MONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 13...	0.05	0.50	0.150	0.46	0.050	0.040	98	1860	91
JAN 09...	0.15	0.60	0.070	--	0.030	0.040	1	2.6	--
MAR 19...	0.06	0.70	0.080	--	0.020	<0.010	29	103	69
MAY 14...	0.06	1.9	0.140	--	0.160	0.140	3000	60400	84
JUL 08...	0.05	1.0	0.290	--	0.070	0.060	1260	44900	94
SEP 16...	0.09	0.60	0.190	--	0.050	0.040	95	121	95

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 13...	110	1	66	<0.5	<1	<1	<3	3	72	2
JAN 09...	10	<1	79	0.6	<1	<1	<3	1	16	3
MAY 14...	150	1	82	<0.5	<1	<1	<3	9	110	1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 13...	6	20	<0.1	<10	4	<1	<1	280	<6	15
JAN 09...	10	170	<0.1	<10	4	<1	<1	400	<6	10
MAY 14...	6	6	<0.1	<10	2	<1	<1	260	<6	16

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 upstream from Cave Spring Branch and 2 mi south of Dadeville.

DRAINAGE AREA.--257 mi².

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 above National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway and Transportation Commission). Prior to June 1966, crest-stage gage at same site and datum.

REMARKS.--Estimated daily discharges: Aug. 24 to Sept. 15, and Sept. 25-30. Water-discharge records good except for estimated daily discharges Aug. 24 to Sept. 15, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--20 years, 229 ft³/s, 12.10 in/yr, 165,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft³/s, Feb. 23, 1985, maximum gage height, 20.63 ft, from floodmark Nov. 1, 1972; minimum, 4.0 ft³/s, Sept. 16, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 14	1430	3,690	14.32	Dec. 1	1415	3,360	13.72
Nov. 19	0800	*9,130	*18.91				

Minimum discharge recorded, 16 ft³/s, Aug. 22, 23, but may have been less during period Sept. 5-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	116	2830	286	110	197	159	174	57	49	16	15
2	37	115	1660	279	108	190	157	158	104	50	96	14
3	35	98	1120	271	148	180	159	148	74	46	42	14
4	34	84	924	261	146	174	292	142	102	43	32	14
5	32	75	794	249	135	169	296	135	112	40	28	14
6	32	68	689	243	146	163	284	131	125	38	26	13
7	32	63	614	233	173	157	296	126	122	38	27	13
8	30	58	557	219	195	150	672	119	446	36	30	13
9	30	54	524	213	200	147	688	113	226	33	34	13
10	30	52	854	209	202	145	576	107	184	32	33	13
11	33	52	1750	203	200	142	506	108	154	30	29	14
12	33	123	1620	197	197	257	459	100	135	34	25	15
13	37	1680	1170	188	191	305	421	97	118	54	23	14
14	45	3160	934	184	200	300	404	123	105	45	22	13
15	49	2380	805	177	189	288	369	168	96	36	22	13
16	47	2110	722	173	200	276	340	127	88	32	24	29
17	44	1140	653	169	252	263	312	119	80	30	23	857
18	47	2880	584	166	277	261	296	112	75	28	21	405
19	49	6320	528	163	285	253	279	101	71	26	21	208
20	48	3630	498	159	282	234	274	93	67	24	19	146
21	48	1860	468	154	269	221	260	87	62	23	17	112
22	47	1340	453	145	261	214	243	83	61	23	16	91
23	45	1040	443	139	251	208	231	83	103	23	16	78
24	44	855	418	135	241	200	221	81	101	24	16	69
25	43	747	385	131	231	192	211	76	71	21	15	62
26	42	873	365	126	223	190	199	74	62	19	15	55
27	41	1050	354	120	216	182	191	70	57	19	16	55
28	41	771	337	119	207	176	191	70	56	18	15	58
29	44	669	322	118	---	172	175	65	54	17	16	89
30	78	708	310	113	---	167	173	62	51	17	15	3040
31	97	---	302	111	---	162	---	60	---	16	15	---
TOTAL	1333	34171	23987	5653	5735	6335	9334	3312	3219	964	765	5559
MEAN	43.0	1139	774	182	205	204	311	107	107	31.1	24.7	185
MAX	97	6320	2830	286	285	305	688	174	446	54	96	3040
MIN	30	52	302	111	108	142	157	60	51	16	15	13

CAL YR 1985	TOTAL	169015	MEAN	463	MAX	8000	MIN	27
WTR YR 1986	TOTAL	100367	MEAN	275	MAX	6320	MIN	13

OSAGE RIVER BASIN

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06918440 SAC RIVER NEAR DADEVILLE, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1983 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1974 to September 1978; October 1980 to September 1982.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 28.5°C, Aug. 22, 23, 1975; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT										
08...	1700	30	412	8.10	15.0	9.6	94	<10	82	210
NOV										
12...	1415	54	448	7.80	12.5	7.9	74	13	K360	--
DEC										
06...	1445	679	382	8.00	8.0	11.2	93	<10	100	--
JAN										
07...	1515	230	366	8.20	4.5	13.4	105	<10	K9	200
FEB										
10...	1510	202	300	8.20	2.0	13.3	95	16	21	--
MAR										
20...	1015	234	386	8.30	9.0	11.9	101	29	92	--
APR										
08...	1320	749	336	7.70	15.5	8.5	84	39	K20000	170
MAY										
13...	0940	97	425	8.00	19.0	7.3	79	14	310	--
JUN										
03...	1320	72	284	8.00	20.5	6.2	69	24	K7400	--
JUL										
09...	1510	32	434	8.00	27.0	7.7	96	<10	120	220
AUG										
04...	1315	32	320	7.80	23.5	5.8	67	37	230	--
SEP										
16...	1000	16	365	8.00	19.5	6.9	74	17	K2300	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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										
08...	12	73	7.7	5.3	1.6	199	3.1	9.1	10	<0.10
NOV										
12...	--	--	--	--	--	212	6.8	--	--	--
DEC										
06...	--	--	--	--	--	177	3.5	--	--	--
JAN										
07...	24	70	6.1	3.6	1.7	176	2.2	9.2	9.1	<0.10
FEB										
10...	--	--	--	--	--	186	2.3	--	--	--
MAR										
20...	--	--	--	--	--	187	1.8	--	--	--
APR										
08...	0	57	5.9	3.2	2.5	161	6.6	13	7.5	<0.10
MAY										
13...	--	--	--	--	--	201	4.0	--	--	--
JUN										
03...	--	--	--	--	--	140	2.5	--	--	--
JUL										
09...	15	76	7.1	5.0	2.0	200	4.0	9.4	9.7	<0.10
AUG										
04...	--	--	--	--	--	134	4.2	--	--	--
SEP										
16...	--	--	--	--	--	152	3.8	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[illegible]

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 downstream from Limestone Creek, and 2 mi southeast of Greenfield.

DRAINAGE AREA.--252 mi².

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

REVISED RECORDS.--WDR MO-84-1 1968, 1970, 1972-74, 1976, 1978-79, 1983 (p).

GAGE.--Water-stage recorder. Datum of gage is 870.34 ft above National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway and Transportation Commission).

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--21 years, 255 ft³/s, 13.74 in/yr, 184,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,000 ft³/s, Nov. 1, 1972, gage height, 24.45 ft, from floodmark; minimum, 9.8 ft³/s, Sept. 15, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 14	0900	8,340	17.30	Dec. 1	0315	4,930	15.07
Nov. 18	1815	*13,100	*19.04	Sept. 17	1600	7,810	17.03

Minimum discharge, 18 ft³/s, Sept. 5-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	72	3490	275	119	220	155	435	93	60	23	20
2	50	77	1530	266	118	212	154	266	89	60	151	20
3	48	75	1160	256	150	202	161	240	96	55	59	20
4	47	72	958	247	197	193	674	224	124	52	44	19
5	45	69	825	235	190	187	704	208	175	50	38	19
6	44	67	724	228	198	180	583	197	178	47	36	18
7	43	64	648	219	241	172	597	187	184	45	35	18
8	41	61	586	208	252	166	1870	174	263	44	105	18
9	41	59	592	202	252	162	1170	164	250	40	54	18
10	41	58	861	198	247	160	922	155	231	37	45	18
11	43	57	1700	192	239	158	772	156	175	35	37	56
12	43	408	1280	188	229	414	668	146	152	43	33	34
13	46	2900	1030	183	221	372	645	142	132	227	31	28
14	57	5860	862	179	226	349	602	145	117	76	29	23
15	62	3060	764	173	213	326	526	209	108	58	29	27
16	59	1930	698	170	264	305	468	168	100	49	30	33
17	54	1280	639	166	401	286	423	262	90	43	29	2390
18	60	6360	577	163	417	281	395	232	110	39	27	536
19	66	5960	532	160	402	271	362	203	117	36	25	287
20	67	2820	494	156	376	249	348	185	105	34	24	201
21	65	1680	456	152	345	234	320	168	94	32	23	156
22	62	1290	438	147	322	223	298	157	104	31	22	127
23	61	1030	431	144	303	212	280	148	144	31	22	107
24	58	870	399	142	282	203	265	140	100	29	21	92
25	56	769	370	139	267	195	249	132	86	28	21	79
26	54	1090	351	134	255	193	238	126	78	27	20	78
27	52	952	336	130	243	187	232	118	72	26	21	96
28	51	763	321	129	231	179	229	115	72	25	21	89
29	55	671	309	127	---	171	210	107	67	24	22	93
30	60	1120	298	123	---	166	212	102	63	24	21	5430
31	67	---	288	120	---	160	---	98	---	23	20	---
TOTAL	1650	41544	23947	5551	7200	6988	14732	5509	3769	1430	1118	10150
MEAN	53.2	1385	772	179	257	225	491	178	126	46.1	36.1	338
MAX	67	6360	3490	275	417	414	1870	435	263	227	151	5430
MIN	41	57	288	120	118	158	154	98	63	23	20	18
CAL YR 1985		TOTAL	190454	MEAN	522	MAX	10900	MIN	39			
WTR YR 1986		TOTAL	123588	MEAN	339	MAX	6360	MIN	18			

OSAGE RIVER BASIN

06918600 LITTLE SAC RIVER NEAR WALNUT GROVE, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°23'55", long 93°24'36", in NW¼SE¼ sec.24, T.31 N., R.23 W., Greene County, Hydrologic Unit 10290106, at bridge on County Highway BB, 7.5 mi east of Walnut Grove.

PERIOD OF RECORD.--October 1983 to February 1986 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT										
08...	1500	120	670	7.90	15.0	8.8	87	20	170	230
NOV										
12...	1318	40	626	7.80	15.5	7.9	78	13	49	--
DEC										
06...	1315	320	410	7.80	7.5	11.8	97	<10	46	--
JAN										
07...	1315	120	440	8.00	3.5	13.1	96	12	K6	220
FEB										
10...	1310	100	368	8.10	3.0	12.8	94	14	K8	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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										
08...	19	80	7.2	48	6.0	207	5.1	58	43	0.70
NOV										
12...	--	--	--	--	--	222	7.0	--	--	--
DEC										
06...	--	--	--	--	--	172	5.4	--	--	--
JAN										
07...	1	76	7.0	11	2.4	201	4.2	11	17	0.20
FEB										
10...	--	--	--	--	--	176	2.8	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[illegible]

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 of State Highway 215, 0.7 mi upstream from Slagle Creek and 3 mi west of Morrisville.

DRAINAGE AREA.--237 mi².

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

REVISED RECORDS.--WDR MO-84-1 1969-70, 1972-75, 1977-79, 1981, 1983 (P).

GAGE.--Water-stage recorder. Elevation of gage is 881 ft (from topographic map).

REMARKS.--Estimated daily discharges: Oct. 1-7. Records good except for estimated daily discharge, which are fair. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--18 years, 229 ft³/s, 13.12 in/yr, 165,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 22,300 ft³/s, Nov. 1, 1972, gage height, 21.95 ft, minimum, 0.3 ft³/s, Sept. 15, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 14	1000	7,290	14.25	Dec. 1	0545	5,510	12.40
Nov. 19	0115	*10,900	*16.79	Dec. 11	1015	3,750	10.20

Minimum discharge, 7.0 ft³/s, Aug. 1-2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	131	3590	143	53	105	83	205	43	19	7.2	12
2	14	106	1330	134	53	100	84	124	44	20	126	12
3	13	83	823	130	63	94	85	91	65	20	64	12
4	13	68	660	122	106	91	291	78	60	17	35	11
5	13	59	556	117	115	86	300	69	182	15	25	11
6	12	53	485	112	137	84	253	66	288	14	23	10
7	12	48	421	110	233	80	218	62	144	13	24	9.3
8	12	42	375	111	186	78	495	58	119	12	25	8.9
9	11	38	436	103	161	76	384	56	95	11	25	8.5
10	12	38	1430	95	145	73	292	53	84	12	29	7.9
11	15	40	2820	91	138	75	240	59	76	11	24	18
12	16	647	1590	89	127	481	197	52	66	12	19	38
13	22	3020	1010	85	122	364	172	59	55	17	17	36
14	39	5050	753	84	121	253	177	58	47	33	15	26
15	42	3100	626	79	118	206	157	766	41	26	14	22
16	35	1630	557	79	149	171	142	236	36	24	14	21
17	29	828	502	79	315	157	132	148	32	19	15	871
18	32	5570	447	75	246	154	127	130	30	15	13	392
19	33	7390	390	76	207	158	117	106	28	13	11	181
20	34	2470	356	74	186	144	116	89	26	12	10	103
21	32	1320	319	73	164	132	111	79	25	12	10	73
22	29	923	306	68	152	124	102	69	23	10	9.4	59
23	28	727	302	65	140	120	96	78	29	9.8	9.5	49
24	27	610	285	64	131	115	88	107	51	10	10	42
25	26	535	261	63	127	105	86	97	34	10	48	35
26	25	689	233	59	120	106	80	87	27	9.8	28	31
27	24	697	198	59	115	103	78	77	24	9.9	21	90
28	22	552	177	57	111	100	80	72	22	10	17	84
29	25	477	169	55	---	94	74	63	22	9.2	15	69
30	130	750	157	54	---	88	76	53	21	8.3	14	5820
31	100	---	153	53	---	85	---	47	---	7.4	12	---
TOTAL	892	37691	21717	2658	4041	4202	4933	3394	1839	441.4	729.1	8162.6
MEAN	28.8	1256	701	85.7	144	136	164	109	61.3	14.2	23.5	272
MAX	130	7390	3590	143	315	481	495	766	288	33	126	5820
MIN	11	38	153	53	53	73	74	47	21	7.4	7.2	7.9
CAL YR 1985		TOTAL	173353	MEAN	475	MAX	13200	MIN	11			
WTR YR 1986		TOTAL	90700.1	MEAN	248	MAX	7390	MIN	7.2			

OSAGE RIVER BASIN

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06918990 STOCKTON LAKE NEAR STOCKTON, MO

LOCATION.--Lat 37°41'38", long 93°45'55", SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.10, T.34 N., R.26 W., Cedar County, Hydrologic Unit 10290106, in power house at dam on Sac River, 2 mi east of Stockton.

DRAINAGE AREA.--1,160 mi².

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

GAGE.--Water-stage recorder. Non-recording gage prior to May 30, 1973. Datum of gage is at National Geodetic Vertical Datum of 1929 (level by U.S. Army Corps of Engineers).

REMARKS.--Lake is formed by a rock shell earthfill type dam. Spillway is equipped with 4 taintor gates, 40 ft by 30.5 ft, crest elevation, 861.5 ft. Embankment closed and river diverted on Sept. 23, 1968. Gates closed and storage began on Dec. 12, 1969; minimum power elevation 830.0 ft reached on May 1, 1970. Gross storage at top of flood control pool is 1,666,659 acre-ft at elevation 892 ft, of which 779,550 acre-ft between elevations 867 ft and 892 ft is used for flood control, and 887,109 acre-ft between elevations 760 ft and 867 ft is used for multipurpose and power. Sedimentation reserve is 25,000 acre-ft. Lake is used for flood control, hydroelectric power, and recreational purposes.

COOPERATION.--Records were provided by the U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,450,000 acre-ft, Apr. 28, 1973, elevation, 885.94 ft; minimum, since initial filling to minimum power pool level, 352,000 acre-ft, Aug. 27 to Sept. 4, 1970, elevation, 839.60 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,039,000 acre-ft, Dec. 13, elevation, 872.81 ft; minimum contents, 743,000 acre-ft, Oct. 14, elevation, 860.87 ft.

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	784000	749000	1012000	942000	881000	886000	870000	884000	894000	870000	820000	791000
2	784000	749000	1021000	934000	882000	887000	872000	885000	894000	870000	821000	788000
3	784000	749000	1024000	935000	894000	884000	871000	887000	892000	870000	819000	786000
4	780000	749000	1022000	930000	900000	881000	878000	888000	893000	870000	818000	785000
5	777000	750000	1019000	921000	900000	877000	882000	886000	896000	869000	817000	781000
6	777000	749000	1015000	914000	902000	872000	887000	886000	896000	868000	817000	780000
7	772000	749000	1010000	908000	902000	869000	894000	884000	899000	867000	818000	781000
8	767000	749000	1003000	903000	905000	870000	901000	882000	902000	866000	818000	780000
9	761000	749000	1000000	899000	908000	873000	903000	880000	901000	862000	819000	780000
10	758000	748000	1008000	897000	907000	872000	903000	881000	900000	861000	818000	779000
11	754000	749000	1025000	898000	905000	875000	902000	881000	898000	861000	816000	783000
12	750000	752000	1036000	899000	904000	877000	905000	878000	896000	865000	816000	781000
13	748000	776000	1039000	897000	902000	879000	908000	879000	895000	865000	815000	781000
14	743000	831000	1036000	894000	901000	879000	906000	884000	896000	863000	812000	781000
15	743000	856000	1033000	893000	901000	881000	903000	890000	895000	859000	812000	780000
16	744000	870000	1028000	891000	903000	882000	900000	889000	892000	856000	812000	776000
17	743000	875000	1023000	889000	904000	880000	898000	894000	890000	853000	812000	787000
18	746000	924000	1018000	889000	905000	876000	884000	895000	887000	850000	811000	785000
19	746000	976000	1012000	890000	903000	875000	886000	894000	885000	849000	807000	782000
20	747000	999000	1008000	891000	899000	873000	898000	895000	882000	849000	804000	778000
21	747000	1006000	1002000	892000	899000	870000	894000	893000	883000	848000	800000	778000
22	747000	1006000	996000	889000	898000	867000	890000	893000	883000	844000	797000	775000
23	747000	1004000	989000	886000	898000	867000	886000	891000	881000	844000	797000	771000
24	747000	1001000	982000	884000	897000	866000	884000	892000	877000	844000	797000	768000
25	747000	998000	976000	885000	895000	866000	885000	894000	874000	842000	793000	763000
26	747000	994000	971000	884000	895000	868000	887000	894000	871000	843000	792000	759000
27	747000	992000	962000	885000	890000	867000	889000	895000	870000	844000	793000	757000
28	747000	988000	958000	884000	887000	867000	885000	895000	870000	840000	793000	753000
29	747000	984000	953000	883000	---	868000	883000	896000	870000	834000	792000	758000
30	747000	988000	950000	883000	---	869000	882000	893000	870000	829000	792000	799000
31	748000	---	946000	880000	---	869000	---	894000	---	825000	791000	---

WTR YR 1986

(†)	861.12	870.94	869.33	866.73	867.00	866.28	866.80	867.29	866.30	864.43	863.00	863.32
(‡)	-40000	+240000	-42000	-66000	+7000	-18000	+13000	+12000	-24000	-45000	-34000	+8000

MAX	784000	1006000	1039000	942000	908000	887000	908000	896000	902000	870000	821000	799000
MIN	743000	748000	946000	880000	881000	866000	870000	878000	870000	825000	791000	753000

CAL YR 1985.....+35000

WTR YR 1986.....+11000

(†) 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 upstream from bridge on State Highway 32, 0.5 mi downstream from Stockton Dam, 2.0 mi upstream from Bear Creek, 2.0 mi east of Stockton, and at mile 49.5

DRAINAGE AREA.--1,160 mi², approximately.

PERIOD OF RECORD.--July 1921 to current year.

REVISED RECORDS.--WSP 926: 1940.

GAGE.--Water-stage recorder. Datum of gage is 758.12 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1973, all previous gages at site 0.5 mi downstream and at datum 6.00 ft higher. Prior to May 4, 1960, nonrecording gage. Datum lowered 6.00 ft Oct. 1, 1978.

REMARKS.--Estimated daily discharge: Nov. 13-21, Dec. 1, 2, 10-12, Feb. 3-9, 16, 17, April 4-20, May 1-4, 15-19, 29, and Sept. 30 due to backwater from Bear Creek. Records fair. Several observations of water temperature and specific conductance were made during the year. Flow completely regulated by Stockton Lake (station 06918990) 0.5 mi upstream since Dec. 12, 1969.

AVERAGE DISCHARGE.--65 years, 983 ft³/s, 712,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120,000 ft³/s, May 19, 1943, gage height, 31.8 ft; no flow Sept. 9-23, 1954, Oct. 14, 17-20, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage prior to 1943, 29.3 ft in July 1909.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,880 ft³/s, Dec. 16; minimum daily, 43 ft³/s, Nov. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1890	63	2200	3060	122	945	68	320	58	77	2350	63
2	198	65	1900	3430	55	61	72	110	534	69	142	1170
3	61	65	3080	3500	55	2310	1230	65	1180	68	723	850
4	1360	179	3660	3240	55	2380	100	65	660	66	395	522
5	890	59	4650	3210	1400	1560	60	880	110	65	63	1200
6	167	60	4660	3560	1400	2540	60	793	1150	73	63	128
7	2430	272	4660	3680	1400	2620	60	1160	197	75	64	57
8	2550	45	4730	3480	150	152	600	1300	87	1030	203	60
9	2840	43	4640	2340	100	57	2300	1180	1250	1300	77	56
10	1180	48	3600	1520	2040	473	2400	85	1350	192	63	1160
11	2510	48	600	80	1750	88	2100	60	1300	244	1120	109
12	1970	342	280	57	1550	621	150	2040	865	66	81	81
13	1430	70	2980	1200	2250	875	60	72	1480	65	63	65
14	2780	60	4730	1510	1660	870	2300	65	160	841	1390	64
15	138	60	4770	1860	954	126	2500	65	74	1260	83	1060
16	60	60	4880	1210	75	439	2300	1680	1180	1270	72	2080
17	53	550	4680	1290	1400	2260	2400	100	1420	1260	71	2780
18	61	1400	4610	235	1360	2720	2550	65	1190	1410	460	2660
19	62	75	4650	58	2600	1120	98	1130	1230	111	1420	2630
20	57	60	4600	56	2800	1930	65	73	1280	73	1370	2310
21	54	1900	4660	53	1340	2700	2820	1080	179	73	1180	189
22	53	4620	4660	1870	1430	1720	2660	760	80	1300	1590	1970
23	52	4640	4730	2140	997	617	2660	1160	1050	200	89	2130
24	52	4610	4790	750	1620	1320	1460	183	2170	82	69	1900
25	52	4640	4720	61	1860	62	114	64	1330	285	1410	2560
26	52	4600	4660	61	1560	69	76	71	1380	127	915	2500
27	53	4600	4650	192	2560	1370	75	67	664	51	70	1340
28	58	4610	3260	502	2620	116	1800	66	65	621	65	2240
29	70	4640	3340	571	---	68	2220	66	62	2300	64	83
30	71	4630	2930	750	---	70	1180	1290	74	2380	63	65
31	65	---	2920	1620	---	356	---	62	---	2080	63	---
TOTAL	23319	47114	119880	47146	37163	32615	36538	16177	23809	19114	15851	34082
MEAN	752	1570	3867	1521	1327	1052	1218	522	794	617	511	1136
MAX	2840	4640	4880	3680	2800	2720	2820	2040	2170	2380	2350	2780
MIN	52	43	280	53	55	57	60	60	58	51	63	56
CAL YR 1985	TOTAL		757482	MEAN		2075	MAX	4880	MIN	43		
WTR YR 1986	TOTAL		452808	MEAN		1241	MAX	4880	MIN	43		

OSAGE RIVER BASIN

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06919020 SAC RIVER AT HIGHWAY J BELOW STOCKTON, MO

LOCATION.--Lat 37°44'07", long 93°46'47", NW¼ sec.4, T.34 N., R.26 W., Cedar County, Hydrologic Unit 10290106, on right bank on downstream side of bridge on State Highway J, 4.5 mi downstream from Bear Creek, 6.3 mi downstream from Stockton Lake, 3 mi north of Stockton and at mile 44.9.

DRAINAGE AREA.--1,292 mi², 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 above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct 18 to Nov. 18, Dec. 1, Jan. 15, Feb. 10-15, 20-22, 24, 25, 27, 28, and Sept. 3-5, 16-19, 24-29. Records fair. Several observations of water temperature and specific conductance were made during the year. Considerable regulation by Stockton Lake (station 06918990) 6.3 mi upstream. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--13 years, 1,150 ft³/s, 833,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,100 ft³/s, Feb. 23, 1985, gage height, 24.91 ft; minimum, 24 ft³/s, Mar. 25, 26, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,790 ft³/s, Dec. 16; minimum daily, 59 ft³/s, Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1780	78	4600	2940	342	1330	121	867	132	95	2300	64
2	719	78	1970	3400	125	195	126	369	630	91	407	1160
3	77	78	3000	3380	1840	2050	550	201	1060	85	725	1000
4	1380	160	3590	3180	1900	2240	1460	178	984	81	596	600
5	1110	100	4540	3090	1570	1720	469	759	260	80	84	1100
6	347	80	4560	3500	1840	2670	337	966	1030	79	69	160
7	2240	300	4540	3570	2220	2550	339	1250	565	86	71	63
8	2570	100	4630	3470	448	494	2520	1320	141	387	197	62
9	2830	70	4520	2440	370	162	2400	1380	1120	992	147	59
10	1340	65	4600	1460	2200	627	2850	410	1450	1480	67	1040
11	2480	65	3440	303	2000	244	2330	133	1430	263	1060	313
12	2020	300	904	161	1800	732	817	1760	859	101	175	93
13	1600	200	2970	1100	2300	1110	262	388	1680	96	65	77
14	2730	2600	4700	1550	1900	833	2130	194	560	525	1410	68
15	355	1940	4680	2000	1200	356	2440	916	122	1330	149	1230
16	86	694	4790	1370	266	541	2320	1480	988	1350	78	2100
17	76	800	4580	1400	1550	2100	2890	842	1550	1230	72	2700
18	93	2500	4440	730	1540	2750	2640	370	1340	1570	438	2700
19	88	3860	4440	141	2410	1210	642	1310	1320	316	1490	2700
20	86	1120	4080	131	3000	1870	198	218	1370	82	1480	2200
21	80	1910	4230	126	1500	2680	2300	1030	472	76	1110	542
22	76	4580	4460	1440	1600	1960	2410	976	104	1270	1850	1680
23	72	4570	4500	2100	1150	739	2580	1230	839	395	199	2180
24	70	4520	4650	1040	1500	1420	1540	590	2110	113	78	1750
25	68	4570	4600	135	2000	160	637	162	1500	315	1350	2600
26	68	4540	4480	122	1140	145	169	172	1570	137	1140	2600
27	68	4530	4460	177	2400	1190	154	161	937	60	110	1500
28	76	4480	3250	617	2800	337	1440	150	117	510	73	2300
29	80	4550	3350	477	---	135	2040	207	89	2110	68	150
30	80	4560	3100	676	---	130	1370	1390	91	2340	67	828
31	76	---	2830	1580	---	411	---	193	---	2010	65	---
TOTAL	24821	57998	123484	47806	44911	35091	42481	21572	26420	19655	17190	35619
MEAN	801	1933	3983	1542	1604	1132	1416	696	881	634	555	1187
MAX	2830	4580	4790	3570	3000	2750	2890	1760	2110	2340	2300	2700
MIN	68	65	904	122	125	130	121	133	89	60	65	59
CAL YR 1985	TOTAL		813206	MEAN		2228	MAX		10100	MIN		65
WTR YR 1986	TOTAL		497048	MEAN		1362	MAX		4790	MIN		59

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 north of Pleasant View, 1.8 mi downstream from Alder Creek, and 5.8 mi upstream from mouth.

DRAINAGE AREA.--420 mi², 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 739.46 ft above 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 downstream at same datum. May 11, 1950 to Dec. 17, 1952, nonrecording gage, at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 2-17 and Sept. 12. Records good except for periods of estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--41 years, 312 ft³/s, 10.09 in/yr, 226,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,900 ft³/s, July 17, 1958, gage height, 27.35 ft; no flow at times many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 27.7 ft, July 20, 1909, from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 15	1030	7,490	19.86	Dec. 12	--	Unknown	Unknown
Nov. 19	1445	*13,100	*23.39	Feb. 4	0445	6,680	18.86
Dec. 2	0030	3,900	14.41	Apr. 4	2130	3,650	13.91

Minimum discharge, 1.2 ft³/s, Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	225	3030	173	56	355	123	115	37	15	3.5	1.8
2	4.5	174	2500	165	57	341	132	143	32	14	2.9	1.5
3	4.5	136	1000	158	4470	325	348	114	28	12	2.4	1.5
4	4.0	108	600	153	6110	311	2250	93	27	9.3	6.6	1.5
5	3.7	86	400	142	3080	302	2540	83	74	8.1	31	1.2
6	3.5	73	350	134	1250	292	1080	75	486	7.1	18	2.2
7	2.7	64	325	125	1820	283	1050	68	416	6.5	13	3.2
8	2.9	58	300	106	1360	272	2450	62	242	5.5	11	3.0
9	2.6	51	300	104	820	265	2900	55	160	4.7	9.2	2.5
10	2.3	45	700	98	644	261	968	52	293	3.9	11	2.0
11	2.3	40	3500	94	531	265	639	47	301	4.7	7.4	21
12	2.6	42	3300	94	447	1910	512	42	191	7.1	6.3	900
13	3.6	1070	1000	93	407	2080	419	51	140	1770	6.1	229
14	4.1	5100	700	93	405	800	374	49	108	669	4.5	102
15	4.5	7020	650	90	400	544	325	75	80	197	3.9	55
16	4.7	5390	600	90	479	430	281	95	60	101	6.3	35
17	5.3	1450	550	90	1260	353	252	450	49	59	6.9	31
18	205	3250	490	91	1150	313	236	523	40	39	5.4	1720
19	1150	10300	409	94	725	295	216	274	34	25	4.5	1620
20	368	9400	345	94	622	262	199	183	27	19	3.9	250
21	160	5120	315	94	575	229	186	137	23	15	3.1	145
22	103	951	302	87	527	208	168	106	19	12	2.4	101
23	71	705	341	79	498	196	152	91	18	9.7	2.1	81
24	55	565	369	74	473	182	137	80	99	8.4	2.0	62
25	45	484	313	71	444	167	125	74	57	7.3	2.0	49
26	37	446	257	68	425	161	114	83	49	6.4	2.0	46
27	30	430	242	64	403	169	104	87	37	5.9	3.9	47
28	23	359	205	61	379	163	103	70	25	4.7	4.3	42
29	25	308	195	58	---	151	96	58	19	4.2	3.7	54
30	93	366	184	56	---	139	90	52	15	4.4	2.8	2680
31	269	---	180	56	---	129	---	44	---	4.2	2.3	---
TOTAL	2696.3	53816	23952	3049	29817	12153	18569	3531	3186	3059.1	194.4	8290.4
MEAN	87.0	1794	773	98.4	1065	392	619	114	106	98.7	6.27	276
MAX	1150	10300	3500	173	6110	2080	2900	523	486	1770	31	2680
MIN	2.3	40	180	56	56	129	90	42	15	3.9	2.0	1.2
CAL YR 1985		TOTAL	286605.8	MEAN	785	MAX	21000	MIN	2.3			
WTR YR 1986		TOTAL	162313.2	MEAN	445	MAX	10300	MIN	1.2			

OSAGE RIVER BASIN

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06919900 SAC RIVER NEAR CAPLINGER MILLS, MO

LOCATION.--Lat 37°52'12", long 93°48'11", in NW¼NE¼SW¼ sec.21, T.35 N., R.26 W., St. Clair County, Hydrologic Unit 10290106, on right downstream wingwall of bridge on State Highway W, 1.5 mi downstream from Cedar Creek and 5 mi north of Caplinger Mills.

DRAINAGE AREA.--1,810 mi².

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 720.82 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature and specific conductance were made during the year. Some regulation from Stockton Lake (station 06918990). U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--12 years, 1,513 ft³/s, 1,096,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,000 ft³/s, Feb. 23, 1985, gage height, 29.32 ft; minimum, 48 ft³/s, Sept. 13, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,600 ft³/s, Nov. 20, gage height 24.16 ft; minimum, 63 ft³/s, Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1490	336	10500	3320	1090	2280	407	1690	220	138	2510	74
2	1750	284	9450	3970	182	547	323	837	587	136	1560	155
3	128	246	5110	3840	6920	1770	616	358	397	125	133	1430
4	90	212	4290	3720	9770	2280	4790	298	1690	114	1150	966
5	1960	251	5460	3580	4870	2170	3940	269	790	108	305	756
6	940	165	5280	3930	3570	3200	1930	1200	640	101	118	1400
7	1070	399	5250	4020	4930	2970	1740	1160	1990	101	102	105
8	2860	224	5280	3900	2350	1500	4650	1490	430	191	94	79
9	2710	127	5210	3080	1480	340	5740	1580	490	1220	283	71
10	1950	116	7110	1780	2480	339	4310	1460	1780	1670	111	297
11	2390	111	13200	596	2580	828	3500	214	1990	248	602	1200
12	2210	127	10200	306	2760	2240	2430	584	1730	191	748	879
13	1700	1420	5460	1190	2280	3970	838	1880	1640	1450	104	393
14	2890	6820	5790	1830	2560	1830	1890	259	1530	1240	875	183
15	1870	10100	5670	2220	1900	1550	3070	1180	259	1470	818	928
16	115	7260	5710	1640	846	1090	3370	1100	214	1710	128	1510
17	85	3650	5580	1640	2620	1960	3050	2750	1750	1320	95	2600
18	262	4570	5330	900	3300	3260	3130	1690	1620	1770	86	4230
19	1320	13700	5240	284	2720	1890	1930	1550	1430	1340	1060	4830
20	652	14800	5180	273	3490	2620	441	1090	1540	142	1710	2550
21	283	9590	5080	259	2050	2850	1680	469	1500	114	1080	1870
22	203	5790	5150	1870	2500	3060	3000	1570	150	314	2170	870
23	158	5630	5200	2390	2000	1420	2930	1210	124	1350	1060	2600
24	145	5420	5340	1260	1160	1720	1820	1720	2060	227	114	1950
25	124	5270	5250	266	3050	696	1600	324	1910	117	410	2590
26	111	5140	5020	228	1270	387	308	317	1740	349	1950	2780
27	106	5150	5050	308	3350	840	268	326	1770	124	500	1610
28	99	5070	3840	768	3120	1350	1010	285	433	79	106	2760
29	119	5050	3770	246	---	374	2150	276	146	1610	91	1190
30	185	5030	3840	879	---	347	1670	1100	130	2620	84	3160
31	333	---	3140	1750	---	559	---	833	---	2210	74	---
TOTAL	30308	122058	180980	56243	81198	52237	68531	31069	32680	23899	20231	46216
MEAN	978	4069	5838	1814	2900	1685	2284	1002	1089	771	653	1541
MAX	2890	14800	13200	4020	9770	3970	5740	2750	2060	2620	2510	4830
MIN	85	111	3140	228	182	339	268	214	124	79	74	71

CAL YR 1985	TOTAL	1241224	MEAN	3401	MAX	33200	MIN	79
WTR YR 1986	TOTAL	745650	MEAN	2043	MAX	14800	MIN	71

OSAGE RIVER BASIN

06921070 POMME DE TERRE RIVER NEAR POLK, MO

LOCATION.--Lat 37°40'56", long 93°22'12", in NE¼NW¼NW¼ sec.17, T.34 N., R.22 W., Polk County, Hydrologic Unit 10290107, on right bank 150 ft upstream from Jefferson Bridge on State Highway D and 5 mi southwest of Polk.

DRAINAGE AREA.--276 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 872.61 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 20 to Dec. 2, and April 9, 10. Water discharge records good. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--18 years, 273 ft³/s, 13.43 in/yr, 197,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,500 ft³/s, Feb. 23, 1985, gage height, 21.67 ft; maximum gage height, 21.88 ft, Nov. 1, 1972; minimum, 0.3 ft³/s, Aug. 11, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 14	1015	13,400	16.96	Dec. 1	--	Unknown	Unknown
Nov. 18	2130	*13,700	*17.18	Apr. 8	0415	13,100	16.74

Minimum discharge, 3.7 ft³/s, Sept. 9-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	80	5000	129	62	154	97	1270	69	34	6.1	5.7
2	12	70	2000	121	63	147	95	438	64	27	6.6	5.5
3	12	56	761	116	1230	137	104	264	61	21	6.4	5.9
4	11	47	667	110	842	128	438	192	122	17	6.3	14
5	11	40	469	103	458	121	582	150	884	15	6.2	18
6	10	35	391	98	504	114	979	124	498	13	8.2	8.1
7	11	32	339	94	657	106	980	105	299	13	11	5.8
8	8.4	30	302	83	497	99	9470	89	211	12	9.9	5.0
9	9.4	28	342	76	413	97	2100	78	331	11	11	4.3
10	9.7	27	2410	80	346	92	800	70	393	11	13	4.2
11	11	27	3720	79	288	91	540	69	177	9.0	13	100
12	11	31	1420	77	252	705	489	67	118	9.6	9.3	111
13	12	3370	897	74	222	656	408	71	89	17	7.7	26
14	15	8220	639	71	228	457	406	173	71	61	7.9	20
15	18	3460	517	70	205	357	338	2140	169	43	9.4	15
16	19	2020	479	70	398	294	279	693	68	25	11	12
17	20	865	446	70	664	253	244	430	56	18	8.7	1170
18	22	8270	388	70	519	236	221	355	48	14	7.7	738
19	22	7000	326	70	428	263	196	262	41	11	7.3	163
20	20	2000	292	71	365	244	191	198	37	9.8	6.7	64
21	19	1000	260	71	307	210	181	156	33	9.1	6.4	40
22	20	500	253	70	269	189	156	127	31	8.3	5.9	28
23	18	350	305	64	246	176	137	131	41	7.6	5.5	22
24	18	275	290	61	224	162	122	317	33	7.2	5.5	18
25	16	250	236	62	206	148	111	197	30	7.1	5.4	14
26	15	900	175	63	193	140	99	155	27	6.7	5.2	15
27	14	400	189	61	179	139	90	130	25	6.3	6.9	141
28	14	200	163	61	168	129	89	126	24	6.1	7.0	140
29	17	150	151	64	---	121	92	112	22	5.7	6.4	67
30	92	2500	140	64	---	114	605	107	28	5.7	6.3	7330
31	73	---	138	63	---	104	---	79	---	5.9	6.0	---
TOTAL	592.5	42233	24105	2436	10433	6383	20639	8875	4100	467.1	239.9	10310.5
MEAN	19.1	1408	778	78.6	373	206	688	286	137	15.1	7.74	344
MAX	92	8270	5000	129	1230	705	9470	2140	884	61	13	7330
MIN	8.4	27	138	61	62	91	89	67	22	5.7	5.2	4.2
CAL YR 1985		TOTAL	221754.9	MEAN	608	MAX	18400	MIN	8.4			
WTR YR 1986		TOTAL	130814.0	MEAN	358	MAX	9470	MIN	4.2			

OSAGE RIVER BASIN

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06921070 POMME DE TERRE RIVER NEAR POLK, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1983 to February 1986 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1970 to June 1974.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 32.5°C, July 2, Aug. 2-5, 1970; minimum, 0.0°C, Feb. 4, 1972.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 08...	1200	7.9	420	8.10	14.0	9.0	86	13	60	230
NOV 12...	1145	28	452	8.00	15.0	8.6	84	16	22	--
DEC 03...	1145	761	294	7.70	7.0	11.4	92	10	1000	--
JAN 07...	1135	95	362	8.20	1.0	13.3	91	<10	K3	200
FEB 10...	1200	348	332	8.30	1.5	13.5	95	17	120	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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 08...	1	46	27	3.9	2.7	218	3.5	15	9.7	<0.10
NOV 12...	--	--	--	--	--	220	4.4	--	--	--
DEC 03...	--	--	--	--	--	139	5.5	--	--	--
JAN 07...	17	44	23	4.3	1.8	183	2.3	11	9.2	<0.10
FEB 10...	--	--	--	--	--	166	1.6	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[illegible]

OSAGE RIVER BASIN

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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 upstream from county highway bridge, 0.5 mi downstream from Panther Creek, 2.5 mi northeast of Polk, and 11 mi upstream from Ingalls Creek.

DRAINAGE AREA.--112 mi².

PERIOD OF RECORD.--April 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 884.08 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 25, 1957, nonrecording gage at site 30 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records fair. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--29 years, 96.9 ft³/s, 11.74 in/yr, 70,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft³/s, May 5, 1961, gage height, 23.60 ft, from rating extended above 12,000 ft³/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.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 14	0945	*10,600	*17.82	Apr. 6	0630	2,960	11.87
Nov. 18	1345	8,560	16.89	Apr. 8	0530	4,820	14.38
Dec. 1	0415	5,800	15.19	Apr. 30	2400	2,790	11.58
Dec. 11	0900	2,630	11.31	May 15	0445	2,130	10.33
Feb. 3	1200	8,580	16.90				

Minimum discharge, no flow several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	52	2520	49	18	55	21	1090	11	4.4	.12	.00
2	.93	31	152	49	20	55	25	185	8.9	4.8	.12	.00
3	.96	15	91	48	4190	47	54	125	8.2	5.4	.11	.00
4	1.1	9.8	74	47	1130	42	233	99	8.0	5.4	.10	.00
5	.83	8.3	64	40	336	40	153	79	409	4.1	.09	.00
6	.65	7.5	47	37	485	37	1040	68	321	3.1	.08	.00
7	.56	5.8	39	34	443	32	828	57	176	2.4	.08	.00
8	.45	5.5	36	28	244	29	2020	44	168	1.9	.08	.00
9	.41	5.6	34	27	198	29	288	40	298	1.4	.07	.00
10	.43	5.3	375	27	161	29	197	30	308	.91	.07	.00
11	.59	4.2	1590	28	136	29	155	30	135	.73	.07	33
12	.71	6.8	299	29	121	284	130	24	95	.68	.06	28
13	.94	264	222	27	104	155	109	28	61	.57	.06	1.8
14	1.8	5440	171	28	108	111	125	50	38	.44	.06	1.1
15	2.8	1260	144	27	98	89	97	754	27	.37	.05	3.5
16	2.7	293	143	27	248	76	82	176	18	.33	.04	3.5
17	2.8	122	130	28	252	70	74	134	12	.30	.04	195
18	4.0	4980	110	31	166	72	70	122	8.4	.27	.02	112
19	4.7	2710	94	31	138	81	62	84	6.1	.25	.02	55
20	6.3	380	91	29	121	63	69	64	4.4	.23	.02	9.0
21	5.2	147	90	28	100	55	65	48	3.3	.21	.01	3.6
22	4.3	100	90	23	92	50	52	37	2.6	.19	.01	1.8
23	3.9	73	117	21	86	45	45	38	3.3	.19	.01	1.2
24	3.5	56	100	20	77	40	39	49	4.5	.18	.00	1.4
25	3.5	50	72	20	72	37	34	32	5.6	.17	.00	1.1
26	2.8	202	63	19	71	39	28	28	5.1	.17	.00	1.4
27	2.4	130	65	16	66	40	25	20	4.3	.16	.01	11
28	2.3	81	60	16	61	34	26	91	4.2	.16	.01	13
29	3.4	59	56	18	---	30	21	43	4.2	.16	.01	9.2
30	49	472	53	16	---	27	439	23	3.9	.13	.01	2260
31	43	---	59	16	---	24	---	15	---	.13	.00	---
TOTAL	158.16	16975.8	7251	884	9342	1846	6606	3707	2162.0	39.83	1.43	2745.60
MEAN	5.10	566	234	28.5	334	59.5	220	120	72.1	1.28	.05	91.5
MAX	49	5440	2520	49	4190	284	2020	1090	409	5.4	.12	2260
MIN	.41	4.2	34	16	18	24	21	15	2.6	.13	.00	.00
CAL YR 1985		TOTAL	86264.29	MEAN	236	MAX	10500	MIN	.17			
WTR YR 1986		TOTAL	51718.82	MEAN	142	MAX	5440	MIN	.00			

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 southwest of Hermitage.

DRAINAGE AREA.--611 mi².

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

GAGE.--Water-stage recorder. Non-recording gage prior to Nov. 9, 1961. Datum of gage is at National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Lake is formed by earthfill embankment with a concrete gravity section-type dam. Closure operation began on June 28, 1960; conservation pool level reached June 15, 1963. Capacity at top of flood control pool, 648,700 acre-ft at elevation, 874 ft, crest of spillway, of which 407,200 acre-ft between elevations 839 ft and 874 ft is used for flood control, and 228,700 acre-ft between elevation 783 ft and 839 ft is used for conservation and 12,840 acre-ft below elevation 783 ft is sediment storage. Lake used for flood control and recreational purposes.

COOPERATION.--Records were provided by the U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 481,000 acre-ft, Apr. 30, 1973, elevation, 862.35 ft, minimum, since initial filling to conservation pool level, 216,000 acre-ft, Mar. 3, 1964, elevation, 835.61 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 371,000 acre-ft, Nov. 21, elevation, 853.01 ft; minimum, 236,000 acre-ft, Sept. 10, elevation, 838.26 ft.

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	245000	243000	354000	245000	245000	244000	243000	247000	250000	250000	241000	237000
2	245000	243000	360000	245000	245000	244000	243000	251000	250000	250000	241000	237000
3	244000	243000	356000	245000	252000	244000	244000	252000	250000	250000	241000	236000
4	244000	243000	351000	245000	279000	244000	246000	253000	250000	249000	240000	237000
5	244000	243000	346000	245000	284000	244000	249000	253000	251000	249000	240000	237000
6	243000	243000	340000	245000	284000	244000	251000	253000	253000	249000	240000	236000
7	243000	243000	334000	244000	283000	244000	257000	253000	254000	248000	240000	236000
8	242000	243000	328000	244000	279000	244000	272000	254000	255000	248000	240000	236000
9	242000	243000	322000	244000	275000	244000	283000	254000	258000	248000	240000	236000
10	242000	243000	317000	244000	271000	244000	282000	254000	260000	248000	240000	236000
11	242000	243000	330000	243000	266000	244000	279000	254000	260000	247000	240000	237000
12	242000	243000	339000	243000	261000	245000	276000	254000	259000	247000	239000	237000
13	242000	245000	339000	243000	255000	247000	272000	255000	258000	247000	239000	237000
14	242000	258000	334000	242000	250000	249000	268000	255000	256000	247000	239000	237000
15	242000	292000	324000	243000	249000	248000	264000	258000	254000	246000	239000	237000
16	242000	301000	323000	243000	248000	248000	260000	261000	252000	246000	239000	237000
17	242000	305000	317000	243000	250000	247000	255000	259000	252000	246000	239000	237000
18	242000	306000	312000	243000	251000	246000	251000	256000	252000	246000	239000	240000
19	242000	352000	306000	244000	251000	246000	247000	253000	252000	245000	239000	242000
20	242000	370000	300000	244000	249000	244000	246000	252000	252000	245000	238000	242000
21	242000	371000	294000	244000	247000	244000	246000	252000	251000	244000	238000	242000
22	242000	368000	288000	244000	246000	244000	245000	252000	251000	244000	238000	242000
23	242000	363000	282000	244000	244000	243000	244000	252000	251000	244000	238000	244000
24	242000	359000	276000	245000	243000	243000	243000	252000	251000	243000	238000	244000
25	242000	354000	270000	245000	243000	243000	242000	252000	251000	243000	238000	244000
26	242000	349000	264000	245000	243000	243000	242000	252000	251000	243000	238000	244000
27	242000	346000	257000	245000	243000	242000	242000	251000	250000	242000	238000	244000
28	242000	340000	253000	245000	243000	242000	243000	251000	250000	242000	238000	245000
29	242000	338000	250000	245000	---	242000	242000	251000	250000	242000	237000	245000
30	242000	331000	246000	245000	---	242000	242000	251000	250000	241000	237000	250000
31	242000	---	245000	245000	---	243000	---	251000	---	241000	237000	---

WTR YEAR 1986

(†)	839.09	849.12	839.49	839.44	839.24	839.13	839.12	840.16	840.00	839.94	838.40	840.09
(‡)	-3000	+89000	-86000	0	-2000	0	-1000	+9000	-1000	-9000	-4000	+13000
MAX	245000	371000	360000	245000	284000	249000	283000	261000	260000	250000	241000	250000
MIN	242000	243000	245000	242000	243000	242000	242000	247000	250000	241000	237000	236000

CAL YR 1985.....-7000

WTR YR 1986.....+5000

(†) Elevation, in feet NGVD, at end of month.

(‡) Change in contents, in acre-feet.

OSAGE RIVER BASIN

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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 downstream from outlet of Pomme de Terre Lake, 2.5 mi southwest of Hermitage, 4.5 mi upstream from Green Branch, and at mile 43.4.

DRAINAGE AREA.--615 mi².

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

GAGE.-- Water-stage recorder. Datum of gage is 749.33 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature and specific conductance were made during the year. Flow regulated by Pomme de Terre Lake (station 06921325) 0.5 mi upstream. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--26 years, 504 ft³/s, 365,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,000 ft³/s, May 9, 1961, gage height, 15.02 ft; no flow Sept. 10, 1960, Mar. 9-17, 1971, and Nov. 4-6 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,610 ft³/s, Dec. 10, gage height 9.56 ft; minimum, 43 ft³/s, Jan. 15-18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	50	1270	297	47	199	102	106	322	119	52	52
2	111	50	2480	297	48	201	103	107	238	115	52	52
3	111	50	3380	297	130	202	103	108	117	115	52	53
4	113	50	3360	298	55	203	111	109	117	115	52	52
5	114	50	3400	297	897	123	105	110	117	115	52	52
6	113	49	3450	297	2170	145	106	111	118	115	52	52
7	114	49	3440	297	2850	203	548	112	118	115	52	53
8	114	49	3420	297	2830	203	1470	112	119	115	52	53
9	114	49	3410	297	2820	203	2100	112	348	114	52	53
10	114	50	3350	297	2810	204	2420	111	550	115	52	53
11	87	50	2080	297	2800	204	2420	111	807	115	52	56
12	51	51	2070	297	2830	210	2410	109	1040	115	52	53
13	50	570	2790	297	2850	206	2410	109	1040	115	52	53
14	50	1220	3390	150	2160	521	2400	232	1040	115	52	53
15	51	1220	3370	43	552	810	2400	1100	1040	114	53	53
16	51	1210	3360	43	551	808	2390	1980	674	115	53	53
17	50	1800	3340	43	551	806	2380	1980	112	115	52	55
18	50	2270	3330	44	669	706	2380	1980	112	115	52	53
19	50	2280	3330	44	1220	806	1340	1220	113	115	52	54
20	50	2280	3310	44	1490	806	657	314	114	115	52	54
21	50	2670	3280	45	1350	520	654	314	114	115	52	54
22	49	3010	3270	45	1060	292	653	314	114	115	52	54
23	49	2990	3300	45	1060	337	653	315	114	115	52	66
24	50	2970	3320	45	782	338	652	315	114	115	52	55
25	51	2960	3300	46	197	338	337	317	114	116	53	55
26	51	2950	3280	47	198	340	103	317	114	115	52	57
27	51	2940	2820	47	199	339	104	319	114	115	53	58
28	51	2920	1980	46	199	197	105	320	114	115	52	55
29	52	2920	1980	47	---	101	105	320	115	79	52	58
30	50	2920	1310	47	---	101	106	322	115	52	52	91
31	51	---	297	47	---	102	---	322	---	52	52	---
TOTAL	2226	42697	89467	4780	35375	10774	31827	13728	9398	3406	1616	1665
MEAN	71.8	1423	2886	154	1263	348	1061	443	313	110	52.1	55.5
MAX	114	3010	3450	298	2850	810	2420	1980	1040	119	53	91
MIN	49	49	297	43	47	101	102	106	112	52	52	52
CAL YR 1985	TOTAL		460890	MEAN		1263	MAX	3590	MIN		49	
WTR YR 1986	TOTAL		246959	MEAN		677	MAX	3450	MIN		43	

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 downstream from bridge on State Highway B, 0.9 mi east of Archie, 1.4 mi upstream from Mormon Fork, and 7.4 mi downstream from South Fork.

DRAINAGE AREA.--356 mi².

PERIOD OF RECORD.--October 1969 to September 1986 (discontinued).

REVISED RECORDS.--WDR MO-80-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 768.99 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 1-3, 23-26, Jan. 1, 3, 4, 8, and Feb. 12. Records fair. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--17 years, 301 ft³/s, 11.48 in/yr, 218,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,600 ft³/s, June 10, 1984, gage height, 18.80 ft; maximum gage height, 19.4 ft, Oct. 13, 1969; no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Nov. 13, 1928, and Sept. 15, 1961, reached stages of 27.6 ft and 28.8 ft, respectively, at point 1 mi northeast of gage, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharges (ft ³ /s)	Gage height (ft)
Oct. 11	0330	6,480	10.90	May 17	1545	9,220	12.94
Oct. 12	1545	6,850	11.20	Sept. 23	1430	19,900	19.16
Nov. 16	0400	21,100	19.78	Sept. 28	0630	10,900	14.11
May 13	1800	9,090	12.86	Sept. 30	1630	*24,200	*21.25

Minimum daily discharge, 2.7 ft³/s, Aug. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	745	93	155	110	45	74	66	51	60	485	3.2	9.6
2	378	85	150	113	63	68	70	57	50	208	2.7	7.4
3	260	76	145	110	1010	68	403	58	44	78	3.1	5.7
4	226	70	141	110	1140	66	2010	152	41	32	3.1	5.2
5	305	64	153	113	647	63	861	100	45	22	3.0	4.2
6	185	63	158	86	415	62	396	68	175	738	3.5	4.1
7	139	60	156	81	517	58	268	56	200	998	6.2	4.1
8	109	58	338	70	338	53	469	50	143	294	7.4	4.1
9	129	54	855	59	227	52	275	42	124	121	29	4.1
10	2730	51	1140	56	166	66	184	651	71	68	53	4.1
11	4710	48	3240	56	127	250	158	556	66	2320	75	10
12	4620	54	741	57	115	183	146	165	74	875	34	51
13	2460	388	435	57	109	151	123	5170	48	786	16	34
14	634	1120	298	58	100	130	107	3110	167	217	10	19
15	421	15900	308	54	102	108	97	1800	1200	121	44	9.9
16	301	14900	373	57	100	93	85	721	185	75	60	13
17	233	1550	354	67	117	85	78	5640	86	52	30	71
18	1830	1910	222	90	128	97	76	2420	54	36	19	1610
19	1430	3930	193	96	131	157	80	546	38	24	12	1510
20	480	838	152	100	128	125	77	336	26	17	9.1	192
21	331	467	134	96	109	90	68	244	19	12	9.1	86
22	260	370	143	94	84	79	62	189	15	10	9.5	49
23	212	314	200	82	79	78	55	156	14	8.8	8.0	14900
24	185	267	190	69	79	73	53	133	12	8.4	5.7	5400
25	154	228	185	68	79	68	50	112	9.8	6.2	4.6	536
26	135	237	175	67	79	82	46	93	8.2	4.1	6.3	238
27	122	248	163	47	80	165	42	78	33	4.1	375	5780
28	111	196	140	49	82	130	46	69	84	15	135	7570
29	104	169	117	46	---	103	59	86	64	13	46	9820
30	98	162	105	45	---	90	55	65	29	7.7	24	23400
31	94	---	118	44	---	75	---	65	---	5.5	14	---
TOTAL	24131	43970	11377	2307	6396	3042	6565	23039	3185.0	7661.8	1060.5	71351.5
MEAN	778	1466	367	74.4	228	98.1	219	743	106	247	34.2	2378
MAX	4710	15900	3240	113	1140	250	2010	5640	1200	2320	375	23400
MIN	94	48	105	44	45	52	42	42	8.2	4.1	2.7	4.1
CAL YR 1985		TOTAL	279962.8	MEAN	767	MAX	16100	MIN	4.4			
WTR YR 1986		TOTAL	204085.8	MEAN	559	MAX	23400	MIN	2.7			

OSAGE RIVER BASIN

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06921600 SOUTH GRAND RIVER AT URICH, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°27'08", long 94°00'13", in SE¼NW¼ sec.10, T.42 N., R.28 W., Henry County, Hydrologic Unit 10290108, at bridge on County Highway K, 0.5 mi south of Urich, 1.0 mi upstream from White Oak Creek, and 1.7 mi downstream from Knob Creek.

DRAINAGE AREA.--670 mi².

PERIOD OF RECORD.--October 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CAO3) (00900)	HARD- NESS WH WAT TOT FLD MG/L AS CAO3 (00902)
OCT 11...	0800	205	7.50	12.0	8.8	80	59	K14000	93	19
NOV 13...	1045	210	7.40	13.0	6.2	58	95	>6000	--	--
DEC 03...	1645	450	7.80	1.0	12.8	88	14	1000	--	--
JAN 10...	0830	530	7.80	0.5	8.4	57	36	27	260	41
FEB 12...	1620	390	7.80	0.5	13.6	92	32	K26	--	--
MAR 18...	1445	545	8.20	9.0	11.0	96	19	22	--	--
APR 10...	0900	398	7.70	14.5	8.0	77	36	K900	180	26
MAY 15...	0830	218	7.60	18.0	7.3	77	160	K15000	--	--
JUN 04...	1335	422	8.20	25.5	7.2	88	23	76	--	--
JUL 07...	1600	172	7.40	23.0	5.8	66	75	5300	--	--
AUG 07...	0830	387	7.60	26.5	3.8	47	36	270	--	--
SEP 16...	1400	300	8.60	22.0	5.6	63	28	K24	--	--

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)	ALKA- LINITY WH WAT TOTAL FIELD (MG/L AS CAO3) (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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
OCT 11...	31	3.9	4.5	4.5	74	4.5	24	5.4	0.10	138
NOV 13...	--	--	--	--	71	6.0	--	--	--	--
DEC 03...	--	--	--	--	174	5.4	--	--	--	--
JAN 10...	87	11	17	3.6	217	6.8	58	13	0.20	333
FEB 12...	--	--	--	--	154	4.7	--	--	--	--
MAR 18...	--	--	--	--	174	2.2	--	--	--	--
APR 10...	59	7.7	10	3.8	147	5.9	43	9.7	0.20	246
MAY 15...	--	--	--	--	74	3.5	--	--	--	--
JUN 04...	--	--	--	--	176	2.1	--	--	--	--
JUL 07...	--	--	--	3.1	66	5.1	22	3.0	0.30	116
AUG 07...	--	--	--	--	157	7.8	--	--	--	--
SEP 16...	--	--	--	--	128	0.4	--	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

06921600 SOUTH GRAND RIVER AT URICH, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT									
11...	416	0.600	0.120	0.470	1	2	16	2	14000
NOV									
13...	292	0.600	0.160	0.490	--	--	--	--	--
DEC									
03...	17	0.900	0.120	0.100	--	--	--	--	--
JAN									
10...	128	1.00	0.310	0.160	<1	<1	10	2	2200
FEB									
12...	31	1.30	0.110	0.100	--	--	--	--	--
MAR									
18...	6	1.90	0.030	0.020	--	--	--	--	--
APR									
10...	94	0.900	0.160	0.170	<1	<1	15	4	3200
MAY									
15...	1970	2.40	0.230	0.310	--	--	--	--	--
JUN									
04...	26	<0.100	0.020	0.070	--	--	--	--	--
JUL									
07...	1050	0.800	0.230	0.340	<1	--	27	11	39000
AUG									
07...	38	<0.100	0.180	0.100	--	--	--	--	--
SEP									
16...	26	0.100	0.020	0.130	--	--	--	--	--

[illegible]

OSAGE RIVER BASIN

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06922190 WEST FORK TEBO CREEK NEAR LEWIS, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°25'16", long 93°39'36", in NW¼NW¼ sec.23, T.42 N., R.25 W., Henry County, Hydrologic Unit 10290108, at bridge on county road, 2 miles southeast of Lewis.

PERIOD OF RECORD.--November 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
OCT												
11...	1100	4.3	2150	7.80	13.0	8.6	81	370	1200	930	280	110
NOV												
13...	0900	694	460	7.40	14.0	4.0	38	>6000	190	110	53	15
DEC												
03...	1430	22	1650	7.80	2.0	12.8	91	160	860	660	220	76
JAN												
10...	1145	3.0	2100	7.90	0.5	14.6	99	K3	1200	940	290	110
FEB												
13...	0830	4.0	1390	8.00	0.5	12.6	86	88	1000	800	260	85
MAR												
18...	1315	2.0	1900	8.00	12.0	12.1	114	84	1000	800	260	88
APR												
10...	0730	2.1	1580	7.90	9.0	10.1	86	420	850	670	220	73
MAY												
15...	0730	5.0	1590	7.90	18.0	7.0	74	K1400	1000	830	260	87
JUN												
04...	1510	3.8	1940	8.00	23.5	8.0	95	440	1100	870	280	92
JUL												
07...	1430	1.0	2200	7.90	27.0	9.6	119	180	1300	1100	330	110
AUG												
07...	1030	2.0	2040	7.80	23.0	7.4	86	K260	1200	1000	310	100
SEP												
16...	1600	0.20	2030	7.80	21.0	7.0	77	K240	1100	950	300	92

DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3 (00410)	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											
11...	63	6.2	221	1200	6.5	0.40	8.5	1890	<0.100	0.20	0.040
NOV											
13...	9.1	5.2	75	150	5.0	0.20	6.4	297	0.500	3.0	0.440
DEC											
03...	43	4.7	200	780	5.8	<0.10	9.8	1330	0.400	0.50	0.040
JAN											
10...	60	5.6	239	1100	6.6	0.40	8.4	1930	0.200	0.30	0.010
FEB											
13...	50	5.5	199	880	8.1	0.30	9.9	1470	0.600	0.50	0.040
MAR											
18...	56	5.8	209	870	6.9	0.40	4.0	1660	<0.100	0.30	0.010
APR											
10...	44	5.4	180	720	7.7	0.30	6.0	1310	0.100	0.40	0.030
MAY											
15...	55	6.5	179	990	6.6	0.40	6.4	1640	0.300	0.60	0.080
JUN											
04...	60	6.8	211	1100	6.9	0.40	8.1	1780	0.400	0.50	0.060
JUL											
07...	65	8.3	171	1200	6.9	0.40	9.1	1970	0.600	0.50	0.040
AUG											
07...	61	8.0	161	970	6.5	0.40	8.3	1680	0.100	0.50	0.090
SEP											
16...	63	7.4	168	1000	6.6	0.40	8.2	1870	0.100	0.30	0.070

K--Results based on colony count outside the acceptable range (non-ideal colony count).

OSAGE RIVER BASIN

06922190 WEST FORK TEBO CREEK NEAR LEWIS, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01108)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01029)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)
OCT 11...	50	--	1	--	<10	--	3	--
JAN 10...	150	420	1	1	<10	100	1	20
APR 10...	120	3700	<1	1	10	960	5	3
JUL 07...	80	3600	<1	1	<10	9	4	30

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)
OCT 11...	120	--	1	--	90	--	30	--
JAN 10...	260	2100	<1	30	1700	2400	20	70
APR 10...	270	29000	3	90	480	32000	20	100
JUL 07...	100	14000	<5	10	110	1300	20	50

06922440 HARRY S. TRUMAN RESERVOIR AT WARSAW, MO

LOCATION.-- Lat 38°15'30", long 93°23'40", in sec.7, T.40 N., R.22 W., Benton County, Hydrologic Unit 10290105, in control room near middle of dam on Osage River, and 1.5 mi northwest of Warsaw and at mile 175.

DRAINAGE AREA.--11,500 mi².

PERIOD OF RECORD.--October 1981 to current year. Records collected at same site since 1977 and are available from U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929.

REMARKS.--Lake is formed by a rolled earthfill type dam. Storage began on July 21, 1977. Spillway is equipped with 4 tainter gates 40 ft wide by 47.3 ft high. Capacity of surcharge pool (elevations 739.6 ft to 751.1 ft), 2,911,000 acre-ft; of flood control pool (elevations 706.0 ft to 739.6 ft, 4,006,000 acre-ft; and of multipurpose pool (elevations 635.0 ft to 706.0), 1,203,000 acre-ft. Lake is used for flood control, hydroelectric power, recreation, fish and wildlife conservation.

COOPERATION.--Records were provided by the U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,887,000 acre-ft, May 6, 1982, elevation, 732.50 ft, minimum, 41,700 acre-ft, Nov. 14, 1978, elevation, 661.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,475,000 acre-ft, Nov. 24, elevation, 721.87 ft; minimum 1,167,000 acre-ft, Feb. 28, elevation, 705.33 ft.

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1271000	1221000	2366000	1369000	1215000	1177000	1207000	1209000	1210000	1207000	1179000	1213000
2	1289000	1233000	2387000	1325000	1220000	1185000	1212000	1216000	1214000	1235000	1184000	1214000
3	1297000	1245000	2379000	1287000	1295000	1190000	1215000	1225000	1212000	1250000	1185000	1214000
4	1300000	1239000	2340000	1280000	1376000	1201000	1244000	1231000	1212000	1256000	1184000	1216000
5	1283000	1221000	2272000	1275000	1418000	1209000	1280000	1230000	1217000	1258000	1185000	1211000
6	1256000	1216000	2203000	1264000	1445000	1212000	1306000	1218000	1216000	1256000	1185000	1200000
7	1221000	1211000	2138000	1248000	1451000	1203000	1322000	1197000	1239000	1240000	1185000	1201000
8	1199000	1216000	2073000	1240000	1450000	1213000	1338000	1186000	1260000	1226000	1185000	1201000
9	1193000	1235000	2013000	1237000	1441000	1220000	1352000	1184000	1253000	1220000	1185000	1200000
10	1191000	1234000	2021000	1234000	1423000	1224000	1363000	1189000	1239000	1210000	1186000	1199000
11	1184000	1243000	2168000	1231000	1400000	1213000	1370000	1193000	1224000	1212000	1186000	1203000
12	1214000	1235000	2210000	1228000	1362000	1220000	1370000	1195000	1215000	1236000	1186000	1206000
13	1225000	1233000	2206000	1218000	1320000	1228000	1349000	1205000	1202000	1273000	1186000	1208000
14	1305000	1290000	2169000	1210000	1280000	1233000	1321000	1217000	1207000	1289000	1186000	1211000
15	1356000	1401000	2126000	1209000	1259000	1244000	1284000	1257000	1215000	1296000	1188000	1208000
16	1367000	1510000	2078000	1211000	1241000	1254000	1247000	1258000	1217000	1280000	1190000	1202000
17	1353000	1638000	2025000	1208000	1226000	1244000	1210000	1310000	1231000	1258000	1191000	1206000
18	1366000	1846000	1984000	1214000	1217000	1222000	1202000	1369000	1226000	1217000	1191000	1202000
19	1380000	2123000	1958000	1218000	1217000	1202000	1216000	1459000	1211000	1213000	1192000	1196000
20	1400000	2318000	1918000	1215000	1205000	1183000	1228000	1525000	1191000	1216000	1194000	1184000
21	1413000	2423000	1878000	1216000	1202000	1176000	1190000	1551000	1176000	1201000	1197000	1197000
22	1419000	2452000	1837000	1211000	1216000	1186000	1179000	1528000	1172000	1188000	1199000	1209000
23	1419000	2470000	1797000	1202000	1229000	1195000	1181000	1511000	1172000	1196000	1202000	1263000
24	1410000	2475000	1754000	1201000	1210000	1187000	1192000	1484000	1174000	1199000	1203000	1327000
25	1393000	2474000	1711000	1206000	1199000	1193000	1201000	1446000	1177000	1201000	1205000	1387000
26	1369000	2468000	1673000	1211000	1189000	1198000	1205000	1394000	1180000	1203000	1206000	1434000
27	1336000	2440000	1634000	1206000	1169000	1195000	1210000	1336000	1184000	1204000	1209000	1445000
28	1292000	2391000	1589000	1208000	1167000	1202000	1208000	1275000	1186000	1198000	1211000	1438000
29	1261000	2336000	1538000	1210000	---	1207000	1193000	1235000	1191000	1185000	1212000	1468000
30	1238000	2290000	1487000	1207000	---	1211000	1201000	1192000	1188000	1177000	1212000	1666000
31	1216000	---	1431000	1208000	---	1207000	---	1202000	---	1176000	1213000	---

WTR YR 1986

(†)	706.23	720.08	709.75	706.09	705.33	706.07	705.95	705.98	705.72	705.51	706.17	713.03
(‡)	-48000	+1074000	-859000	-223000	-41000	+40000	-6000	+1000	-14000	-12000	+37000	+453000
MAX	1419000	2475000	2387000	1369000	1451000	1254000	1370000	1551000	1260000	1296000	1213000	1666000
MIN	1184000	1211000	1431000	1201000	1167000	1176000	1179000	1184000	1172000	1176000	1179000	1184000

CAL YR 1985.....+48000

WTR YR 1986.....+402000

(†) Elevation, in feet NGVD, at end of month.

(‡) Change in contents, in acre-feet.

OSAGE RIVER BASIN

06922450 OSAGE RIVER BELOW HARRY S. TRUMAN DAM AT WARSAW, MO

LOCATION.--Lat 38°15'41", long 93°24'16", NE¼SW¼ sec.17, T.40 N., R.22 W., Benton County, Hydrologic Unit 10290109, on right bank 2,000 ft below Harry S. Truman Dam, and 1.5 mi northwest of Warsaw.

DRAINAGE AREA.--7,856 mi² uncontrolled area below other reservoirs.

PERIOD OF RECORD.--May 1978 to current year.

GAGE.--Acoustic flow monitor. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--No estimated daily discharges. Records are fair above 500 ft³/s and poor below 500 ft³/s. Records not published prior to 1982 water year due to test period of acoustic flow monitor which included periods of unreliable record. Flow completely regulated by Harry S. Truman Dam (station 06922440) 2,000 ft upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 52,700 ft³/s, Dec. 17, 1985; no flow most years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 52,700 ft³/s, Dec. 17; no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2985 TO SEPTEMBER 2986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19600	4460	21900	36200	0	0	2960	1250	0	125	500	500
2	20400	1280	14100	27900	0	0	2280	0	0	8000	500	500
3	18300	270	25300	25300	9400	0	7760	0	5100	14400	500	406
4	18700	10700	37100	9910	11900	0	8880	0	3800	14100	500	172
5	19000	13100	51100	9950	13200	3370	11500	5120	0	14200	500	12900
6	19300	8200	50700	10500	18500	2240	11500	8470	7630	13900	500	125
7	20400	6750	50200	14700	25200	8050	14900	14500	0	17000	500	250
8	16600	2020	50400	10400	27300	0	23200	7330	0	17700	500	87
9	7000	0	48700	8480	27200	0	25500	3280	14500	16000	500	957
10	9160	0	33400	7620	27400	0	25700	0	13300	11700	500	483
11	10000	0	0	6350	28300	6630	25000	0	13900	7020	500	0
12	1410	13700	27100	3500	26200	7430	25800	5300	8660	1660	500	0
13	1850	14600	40200	8480	26700	7260	26200	3680	9810	2710	500	0
14	1660	13000	39600	5370	26900	8420	25900	0	0	15900	2680	0
15	1270	11700	52200	4590	13800	2080	26900	10200	342	17000	500	3580
16	26300	10300	52200	2620	14100	0	27100	21100	8630	27800	500	3420
17	23800	20500	52700	4810	14200	10900	27200	20800	1690	29000	500	1720
18	20000	12900	43200	0	13500	18900	13300	8030	11500	29900	500	10200
19	18900	935	43300	0	9590	15100	478	3540	10300	2100	500	12600
20	18300	6400	33400	5340	15700	13000	239	1500	11500	2620	500	15500
21	21500	28200	33700	2850	10000	8780	24000	13700	6490	14100	500	0
22	23400	47900	33900	2800	0	0	10400	34100	2000	5060	500	0
23	23400	49800	34100	8510	0	0	3070	36100	0	484	500	0
24	24700	52400	34300	4220	13600	8340	0	34700	0	531	500	17700
25	24400	52000	34700	0	9820	0	0	34500	371	1990	500	18400
26	24000	52000	33700	0	10900	0	0	34800	371	618	7	17300
27	24400	51100	33100	2970	14300	4520	0	37800	0	500	350	17400
28	27800	52300	33300	346	6830	0	4250	36600	0	5610	500	17000
29	19800	52700	33700	1340	---	0	10600	26200	0	6700	500	22800
30	18000	51500	34300	3660	---	0	1900	27500	0	5380	500	0
31	18800	---	33300	1220	---	5700	---	0	---	630	500	---
TOTAL	542150	640725	1138900	229936	414540	130720	386517	430100	129894	304438	17037	174000
MEAN	17490	21360	36740	7417	14810	4217	12880	13870	4330	9821	550	5800
MAX	27800	52700	52700	36200	28300	18900	27200	37800	14500	29900	2680	22800
MIN	1270	0	0	0	0	0	0	0	0	125	7	0
CAL YR 1985		TOTAL	7300369	MEAN	20000	MAX	52700	MIN	0			
WTR YR 1986		TOTAL	4438947	MEAN	12440	MAX	52700	MIN	0			

OSAGE RIVER BASIN

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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 downstream from spring outlet, 1.5 mi 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, 1964, 1965.

GAGE.--Nonrecording gage. Datum of gage 864.71 ft above 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 downstream at datum 2.30 ft 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.--Estimated daily discharges: Nov. 2, 11, 29, Dec. 5, 23-25, Jan. 11-13, Feb. 9, 22, Mar. 2-4, 14-16, 25-31, Apr. 3, 10, 21, 22, 26-28, 30, May 12, 13, 24-26, June 14, and Sept. 30. Records good. Several observations of water temperature and specific conductance were made during the year. Occasional runoff from drainage area of 42.4 mi² included in records.

AVERAGE DISCHARGE.--37 years (1916-19, 1928-41, 1965-86), 166 ft³/s, 120,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,000 ft³/s, Nov. 1, 1973, gage height, 9.14 ft, from floodmark, includes about 7,200 ft³/s from Spring Creek, by indirect measurement of peak flow over dam; minimum, about 55 ft³/s, Nov. 13, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,650 ft³/s, Nov. 18; minimum daily, 128 ft³/s, Oct. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137	138	767	240	163	191	168	593	206	196	155	144
2	136	136	582	237	163	189	165	393	206	191	157	144
3	136	134	460	231	185	188	174	330	203	186	155	144
4	134	133	410	225	298	187	183	309	201	183	155	142
5	134	132	370	220	270	186	209	279	240	183	155	142
6	134	132	345	217	246	183	220	270	341	176	157	140
7	134	132	323	209	270	179	915	261	465	174	157	138
8	134	130	305	203	255	179	902	249	451	172	157	138
9	134	130	292	201	245	179	615	240	489	174	152	138
10	134	130	365	198	231	179	526	231	377	172	159	138
11	132	130	705	197	217	176	437	273	341	170	155	148
12	132	130	615	196	209	193	428	259	305	174	152	165
13	132	220	499	195	203	213	357	245	286	170	152	150
14	132	504	451	193	203	208	330	231	279	165	152	144
15	132	1020	380	191	198	203	309	479	273	163	152	142
16	132	610	353	188	201	197	295	393	260	165	152	140
17	132	455	338	186	252	191	282	338	250	163	150	142
18	132	1650	326	186	249	193	273	316	240	161	150	273
19	130	915	317	186	243	188	261	295	228	161	150	240
20	130	755	309	183	240	183	258	273	225	161	148	198
21	130	743	289	181	220	176	250	261	222	157	146	179
22	130	524	289	179	215	176	242	252	217	159	146	170
23	130	410	284	176	211	174	234	246	217	159	146	161
24	130	393	280	174	201	172	228	241	211	157	144	161
25	130	365	270	172	201	172	222	237	209	157	144	161
26	130	338	270	170	201	172	218	232	203	155	144	161
27	130	349	264	168	201	172	214	228	201	157	150	316
28	128	330	258	165	193	171	210	222	198	157	148	220
29	130	315	252	163	---	170	206	211	196	155	144	220
30	136	298	246	163	---	169	350	211	196	155	144	700
31	136	---	243	163	---	169	---	211	---	155	144	---
TOTAL	4103	11781	11457	5956	6184	5678	9681	8809	7936	5183	4672	5599
MEAN	132	393	370	192	221	183	323	284	265	167	151	187
MAX	137	1650	767	240	298	213	915	593	489	196	159	700
MIN	128	130	243	163	163	169	165	211	196	155	144	138
CAL YR 1985	TOTAL		113326	MEAN		310	MAX		3990	MIN		128
WTR YR 1986	TOTAL		87039	MEAN		238	MAX		1650	MIN		128

OSAGE RIVER BASIN

06923700 NIANGUA RIVER AT BENNETT SPRINGS, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°44'17", long 92°51'37", in SE¼SE¼ sec. 25, T.35 N., R.18 W., Dallas County, Hydrologic Unit 10290110, at bridge on Highway 64.

PERIOD OF RECORD.--October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 08...	1000	270	398	7.90	14.0	9.6	93	<10	26	210
NOV 12...	1020	145	418	7.50	16.5	7.7	78	<10	45	--
DEC 03...	1000	1900	205	7.50	4.5	11.3	85	10	1200	--
JAN 07...	0915	265	314	8.00	6.0	12.2	95	18	34	180
FEB 10...	1030	680	390	8.20	4.0	12.1	91	16	61	--
MAR 18...	0940	260	327	7.70	12.0	9.9	93	--	K19	--
APR 08...	1000	6300	190	7.60	14.0	9.0	86	57	11000	95
MAY 13...	0700	310	332	7.70	15.5	8.5	85	10	400	--
JUN 05...	0940	1250	212	7.70	19.0	7.8	84	31	K6500	--
JUL 07...	1020	225	350	7.70	17.0	9.6	98	<10	42	180
AUG 04...	1030	135	382	7.60	17.0	9.0	92	10	39	--
SEP 16...	0750	150	390	7.80	15.5	9.0	89	14	33	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LITY WH WAT TOTAL 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 08...	0	43	25	2.9	1.3	207	5.1	5.4	4.6	<0.10
NOV 12...	--	--	--	--	--	213	14	--	--	--
DEC 03...	--	--	--	--	--	109	7.3	--	--	--
JAN 07...	15	37	21	3.2	1.5	165	3.2	8.8	6.3	<0.10
FEB 10...	--	--	--	--	--	150	1.9	--	--	--
MAR 18...	--	--	--	--	--	152	6.0	--	--	--
APR 08...	4	20	11	2.0	2.1	88	4.4	12	3.6	<0.10
MAY 13...	--	--	--	--	--	160	6.4	--	--	--
JUN 05...	--	--	--	--	--	95	3.7	--	--	--
JUL 07...	17	38	21	2.9	1.6	161	6.3	7.3	4.6	<0.10
AUG 04...	--	--	--	--	--	196	9.8	--	--	--
SEP 16...	--	--	--	--	--	200	6.3	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 08...	209	6	1.00	0.070	0.030	5	<1	3	2	110
NOV 12...	--	1	0.700	0.050	0.030	--	--	--	--	--
DEC 03...	--	10	0.800	0.040	0.060	--	--	--	--	--
JAN 07...	175	1	0.900	0.020	0.010	<1	<1	1	1	<10
FEB 10...	--	6	0.700	0.030	0.020	--	--	--	--	--
MAR 18...	--	4	0.400	0.010	0.010	--	--	--	--	--
APR 08...	122	14	0.500	0.060	0.160	<1	<1	10	5	5200
MAY 13...	--	29	0.700	0.040	0.030	--	--	--	--	--
JUN 05...	--	153	0.400	0.080	0.130	--	--	--	--	--
JUL 07...	193	6	0.900	0.040	0.030	<1	<1	5	<1	20
AUG 04...	--	3	0.900	0.040	0.030	--	--	--	--	--
SEP 16...	--	3	0.900	0.050	0.050	--	--	--	--	--

[illegible]

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 southwest of Bagnell, and at mile 81.7.

DRAINAGE AREA.--14,000 mi².

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.

REMARKS.--Lake is formed by concrete gravity dam. Spillway is equipped with 12 taintor gates 34 ft wide by 22 ft high. Storage began in 1931. Usable capacity 1,218,000 acre-ft between elevations 630.00 ft (maximum draw-down) and 660.00 ft (top of gates). Dead storage, 708,800 acre-ft. Figures given herein are usable contents. Lake is used for flood control, power, and recreational purposes.

COOPERATION.--Records were provided by Union Electric Company of Missouri.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,527,000 acre-ft, May 22, 1943, elevation, 665.45 ft; minimum, 322,100 acre-ft, Feb. 13, 1948, elevation, 639.95 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,252,000 acre-ft, Dec. 1, elevation, 660.63 ft; minimum, 854,000 acre-ft, Mar. 31, and April 1, elevation, 653.14 ft.

MONTH END ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

Date	Elevation (feet)	Contents (acre-ft)	Change in contents (acre-feet)
Sept. 30	658.94	1,157,000	-----
Oct. 31	659.40	1,184,000	+27,000
Nov. 30	660.12	1,224,000	+40,000
Dec. 31	659.85	1,210,000	-14,000
CAL YR 1985	-----	-----	-49,000
Jan. 31	656.08	1,002,000	-208,000
Feb. 28	655.08	950,000	-52,000
Mar. 31	653.14	854,000	-96,000
Apr. 30	655.58	976,000	+122,000
May 31	658.34	1,123,000	+147,000
June 30	658.83	1,151,000	+28,000
July 31	658.94	1,157,000	+6,000
Aug. 31	658.64	1,140,000	-17,000
Sept. 30	659.33	1,180,000	+40,000
WTR YR 1986	-----	-----	+23,000

OSAGE RIVER BASIN

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06926000 OSAGE RIVER NEAR BAGNELL, MO

LOCATION.--Lat 38°11'29", long 92°36'26", in NW¼NE¼SE¼ sec.29, T.40 N., R.15 W., Miller County, Hydrologic Unit 10290111, on center pier of U.S. Highway 54 bridge, 1.3 mi downstream from hydroelectric plant of Union Electric Company of Missouri, and at mile 80.5.

DRAINAGE AREA.--14,000 mi², approximately.

PERIOD OF RECORD.--October 1880 to current year. Monthly discharge only for some periods published in WSP 1310. Gage-height records collected in this vicinity 1880-1931 are contained in reports of Missouri River Commission or National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 549.13 ft above National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway and Transportation Commission). Nonrecording gage from Oct. 1880 to Oct. 15, 1930 and recording gage from Oct. 15, 1930 to Sept. 30, 1979 at site 1.7 mi downstream at datum 0.56 ft lower.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Lake of the Ozarks (station 06925500) 1.3 mi upstream.

AVERAGE DISCHARGE.--106 years, 9,750 ft³/s, 7,064,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 220,000 ft³/s, May 19, 1943, gage height, 48.8 ft (former site and datum); minimum, 183 ft³/s, Sept. 9, 1969; minimum daily discharge, 220 ft³/s, Dec. 12, 1917.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage prior to 1943, 43.1 ft in June 1844 (former site and datum), discharge, 164,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 56,800 ft³/s, Dec. 1; minimum, 430 ft³/s, Nov. 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16900	16800	56200	34000	1070	12000	3720	5300	750	1060	1870	518
2	18500	5460	45600	34100	532	1260	3440	1810	2250	915	720	615
3	19700	982	30600	32900	16600	9820	4420	900	1190	9660	705	765
4	21100	7840	35600	31300	32800	7420	12300	668	1240	12900	712	765
5	19900	8440	48800	14900	31900	1160	9920	1790	832	11500	705	5660
6	18800	11700	52400	15000	30800	4320	9280	5260	3860	13200	690	1460
7	15300	12000	52700	13800	31500	7020	18000	8140	10100	14700	720	772
8	11900	7000	52700	13500	31800	1650	19300	2840	4300	14200	735	682
9	18800	690	51200	11400	31800	502	20500	7520	9100	14400	750	2820
10	12700	440	41800	12900	31700	495	31400	1310	13100	13400	730	1070
11	12600	1320	39400	5510	31700	7140	31500	750	13600	12600	780	1630
12	1740	8920	42500	6820	31600	10400	27400	728	15200	4000	750	840
13	495	14100	48200	9280	31600	12400	25500	780	11800	5080	862	788
14	2200	20600	48200	9520	29500	10300	25700	720	1930	13000	855	765
15	2610	33700	48300	5680	16400	10000	24200	11700	742	16800	1260	660
16	18300	33700	48300	5930	19100	4460	25400	26600	10600	20700	772	510
17	20000	33000	48400	4660	17300	9020	22700	27200	6460	24400	758	2600
18	23300	34800	43900	1510	18000	9060	14300	7700	4000	26600	1800	11100
19	21600	40400	33700	510	18800	14300	5200	892	8700	27600	968	7040
20	19200	46600	33300	6720	18300	16000	3920	720	9000	1660	750	6520
21	21000	46900	33200	8540	16800	14300	8180	13400	3020	510	1130	13400
22	27500	47500	33400	8900	10200	2350	13600	30300	1460	4910	960	3440
23	26400	48700	33400	9500	8000	495	10400	32100	1870	3560	772	16400
24	26300	48800	33300	11100	15800	7680	8120	32200	1400	3830	765	22900
25	27100	49600	33200	1210	19300	8700	960	32100	4980	5200	2140	18300
26	17900	51900	33700	540	17000	3580	622	32100	3210	3540	2540	24000
27	18100	53200	34100	10900	8780	5640	638	32200	1160	622	1090	26000
28	24400	53300	34000	6200	13800	3560	2260	32200	698	1810	1020	20500
29	19400	53200	34000	6020	---	810	3680	22800	1140	8780	772	21400
30	13100	53400	34100	6540	---	465	705	16500	2280	6160	772	25900
31	19000	---	34000	6220	---	5020	---	4430	---	4700	712	---
TOTAL	535845	844992	1272200	345610	582482	201327	387265	393658	149972	301997	30565	239820
MEAN	17290	28170	41040	11150	20800	6494	12910	12700	4999	9742	986	7994
MAX	27500	53400	56200	34100	32800	16000	31500	32200	15200	27600	2540	26000
MIN	495	440	30600	510	532	465	622	668	698	510	690	510
CAL YR 1985	TOTAL		8829396	MEAN		24190	MAX		59300	MIN		440
WTR YR 1986	TOTAL		5285733	MEAN		14480	MAX		56200	MIN		440

OSAGE RIVER BASIN

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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", in NW¼NW¼ sec.1, T.42 N., R.12 W., Cole County, Hydrologic Unit 10290111, at bridge on State Highway B, 3.8 mi north of St. Thomas, 8.6 mi downstream from gaging station, and at mile 34.5.

DRAINAGE AREA.--14,500 mi² approximately.

PERIOD OF RECORD.--October 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to September 1981.

WATER TEMPERATURE: October 1974 to September 1981.

REMARKS.--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 microsiemens, Jan. 1, 1981; minimum daily, 140 microsiemens, Sept. 3, 1981.

WATER TEMPERATURE: Maximum daily, 30.0°C, July 29, 1977, July 25, Aug. 11, 1980; minimum daily, 0.0°C, Jan. 21, 1978.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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)
NOV										
15...	1005	34200	240	8.30	14.5	19	8.8	85	660	1200
JAN										
16...	0950	4890	242	7.90	2.0	0.20	15.6	112	170	K44
MAR										
04...	1315	9150	236	8.10	5.0	14	11.8	90	K4	K8
MAY										
08...	1330	6200	285	7.70	17.5	6.5	9.3	96	54	69
JUL										
18...	1130	21800	308	7.90	25.0	6.2	5.3	63	K40	100
SEP										
02...	1100	1170	300	8.20	23.5	2.6	8.6	99	K2	K5

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD 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)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
NOV										
15...	120	9	33	8.4	4.9	8	0.2	2.7	115	26
JAN										
16...	110	19	33	7.8	4.9	8	0.2	3.3	93	20
MAR										
04...	120	16	33	8.6	4.3	7	0.2	2.8	100	19
MAY										
08...	130	21	35	10	5.2	8	0.2	2.7	107	28
JUL										
18...	140	20	38	10	5.9	8	0.2	2.9	115	36
SEP										
02...	140	22	38	11	6.4	9	0.2	2.6	112	34

K--Results based on colony count outside the acceptable range (non-ideal colony count).

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
NOV 15...	4.5	0.20	3.6	142	150	0.19	13100	0.380	0.020
JAN 16...	5.0	0.10	8.4	156	140	0.21	2060	0.510	0.040
MAR 04...	5.3	0.10	5.9	149	140	0.20	3680	0.560	0.030
MAY 08...	6.2	<0.10	1.5	162	150	0.22	2710	0.420	0.050
JUL 18...	6.2	0.10	3.2	176	170	0.24	10400	0.100	0.100
SEP 02...	6.6	0.20	3.6	--	170	0.24	548	<0.100	0.020

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDIMENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDIMENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. 1/2 FINER THAN .062 MM (70331)
NOV 15...	0.03	0.60	0.050	0.15	0.030	0.020	64	5910	75
JAN 16...	0.05	0.50	0.080	--	0.050	0.040	29	383	84
MAR 04...	0.04	0.40	0.060	--	0.030	0.020	7	166	--
MAY 08...	0.06	0.50	0.030	--	0.020	<0.010	20	335	65
JUL 18...	0.13	0.70	0.040	--	0.030	0.030	25	1470	65
SEP 02...	0.03	0.40	0.090	--	0.130	0.040	2	6.9	--

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 15...	30	<1	61	<0.5	<1	<1	<3	3	30	2
JAN 16...	740	<1	60	<0.5	<1	<1	<3	4	230	1
MAY 08...	70	<1	67	<0.5	<1	<1	<3	4	39	1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 15...	<4	<1	<0.1	<10	1	<1	<1	110	<6	14
JAN 16...	<4	42	0.2	<10	5	<1	<1	120	<6	14
MAY 08...	4	10	<0.1	<10	3	<1	<1	110	<6	9

GASCONADE RIVER BASIN

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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 northwest of Hooker.

PERIOD OF RECORD.--July 1977 to February 1986 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 28...	1100	280	380	7.90	15.0	9.0	87	11	82	200
NOV 26...	1330	3000	268	8.40	11.0	9.6	86	<10	840	--
DEC 23...	1345	1700	286	7.90	5.5	11.6	92	<10	K8	--
JAN 29...	1115	520	328	8.20	3.5	14.8	109	12	K2	190
FEB 25...	1000	1200	310	8.50	6.0	10.1	80	15	K6	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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 28...	0	40	25	2.7	1.7	198	5.0	8.6	4.6	<0.10
NOV 26...	--	--	--	--	--	140	0.8	--	--	--
DEC 23...	--	--	--	--	--	140	3.5	--	--	--
JAN 29...	26	39	23	2.8	1.4	167	2.0	11	5.7	<0.10
FEB 25...	--	--	--	--	--	134	0.8	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

06928600 GASCONADE RIVER NEAR HOOKER, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 28...	208	10	<0.100	0.030	0.010	1	<1	3	1	200
NOV 26...	--	15	0.900	0.040	0.040	--	--	--	--	--
DEC 23...	--	3	0.900	0.030	0.020	--	--	--	--	--
JAN 29...	184	1	0.200	0.010	0.010	<1	<1	8	<1	70
FEB 25...	--	6	0.300	0.030	0.010	--	--	--	--	--

[illegible]

GASCONADE RIVER BASIN

167

06930450 BIG PINEY RIVER AT DEVILS ELBOW, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°50'53", long 92°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.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 28...	0900	460	334	7.90	14.0	8.6	82	26	80	180
NOV 26...	1230	470	248	8.50	12.5	9.6	90	<10	K100	--
DEC 23...	1230	960	246	8.10	6.0	12.2	98	<10	K6	--
JAN 29...	0930	490	295	8.10	2.5	14.2	102	10	K3	170
FEB 25...	1100	640	265	8.20	7.0	12.4	100	14	K2	--
MAR 25...	0940	490	297	8.30	11.5	11.5	103	--	K9	--
APR 28...	1230	620	335	7.50	18.5	11.6	122	<10	K8	150
MAY 27...	1030	751	295	7.90	17.5	9.1	94	<10	24	--
JUN 23...	1230	510	293	7.80	24.5	8.5	100	<10	49	--
JUL 28...	0940	390	320	7.70	25.0	7.0	85	<10	33	170
AUG 25...	1300	250	335	8.10	25.0	10.5	126	<10	K13	--
SEP 22...	1115	330	345	8.00	22.5	8.7	99	<10	26	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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 28...	1	36	22	2.9	1.4	173	4.4	6.8	4.0	<0.10
NOV 26...	--	--	--	--	--	118	0.6	--	--	--
DEC 23...	--	--	--	--	--	131	2.1	--	--	--
JAN 29...	12	35	20	2.7	1.2	157	2.4	9.5	4.0	<0.10
FEB 25...	--	--	--	--	--	139	1.7	--	--	--
MAR 25...	--	--	--	--	--	165	1.6	--	--	--
APR 28...	8	31	18	9.9	1.4	134	8.8	17	3.4	<0.10
MAY 27...	--	--	--	--	--	148	3.6	--	--	--
JUN 23...	--	--	--	--	--	136	4.3	--	--	--
JUL 28...	4	34	21	2.8	1.5	163	6.5	6.6	3.5	<0.10
AUG 25...	--	--	--	--	--	166	26	--	--	--
SEP 22...	--	--	--	--	--	162	3.2	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

06930450 BIG PINEY RIVER AT DEVILS ELBOW, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 28...	183	6	0.300	0.010	0.020	1	1	4	3	160
NOV 26...	--	13	0.700	0.060	0.040	--	--	--	--	--
DEC 23...	--	1	0.500	0.020	0.010	--	--	--	--	--
JAN 29...	167	1	0.500	0.010	0.010	<1	<1	8	<1	70
FEB 25...	--	1	0.300	0.020	0.010	--	--	--	--	--
MAR 25...	--	1	0.300	0.020	0.010	--	--	--	--	--
APR 28...	181	50	0.100	0.040	0.010	<1	<1	11	2	80
MAY 27...	--	11	0.300	0.020	0.030	--	--	--	--	--
JUN 23...	--	11	0.200	0.020	0.020	--	--	--	--	--
JUL 28...	191	8	0.300	0.020	0.020	<1	<1	4	1	190
AUG 25...	--	5	0.200	0.080	0.030	--	--	--	--	--
SEP 22...	--	2	0.300	<0.010	0.030	--	--	--	--	--

[illegible]

GASCONADE RIVER BASIN

169

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.37 N., R.10 W., Phelps County, Hydrologic Unit 10290203, at bridge on County Highway D at Jerome, 150 ft upstream from Little Piney Creek, 0.7 mi upstream from gaging station.

DRAINAGE AREA.--2,570 mi².

PERIOD OF RECORD.--January 1978 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1978 to September 1981.
WATER TEMPERATURE: March 1978 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 588 microsiemens, Sept. 23, 1981; minimum, 133 microsiemens, Sept. 1, 1981.
WATER TEMPERATURE: 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 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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)
NOV 26...	0800	3950	264	7.80	11.5	8.4	9.8	89	K80	K80
JAN 29...	1320	1070	311	8.10	3.0	1.0	13.8	100	K1	K3
MAR 25...	1130	1600	311	8.30	11.5	2.0	12.2	109	K3	K5
MAY 27...	1420	1580	317	8.10	19.5	2.0	9.7	104	K9	K12
JUL 28...	1130	625	332	7.90	25.5	4.0	6.7	82	28	K11
SEP 22...	1315	798	344	8.00	24.0	3.7	9.2	108	K18	K2

DATE	HARD- NESS (MG/L AS CaCO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD 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)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CaCO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
NOV 26...	130	11	27	15	2.5	4	0.1	2.1	117	11
JAN 29...	180	9	36	22	2.9	3	0.1	1.3	172	9.4
MAR 25...	160	0	33	20	2.7	3	0.1	1.3	161	8.3
MAY 27...	170	6	35	20	2.4	3	0.1	1.6	159	6.9
JUL 28...	180	6	35	22	2.8	3	0.1	1.7	170	6.2
SEP 22...	180	7	36	23	2.7	3	0.1	1.7	174	6.7

K--Results based on colony count outside the acceptable range (non-ideal colony count).

GASCONADE RIVER BASIN

06930800 GASCONADE RIVER ABOVE JEROME, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
NOV 26...	3.6	<0.10	9.9	148	140	0.20	1580	0.810	0.040
JAN 29...	4.8	<0.10	4.1	170	180	0.23	489	0.340	0.010
MAR 25...	4.7	<0.10	1.8	164	170	0.22	709	0.150	0.020
MAY 27...	3.5	<0.10	7.1	170	180	0.23	727	0.330	0.020
JUL 28...	3.7	<0.10	9.3	201	190	0.27	339	0.220	0.030
SEP 22...	4.1	0.10	9.2	196	190	0.27	422	0.150	0.020

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 26...	0.05	0.30	0.040	0.12	0.030	0.030	29	310	43
JAN 29...	0.01	4.0	<0.010	--	<0.010	<0.010	14	40	82
MAR 25...	0.03	0.20	<0.010	--	<0.010	<0.010	6	26	--
MAY 27...	0.03	0.30	0.010	--	0.010	0.010	61	261	43
JUL 28...	0.04	0.30	0.020	--	0.020	<0.010	46	78	7
SEP 22...	0.03	0.20	0.060	--	0.040	0.030	1	1.3	--

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 26...	30	<1	48	<0.5	<1	2	<3	2	52	5
JAN 29...	10	<1	51	<0.5	<1	2	<3	2	11	<1
MAY 27...	20	<1	55	<0.5	2	1	<3	2	440	2

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 26...	<4	17	<0.1	<10	1	<1	1	31	<6	480
JAN 29...	<4	10	<0.1	<10	1	<1	<1	40	<6	25
MAY 27...	4	11	<0.1	<10	3	<1	<1	38	<6	33

06932000 LITTLE PINEY CREEK AT NEWBURG, MO

LOCATION.--Lat 37°54'35", long 91°54'12", in SW¼SE¼ 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 upstream from Mill Creek.

DRAINAGE AREA.--200 mi², approximately.

PERIOD OF RECORD.--October 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 693.40 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1951, all gages at datum 3.0 ft higher. Prior to Nov. 21, 1963, nonrecording gage at site 100 ft downstream. Nov. 21, 1963, to May 9, 1966, nonrecording gage at present site.

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--58 years, 158 ft³/s, 10.73 in/yr, 114,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft³/s, Aug. 14, 1946, gage height, 16.2 ft, present datum, from floodmark, from rating curve extended above 21,000 ft³/s, on basis of slope-area measurements at gage heights 15.0 ft and 16.2 ft; maximum gage height, 16.6 ft, June 17, 1985, minimum discharge, 24 ft³/s, Aug. 22-31, 1936, Sept. 19, 20, 1954, and Oct. 10-16, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 16.7 ft, Aug. 20, 1915, from floodmark, present datum; discharge, 30,000 ft³/s, from rating curve based on discharge measurements made in 1935 and extended above 25,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 4,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 19	1030	*6,220	*9.82	No other peak greater than base discharge.			

Minimum discharge, 61 ft³/s, Aug. 26, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	262	1190	168	110	121	108	222	91	104	69	66
2	87	194	652	165	119	128	111	207	90	105	70	66
3	84	153	527	163	711	125	119	181	84	98	68	67
4	88	132	468	156	564	122	119	168	85	95	67	67
5	87	122	425	148	390	121	131	158	177	92	67	67
6	85	115	376	147	387	120	179	139	189	89	77	65
7	84	112	316	140	464	114	497	130	211	89	79	67
8	83	106	288	132	372	110	799	122	206	86	74	70
9	85	109	378	134	294	108	527	165	561	84	72	68
10	85	141	733	132	247	111	438	182	367	85	84	66
11	101	124	1220	130	212	107	390	153	292	84	74	99
12	163	125	780	129	196	159	346	133	246	99	70	86
13	119	817	604	125	182	170	308	134	210	263	68	74
14	118	1300	481	125	184	156	262	170	179	108	66	71
15	109	1300	445	123	172	147	242	217	190	95	67	70
16	101	775	402	122	181	135	228	205	158	89	72	70
17	97	523	360	122	217	127	210	181	143	86	69	95
18	100	2610	322	122	208	136	199	163	129	84	66	99
19	110	4450	282	122	191	142	185	144	123	83	66	87
20	104	1140	279	117	179	128	180	128	117	82	64	79
21	102	738	260	118	164	118	178	118	113	79	63	76
22	99	609	245	114	156	118	164	110	109	78	63	74
23	97	522	247	107	151	118	156	107	111	79	63	116
24	95	458	244	107	150	113	154	109	122	78	62	110
25	93	416	215	108	144	111	148	125	105	77	63	90
26	92	483	207	106	143	112	144	148	104	78	62	93
27	92	657	204	106	141	107	144	118	102	80	81	134
28	91	759	192	106	133	109	145	115	104	77	72	110
29	94	548	186	108	---	109	133	110	98	73	67	107
30	95	494	179	104	---	110	136	100	97	71	67	652
31	142	---	178	103	---	110	---	94	---	70	66	---
TOTAL	3069	20294	12885	3909	6762	3822	7080	4556	4913	2840	2138	3061
MEAN	99.0	676	416	126	242	123	236	147	164	91.6	69.0	102
MAX	163	4450	1220	168	711	170	799	222	561	263	84	652
MIN	83	106	178	103	110	107	108	94	84	70	62	65
CAL YR 1985	TOTAL		154120	MEAN	422	MAX	8530	MIN	83			
WTR YR 1986	TOTAL		75329	MEAN	206	MAX	4450	MIN	62			

GASCONADE RIVER BASIN

06933500 GASCONADE RIVER AT JEROME, MO

LOCATION.--Lat 37°55'47", long 91°58'38", in NE¼NE¼SE¼ sec.13, T.37 N., R.10 W., Phelps County, Hydrologic Unit 10290203, on left bank at Jerome, 0.5 mi downstream from Little Piney Creek, and at mile 107.

DRAINAGE AREA.--2,840 mi², 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 above National Geodetic Vertical Datum of 1929. Prior to July 26, 1904, nonrecording gage at site 0.8 mi downstream at different datum. July 26, 1904, to July 21, 1906, nonrecording gage at site 0.5 mi upstream from present site at datum about 0.85 ft higher than present gage. Jan. 3, 1923, to Sept. 29, 1928, nonrecording gage at site 400 ft downstream from present site at datum 0.14 ft lower than present datum. Sept. 30, 1928, to Jan. 17, 1939, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: June 3-10. Records good except for estimated discharges, which are fair. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height and U.S. Army Corp of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--66 years (1903-05, 1922-86), 2,576 ft³/s, 12.32 in/yr, 1,866,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 136,000 ft³/s, Dec. 5, 1982, gage height, 31.34 ft; minimum, 254 ft³/s, Sept. 21, 22, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 6, 1897, reached a stage of about 29.0 ft, discharge, 120,000 ft³/s. A stage of 28.6 ft was reached on Aug. 20, 22, 1915, discharge, 114,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 20	2330	*49,900	*19.98	Dec. 12	1715	17,900	11.03
Dec. 2	1130	17,200	10.79	Apr. 9	1730	26,400	13.81

Minimum discharge, 552 ft³/s, Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	869	1450	13200	2410	1190	1770	1500	5080	2160	1210	698	601
2	858	1430	16900	2330	1220	1700	1490	4730	1920	1180	676	596
3	854	1300	16300	2240	4040	1640	1500	3710	2000	1140	656	594
4	849	1220	10200	2170	5300	1570	1510	3000	2000	1070	644	598
5	838	1170	7180	2080	3820	1520	1570	2670	2100	1040	645	593
6	827	1140	5720	2010	3020	1470	1780	2410	2500	1000	702	580
7	820	1100	4780	1940	3320	1420	3370	2230	2700	978	718	587
8	808	1040	4210	1860	3680	1360	9530	2080	3000	954	708	585
9	806	993	3930	1770	3800	1330	21700	1980	5000	927	681	571
10	806	997	5340	1730	3600	1320	20400	1990	8000	906	727	563
11	842	967	12400	1690	3160	1290	9930	1920	6530	881	725	684
12	968	943	17200	1670	2810	1410	6810	1810	5160	914	695	710
13	914	2870	16000	1630	2540	1560	5340	1810	4070	1160	687	646
14	923	7600	11000	1600	2410	2040	4560	1850	3390	913	676	618
15	916	10700	8090	1560	2240	2400	3960	1900	4180	875	685	623
16	901	11400	6520	1530	2170	2480	3550	2180	3460	874	711	623
17	895	10300	5560	1500	2210	2750	3210	3000	2920	845	692	694
18	906	14000	4960	1490	2360	2600	2920	2800	2530	812	678	808
19	929	29400	4560	1470	2490	2470	2710	2440	2240	804	649	780
20	922	39800	4230	1450	2490	2300	2550	2180	2030	791	640	1020
21	919	38100	3700	1440	2490	2170	2440	1970	1870	764	624	993
22	914	20300	3280	1410	2490	2070	2330	1810	1720	744	606	910
23	909	9070	3090	1360	2430	1950	2260	1700	1610	725	595	1020
24	907	6650	3020	1330	2290	1850	2170	1620	1530	716	585	972
25	895	5240	3000	1380	2160	1760	2090	1570	1430	699	595	843
26	890	4700	2980	1290	2050	1720	1980	1630	1390	690	597	924
27	886	6750	2830	1260	1970	1660	1900	1770	1380	702	657	1220
28	879	12600	2640	1240	1870	1620	1880	1710	1330	727	652	971
29	898	12800	2520	1230	---	1580	1790	1660	1270	708	619	858
30	912	10100	2470	1190	---	1560	1770	1940	1200	689	614	4060
31	1010	---	2450	1180	---	1530	---	2120	---	702	605	---
TOTAL	27470	266130	210260	50440	75620	55870	130500	71270	82620	27140	20442	25845
MEAN	886	8871	6783	1627	2701	1802	4350	2299	2754	875	659	862
MAX	1010	39800	17200	2410	5300	2750	21700	5080	8000	1210	727	4060
MIN	806	943	2450	1180	1190	1290	1490	1570	1200	689	585	563
CAL YR 1985	TOTAL	2345004	MEAN	6425	MAX	77400	MIN	792				
WTR YR 1986	TOTAL	1043607	MEAN	2859	MAX	39800	MIN	563				

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.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 481.56 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 26, 1930, nonrecording gage at site 480 ft downstream at datum 0.07 ft 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.--Estimated daily discharges: May 24-26. Water discharge records good. Discharge measurements made weekly except during period of no navigation in winter months. Some regulation from many upstream reservoirs. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--89 years, 81,228 ft³/s, 58,850,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 676,000 ft³/s, June 6, 7, 1903, gage height, 29.5 ft, discharge computed by Corps of Engineers; maximum gage height, 33.70 ft, Apr. 25, 1973; minimum, about 4,200 ft³/s, Jan. 10-12, 1940; minimum gage height observed, -0.80 ft, Jan. 5, 6, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1844 reached a stage of 35.5 ft, discharge, about 892,000 ft³/s, computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 329,000 ft³/s, Nov. 20, gage height, 28.97 ft; minimum, 44,900 ft³/s, Jan. 13, 14.

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102000	109000	177000	78200	50600	74300	74200	102000	141000	77900	76100	69900
2	160000	111000	211000	76800	62500	84800	76900	132000	128000	80600	73600	68400
3	156000	110000	176000	76700	98200	92800	77800	136000	117000	84200	69000	66600
4	134000	93800	132000	77600	149000	78500	86100	126000	108000	114000	66000	65400
5	120000	80200	114000	78800	151000	73700	96200	115000	101000	130000	63900	64800
6	110000	77500	115000	70700	124000	72200	134000	105000	96800	111000	66000	64300
7	102000	75800	118000	67200	118000	72200	165000	101000	95500	101000	63600	66100
8	93300	76700	119000	64300	129000	72200	162000	104000	109000	117000	64400	65000
9	85100	74400	118000	62300	125000	72200	150000	110000	110000	174000	65800	64600
10	85800	69300	126000	58200	112000	66600	142000	113000	104000	181000	67000	64800
11	142000	64900	201000	57000	104000	56000	145000	113000	104000	166000	68400	67200
12	238000	63700	202000	51900	96300	56800	139000	125000	104000	171000	68800	67700
13	266000	69000	166000	45600	91400	72000	125000	152000	103000	179000	68700	83900
14	275000	112000	140000	45700	89000	81600	116000	152000	99700	187000	69200	92100
15	268000	175000	122000	49500	86600	87700	112000	143000	98300	204000	72700	84800
16	246000	220000	110000	52000	74300	93800	107000	141000	97600	214000	107000	75700
17	219000	239000	103000	52000	73700	108000	106000	164000	102000	204000	109000	71100
18	186000	242000	98500	53700	76000	108000	106000	199000	109000	197000	96800	71200
19	161000	302000	94300	55400	77600	97900	102000	221000	110000	186000	92100	79300
20	166000	322000	83900	57200	82200	92700	99600	230000	103000	170000	88500	106000
21	170000	314000	79500	60600	82900	99900	91900	239000	95700	134000	85600	106000
22	165000	277000	78600	66500	80000	131000	98600	229000	87400	114000	82800	124000
23	158000	232000	77900	69400	73700	149000	96200	215000	78900	105000	78100	132000
24	143000	187000	78200	68300	65500	124000	101000	200000	80300	104000	73400	157000
25	137000	150000	79300	63500	65900	105000	95800	192000	93900	99000	74100	213000
26	143000	137000	80700	60800	73200	99500	91100	185000	91200	93000	79600	217000
27	135000	160000	81100	59800	74500	95200	85600	164000	88300	88700	79000	211000
28	124000	155000	80800	53600	73300	90400	82500	161000	83700	81400	75500	199000
29	121000	145000	80400	55600	---	88000	79700	157000	80900	77100	72300	191000
30	120000	138000	80900	51800	---	82100	84400	151000	78600	77700	70900	203000
31	105000	---	79900	51100	---	77300	---	145000	---	81200	70400	---
TOTAL	4836200	4582300	3604000	1891800	2559400	2755400	3219600	4822000	2999800	4103800	2358300	3211900
MEAN	156000	152700	116300	61030	91410	88880	107300	155500	99990	132400	76070	107100
MAX	275000	322000	211000	78800	151000	149000	165000	239000	141000	214000	109000	217000
MIN	85100	63700	77900	45600	50600	56000	74200	101000	78600	77100	63600	64300
CAL YR 1985	TOTAL		43213500		MEAN		118400		MAX		405000	
WTR YR 1986	TOTAL		40944500		MEAN		112200		MAX		322000	
									MIN		46300	
									MIN		45600	

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.

DISSOLVED OXYGEN: June 1984 to September 1984, April 1985 to September 1985, and April 1986 to September 1986.

INSTRUMENTATION.--Water-quality monitor June 1984 to September 1984, April 1985 to September 1985, and April 1986 to September 1986.

REMARKS.--Water temperature and specific conductance samples collected daily by observer. Dissolved oxygen determined by water-quality monitor. The number of missing days exceeds 20 percent of the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: (Water years 1976-84) Maximum daily, 2150 microsiemens, Dec. 9, 1978; minimum daily, 205 microsiemens, Apr. 16, 1979.

WATER TEMPERATURE: (Water years 1976-84) Maximum daily, 32.0°C, July 14, 17, 18, 19, 20, 1980; minimum daily, 0.0°C on many days during winter period.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 853 microsiemens, Feb. 5; minimum daily, 286 microsiemens, Feb. 26.

WATER TEMPERATURE: Maximum daily, 29.5°C, July 19, 22; minimum daily, 1.0°C, Feb. 1.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED CENT SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT										
16...	1100	247000	332	8.50	13.0	300	6.9	63	2600	3200
NOV										
19...	1000	301000	263	7.60	10.0	110	9.3	78	10000	14000
DEC										
10...	1130	123000	535	7.90	3.5	27	12.0	88	2600	1100
JAN										
07...	1030	66800	572	7.50	0.5	18	15.4	101	600	K450
FEB										
11...	1050	104000	382	7.10	2.5	89	13.1	96	820	560
MAR										
10...	1030	72200	705	8.30	7.5	57	11.2	96	270	K110
APR										
08...	1050	160000	442	8.00	15.5	560	7.5	76	4000	4000
MAY										
13...	1045	152000	620	7.90	21.0	520	4.0	46	2200	2400
JUN										
10...	1145	103000	601	8.10	25.0	220	7.4	92	K700	320
JUL										
08...	1230	113000	535	8.00	27.0	650	6.8	86	2900	540
AUG										
25...	1100	73600	651	8.20	26.0	110	6.9	86	450	K150
SEP										
16...	1145	75700	600	8.20	21.0	330	6.8	77	2300	740

K--Results based on colony count outside the acceptable range (non-ideal colony count).

MISSOURI RIVER MAIN STEM

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06934500 MISSOURI RIVER AT HERMANN, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD 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)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 16...	120	11	36	8.3	16	21	0.6	4.8	114	50
NOV 19...	110	18	30	8.2	12	19	0.5	4.5	85	34
DEC 10...	200	48	53	16	34	27	1	4.3	150	97
JAN 07...	220	52	60	18	33	24	1	4.4	167	87
FEB 11...	160	6	42	13	17	18	0.6	3.8	136	55
MAR 10...	230	32	60	19	41	27	1	6.4	193	120
APR 08...	170	33	45	13	17	18	0.6	5.4	129	72
MAY 13...	250	88	66	21	31	21	0.9	6.7	161	120
JUN 10...	230	86	59	19	38	26	1	5.9	135	110
JUL 08...	200	61	52	16	35	27	1	5.9	135	110
AUG 25...	210	52	58	17	50	33	2	6.9	156	160
SEP 16...	200	47	54	17	48	33	2	5.6	152	130

DATE	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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT 16...	9.8	0.30	9.8	207	220	0.28	138000	1.10	0.120
NOV 19...	6.9	0.20	9.2	154	160	0.21	125000	0.640	0.090
DEC 10...	14	0.30	10	325	320	0.44	108000	0.900	0.080
JAN 07...	20	0.30	13	341	340	0.46	61500	1.10	0.140
FEB 11...	11	0.20	9.8	237	240	0.32	66500	1.30	0.090
MAR 10...	24	0.40	13	395	400	0.54	77000	1.60	0.100
APR 08...	14	0.30	9.4	274	260	0.37	118000	1.60	0.040
MAY 13...	17	0.30	11	387	370	0.53	159000	2.30	0.030
JUN 10...	12	0.30	8.9	376	340	0.51	105000	1.70	0.050
JUL 08...	15	0.40	11	344	330	0.47	105000	2.00	0.040
AUG 25...	16	0.50	11	456	420	0.62	90600	1.10	0.020
SEP 16...	17	0.40	9.9	400	380	0.54	81800	0.750	0.030

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITRO- GEN, AMMONIA + DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 16...	0.15	1.8	0.340	1.0	0.060	0.050	1880	1250000	58
NOV 19...	0.12	1.4	0.330	1.0	0.120	0.070	326	265000	94
DEC 10...	0.10	0.60	0.070	--	0.050	0.050	236	78400	30
JAN 07...	0.18	0.80	0.130	--	0.080	0.070	27	4870	48
FEB 11...	0.12	2.0	0.130	--	0.080	0.060	273	76700	94
MAR 10...	0.13	1.0	0.230	0.71	0.100	0.070	--	--	--
APR 08...	0.05	1.9	0.160	--	0.080	0.060	1110	480000	99
MAY 13...	0.04	3.0	0.220	--	0.120	0.090	2110	866000	96
JUN 10...	0.06	0.70	0.260	--	0.130	0.110	447	124000	98
JUL 08...	0.05	1.2	0.450	--	0.120	0.100	3140	958000	76
AUG 25...	0.03	0.50	0.380	--	0.120	0.080	--	--	--
SEP 16...	0.04	0.80	0.180	--	0.140	0.110	337	68900	94

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 19...	250	1	59	<0.5	<1	<1	<3	5	220	<1
JAN 07...	30	1	97	<0.5	<1	<1	<3	4	34	1
MAY 13...	30	2	130	<0.5	<1	<1	<3	4	20	3

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 19...	7	4	<0.1	<10	2	<1	<1	140	<6	17
JAN 07...	22	17	0.3	<10	3	1	<1	400	<6	17
MAY 13...	24	<1	<0.1	<10	2	2	<1	380	<6	11

MISSOURI RIVER MAIN STEM

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06934500 MISSOURI RIVER AT HERMANN, MO--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	587	545	498	359	426	638	620	735	617	682	679	703
2	589	507	452	379	403	637	663	694	606	683	690	715
3	574	597	408	407	622	601	660	655	622	654	698	718
4	535	576	425	411	525	620	612	597	592	655	702	726
5	732	585	534	444	495	585	468	549	612	576	706	729
6	590	596	526	452	483	600	630	570	631	576	715	742
7	437	645	529	466	412	650	614	569	630	577	723	740
8	429	626	530	532	501	614	646	649	636	559	728	762
9	737	648	428	579	483	640	536	581	615	488	727	760
10	752	651	403	567	478	630	507	646	609	483	721	763
11	604	695	560	595	514	665	470	663	614	396	720	588
12	374	702	563	591	578	680	420	660	627	430	711	685
13	338	708	554	614	529	610	646	607	627	424	706	725
14	324	689	493	601	542	606	616	547	645	407	703	756
15	322	386	429	601	538	618	609	547	675	402	714	755
16	321	443	424	623	571	417	577	517	666	369	713	614
17	423	383	555	601	605	577	619	467	632	368	565	608
18	383	581	475	608	581	600	617	425	650	376	471	637
19	372	349	500	613	561	590	666	503	629	377	488	667
20	372	313	493	633	616	547	662	500	601	377	542	636
21	296	258	568	645	579	554	681	422	638	393	585	665
22	514	286	494	654	525	549	663	422	581	436	602	569
23	464	468	583	671	571	566	682	430	560	473	619	578
24	483	465	554	691	634	531	682	466	603	452	642	374
25	499	450	573	754	647	498	722	507	637	482	658	378
26	493	392	567	739	646	495	707	580	651	563	690	459
27	495	494	558	719	650	512	692	586	641	601	678	487
28	492	487	579	734	656	539	686	585	624	618	639	379
29	495	491	570	719	---	568	745	601	604	646	660	428
30	490	509	568	734	---	560	758	617	656	658	662	372
31	485	---	560	719	---	543	---	619	---	662	661	---
MEAN	484	518	515	595	549	582	629	565	624	511	662	624
MAX	752	708	583	754	656	680	758	735	675	683	728	763
MIN	296	258	403	359	403	417	420	422	560	368	471	372
WTR YR 1986	MEAN	571	MAX	763	MIN	258						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.0	13.0	7.0	2.5	3.0	6.0	13.0	19.0	24.5	28.5	26.0	24.5
2	13.0	13.5	6.5	3.0	3.0	6.0	13.5	19.5	25.0	29.0	26.5	24.5
3	13.5	12.5	6.5	3.5	3.5	6.5	13.0	19.0	25.0	30.0	27.0	24.5
4	14.0	12.0	6.5	4.0	3.0	6.5	14.0	19.5	25.5	30.0	27.0	24.0
5	14.0	12.0	6.0	4.5	3.5	6.5	14.5	19.5	25.5	29.5	27.0	24.0
6	14.0	11.0	6.5	4.0	3.0	7.0	15.0	19.5	25.5	29.5	27.0	24.0
7	14.5	11.0	6.0	4.0	3.0	7.0	15.0	19.5	25.0	29.0	27.0	23.5
8	14.0	11.0	6.0	4.0	2.5	7.0	15.0	20.0	25.5	29.0	26.5	24.5
9	14.0	11.5	5.5	4.0	2.5	7.0	15.0	20.0	25.5	29.0	26.5	24.5
10	14.0	11.0	5.0	3.5	2.0	7.0	16.0	20.5	26.0	29.0	27.0	24.5
11	14.5	11.0	5.0	3.0	1.5	7.0	16.0	20.5	26.0	29.0	27.0	24.5
12	14.5	10.0	5.0	3.5	.5	7.0	16.0	20.5	26.0	28.5	26.5	24.5
13	15.0	10.0	3.5	3.5	.5	7.0	17.0	21.0	26.5	28.5	26.0	24.0
14	15.0	9.0	3.0	3.0	1.0	8.0	17.0	21.0	26.5	28.5	26.5	24.5
15	15.0	9.0	3.0	3.0	1.0	8.0	17.5	21.0	26.5	28.0	26.0	24.5
16	16.0	9.0	3.0	3.0	1.5	8.0	17.5	21.5	27.0	28.0	26.5	24.5
17	16.5	9.0	2.5	2.5	2.0	8.0	18.0	21.5	27.0	28.0	26.5	24.0
18	17.0	8.5	2.5	2.0	2.0	9.0	18.5	21.5	27.5	28.5	26.5	24.0
19	17.0	8.0	2.0	1.0	2.5	9.0	19.0	22.0	27.5	29.0	26.5	24.0
20	16.5	8.0	2.0	1.0	2.5	9.0	19.0	22.0	27.5	28.5	26.0	24.5
21	17.0	8.5	1.0	.0	3.0	9.0	19.0	22.0	28.0	29.5	26.0	24.5
22	17.0	8.0	1.0	1.0	3.5	10.0	19.0	22.5	28.0	27.0	26.0	24.5
23	17.5	7.5	1.0	2.0	4.0	10.0	17.0	22.5	28.5	27.0	26.0	24.5
24	17.5	7.0	1.0	1.0	5.0	10.0	17.0	22.0	28.5	28.0	24.0	24.5
25	17.0	6.5	1.5	.5	5.0	10.0	17.5	22.5	28.5	30.0	24.5	25.5
26	17.0	6.0	1.5	.5	5.0	10.0	17.0	22.5	28.5	29.5	24.0	25.0
27	17.0	5.5	1.5	.5	5.0	10.5	18.5	22.5	28.5	30.0	24.0	24.5
28	16.5	5.0	1.0	.0	4.5	10.5	19.0	22.5	29.0	29.5	24.0	24.0
29	17.0	5.0	1.0	.5	---	10.5	19.0	22.5	28.5	30.0	24.0	23.5
30	17.0	5.0	1.0	.5	---	13.0	19.0	22.5	29.0	30.0	23.0	23.0
31	17.0	---	1.0	.5	---	13.0	---	22.5	---	30.0	23.0	---
MEAN	15.5	9.0	3.5	2.0	3.0	8.5	16.5	21.0	27.0	29.0	26.0	24.5
MAX	17.5	13.5	7.0	4.5	5.0	13.0	19.0	22.5	29.0	30.0	27.0	25.5
MIN	13.0	5.0	1.0	.0	.5	6.0	13.0	19.0	24.5	27.0	23.0	23.0
WTR YR 1986	MEAN	15.5	MAX	30.0	MIN	.0						

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.3	7.8	8.2									
2	---	---	---									
3	---	---	---									
4	---	---	---									
5	---	---	---									
6	---	---	---									
7	---	---	---									
8	---	---	---									
9	9.0	7.6	8.3									
10	8.4	8.2	8.3									
11	8.5	6.8	7.9									
12	6.6	5.8	6.0									
13	6.2	5.7	5.8									
14	6.2	5.9	6.1									
15	6.5	6.2	6.3									
16	6.8	6.3	6.6									
17	7.0	6.6	6.8									
18	7.1	6.9	7.0									
19	---	---	---									
20	---	---	---									
21	---	---	---									
22	---	---	---									
23	---	---	---									
24	---	---	---									
25	---	---	---									
26	---	---	---									
27	---	---	---									
28	---	---	---									
29	---	---	---									
30	---	---	---									
31	---	---	---									
MONTH	---	---	---									
	FEBRUARY			MARCH			APRIL			MAY		
1							---	---	---	8.1	7.6	7.8
2							---	---	---	7.6	6.8	7.1
3							---	---	---	6.8	5.5	6.0
4							---	---	---	6.0	5.5	5.8
5							---	---	---	6.6	6.0	6.3
6							---	---	---	7.0	6.6	6.8
7							---	---	---	7.1	6.8	7.0
8							---	---	---	7.2	7.0	7.1
9							---	---	---	7.1	6.7	6.9
10							---	---	---	6.8	6.5	6.7
11							---	---	---	6.4	6.2	6.5
12							---	---	---	6.2	5.4	5.8
13							---	---	---	5.1	3.4	4.0
14							---	---	---	5.2	4.1	4.6
15							---	---	---	5.3	4.9	5.1
16							---	---	---	5.8	5.0	5.4
17							---	---	---	5.6	5.0	5.4
18							---	---	---	4.9	3.7	4.4
19							---	---	---	3.7	3.6	3.6
20							---	---	---	---	---	---
21							---	---	---	---	---	---
22							8.7	8.5	8.5	---	---	---
23							8.8	8.5	8.6	---	---	---
24							8.8	7.7	8.6	---	---	---
25							8.6	8.3	8.4	---	---	---
26							8.4	8.0	8.2	---	---	---
27							8.1	7.9	8.0	---	---	---
28							8.1	7.9	8.0	6.8	6.6	6.7
29							8.2	7.9	8.1	6.8	6.7	6.7
30							8.2	8.0	8.1	7.0	6.8	6.9
31							---	---	---	7.1	6.9	7.0
MONTH							---	---	---	---	---	---

MISSOURI RIVER MAIN STEM

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06934500 MISSOURI RIVER AT HERMANN, MO--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.3	7.0	7.2	6.7	6.6	6.7	6.7	6.4	6.6	7.4	7.2	7.3
2	7.4	7.1	7.3	7.0	6.9	7.0	7.1	6.7	6.9	7.6	7.4	7.5
3	8.5	7.4	7.5	7.4	7.2	7.3	7.2	7.0	7.1	---	---	---
4	7.3	7.2	7.2	7.4	6.0	6.7	7.3	7.0	7.2	---	---	---
5	7.1	7.1	7.1	6.3	6.1	6.2	7.2	7.1	7.2	8.1	7.4	7.7
6	7.0	6.8	7.0	6.6	6.2	6.4	7.3	6.4	7.0	8.2	7.6	7.8
7	6.9	6.8	6.9	6.7	6.6	6.7	7.7	7.2	7.5	8.3	7.6	7.8
8	6.8	6.5	6.7	7.3	6.8	6.9	8.3	7.7	8.0	8.7	7.6	8.0
9	6.4	5.5	6.0	6.7	4.3	5.0	8.8	8.6	8.7	8.5	7.9	8.2
10	5.6	5.2	5.4	4.5	4.2	4.4	9.8	8.8	9.3	8.5	7.9	8.2
11	6.4	6.1	6.2	5.3	4.3	4.8	10.3	9.8	10.0	8.3	7.8	8.0
12	6.5	6.4	6.4	5.3	5.1	5.2	11.2	10.3	10.7	8.5	7.8	8.1
13	6.5	6.3	6.4	5.1	4.5	4.7	11.5	11.0	11.2	8.3	7.8	8.1
14	6.7	6.5	6.6	4.6	4.4	4.5	11.8	11.3	11.4	7.8	6.4	7.1
15	6.7	6.6	6.6	4.3	4.0	4.1	---	---	---	6.4	6.0	6.1
16	6.7	6.5	6.6	4.0	3.6	3.8	---	---	---	6.8	6.3	6.6
17	6.5	6.2	6.3	3.8	3.2	3.7	---	---	---	7.2	6.8	7.0
18	6.2	5.8	5.9	4.0	3.7	3.9	---	---	---	7.4	7.1	7.3
19	6.2	5.9	6.1	4.3	4.0	4.2	---	---	---	7.5	7.3	7.4
20	6.2	6.0	6.1	4.5	4.3	4.3	---	---	---	7.3	6.5	6.9
21	6.0	5.5	5.7	4.9	4.4	4.7	---	---	---	6.4	5.2	5.6
22	5.9	5.6	5.7	5.4	4.9	5.1	---	---	---	6.2	5.5	5.8
23	6.3	5.9	6.1	5.8	5.3	5.5	---	---	---	6.1	5.7	5.9
24	6.6	6.3	6.5	5.9	5.7	5.8	---	---	---	5.9	4.6	5.3
25	6.5	6.3	6.4	5.9	5.8	5.8	---	---	---	4.6	2.9	3.9
26	6.3	5.4	5.8	6.0	5.8	5.9	---	---	---	3.5	2.7	3.1
27	6.4	5.5	6.0	6.1	6.0	6.0	6.8	6.7	6.8	4.5	3.5	4.2
28	6.6	6.4	6.5	6.2	6.1	6.1	6.7	6.6	6.7	4.9	4.5	4.6
29	6.5	6.5	6.5	6.4	6.2	6.3	7.0	6.7	6.8	5.3	4.9	5.1
30	6.6	6.4	6.5	6.5	6.3	6.4	7.1	7.0	7.1	5.3	4.8	5.1
31	---	---	---	6.6	5.9	6.5	7.3	7.1	7.2	---	---	---
MONTH	8.5	5.2	6.4	7.4	3.2	5.5	---	---	---	---	---	---

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 downstream from Missouri River, 19.2 mi upstream from Meramec River, and at mile 180.0 above the Ohio River.

DRAINAGE AREA.--697,000 mi², 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.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 379.94 ft above National Geodetic Vertical Datum of 1929. Prior to May 5, 1934, nonrecording gage 0.4 mi downstream and May 5, 1934 to Dec. 9, 1952, water-stage recorder at site 20 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Oct. 1-7 and May 14-19. Water discharge records good. 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. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--125 years, 180,300 ft³/s, 130,600,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,019,000 ft³/s, June 10, 11, 1903, gage height, 38.00 ft; maximum gage height, 43.23 ft, Apr. 28, 1973; minimum daily discharge, 18,000 ft³/s, Dec. 21-23, 1863.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 27, 1844, reached a stage of 41.32 ft, from floodmarks, discharge, 1,300,000 ft³/s, computed by U.S. Army Corps of Engineers. Flood in April 1785 may have reached a stage 42.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 589,000 ft³/s, Nov. 22, gage height, 33.09 ft; minimum, 96,300 ft³/s, Jan. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	165000	227000	358000	190000	128000	208000	304000	275000	402000	219000	213000	153000
2	198000	248000	407000	183000	163000	202000	298000	288000	397000	238000	203000	152000
3	229000	277000	413000	183000	191000	201000	297000	320000	387000	246000	205000	148000
4	233000	273000	364000	180000	256000	218000	297000	330000	374000	251000	201000	153000
5	227000	251000	313000	176000	291000	209000	302000	321000	358000	278000	194000	152000
6	214000	233000	295000	163000	290000	207000	314000	309000	341000	297000	193000	150000
7	209000	227000	284000	157000	288000	203000	354000	296000	332000	281000	196000	149000
8	204000	221000	277000	147000	277000	201000	376000	290000	325000	266000	195000	142000
9	201000	223000	278000	143000	274000	200000	377000	298000	332000	283000	193000	138000
10	199000	228000	297000	146000	267000	199000	373000	311000	329000	349000	188000	139000
11	219000	234000	369000	156000	247000	204000	373000	314000	311000	369000	182000	139000
12	299000	234000	449000	152000	230000	218000	375000	312000	293000	379000	176000	148000
13	369000	239000	439000	144000	204000	226000	369000	322000	280000	392000	178000	149000
14	381000	287000	386000	135000	181000	248000	362000	347000	270000	401000	170000	159000
15	385000	340000	322000	132000	180000	267000	357000	351000	268000	411000	177000	187000
16	380000	412000	295000	132000	172000	273000	354000	375000	277000	425000	180000	185000
17	358000	448000	286000	139000	169000	276000	353000	376000	268000	428000	216000	179000
18	338000	467000	264000	139000	165000	289000	355000	383000	256000	410000	230000	183000
19	317000	505000	244000	142000	173000	291000	357000	412000	251000	379000	212000	190000
20	309000	540000	241000	144000	173000	277000	354000	470000	253000	342000	211000	189000
21	321000	569000	234000	160000	186000	277000	350000	501000	247000	310000	205000	244000
22	324000	585000	225000	170000	189000	296000	340000	519000	236000	273000	195000	287000
23	326000	566000	223000	170000	182000	334000	337000	521000	225000	247000	186000	315000
24	317000	514000	228000	173000	176000	336000	340000	513000	214000	237000	173000	332000
25	298000	454000	218000	172000	161000	325000	340000	495000	210000	234000	163000	372000
26	294000	404000	206000	165000	166000	318000	330000	470000	220000	227000	158000	416000
27	295000	391000	210000	143000	176000	317000	318000	449000	225000	224000	168000	430000
28	277000	412000	213000	102000	192000	316000	306000	435000	224000	223000	171000	434000
29	261000	395000	203000	111000	---	315000	292000	424000	223000	222000	162000	425000
30	248000	371000	193000	118000	---	314000	280000	414000	215000	221000	155000	428000
31	239000	---	195000	120000	---	310000	---	406000	---	220000	159000	---
TOTAL	8634000	10775000	8929000	4687000	5747000	8075000	10134000	11847000	8543000	9282000	5808000	6867000
MEAN	278500	359200	288000	151200	205300	260500	337800	382200	284800	299400	187400	228900
MAX	385000	585000	449000	190000	291000	336000	377000	521000	402000	428000	230000	434000
MIN	165000	221000	193000	102000	128000	199000	280000	275000	210000	219000	155000	138000
CAL YR 1985	TOTAL		95211800	MEAN	260900	MAX	686000	MIN	95200			
WTR YR 1986	TOTAL		99328000	MEAN	272100	MAX	585000	MIN	102000			

MISSISSIPPI RIVER MAIN STEM

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07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.83	14.14	22.31	11.23	6.38	12.58	19.14	17.94	25.68	14.30	14.53	9.42
2	10.04	15.22	25.03	10.79	9.35	12.20	18.70	18.52	25.53	15.96	13.50	9.35
3	15.00	17.40	26.12	10.96	10.57	11.44	18.57	20.33	25.10	16.53	13.71	8.89
4	15.37	17.27	23.69	10.74	14.52	13.09	18.54	21.17	24.49	16.72	13.35	9.17
5	15.07	15.93	20.53	10.82	18.29	12.24	18.76	20.67	23.61	18.00	12.64	9.04
6	14.59	14.42	19.36	9.77	18.24	12.08	19.18	20.06	22.63	19.77	12.44	8.90
7	13.46	13.96	18.64	9.34	18.37	11.89	21.41	19.33	22.21	18.88	12.69	8.77
8	12.98	13.53	18.24	8.38	17.43	11.55	22.88	18.85	21.77	17.91	12.59	8.13
9	12.59	13.57	18.31	8.10	16.89	11.59	23.05	19.22	22.14	18.18	12.66	7.63
10	12.46	13.92	18.66	8.18	16.75	11.31	22.75	20.01	22.23	22.46	12.05	7.58
11	13.55	14.49	21.38	9.23	14.99	11.79	22.66	20.25	21.19	23.91	11.72	7.45
12	18.28	14.49	26.30	8.73	13.90	12.85	22.83	20.16	20.20	24.49	10.98	8.19
13	23.19	14.34	26.33	8.05	12.36	13.36	22.52	20.18	19.32	25.37	11.41	8.67
14	23.95	16.66	23.73	7.45	10.64	14.87	22.09	21.71	18.70	25.88	10.55	8.89
15	24.21	19.62	19.86	7.15	10.89	16.17	21.83	---	18.29	26.55	11.04	11.48
16	24.11	24.41	18.01	7.06	9.96	16.74	21.62	---	18.93	27.37	11.12	11.61
17	22.94	26.49	17.81	7.61	10.04	16.86	21.51	---	18.60	27.72	13.76	10.72
18	21.82	27.48	16.21	7.86	9.49	17.64	21.62	---	17.58	26.95	15.75	11.40
19	20.60	29.36	15.08	7.71	10.66	17.89	21.76	---	17.10	25.45	14.08	12.11
20	19.86	30.85	14.59	8.12	10.35	17.27	21.52	27.40	17.34	23.25	14.02	11.42
21	20.58	32.16	14.40	9.42	11.49	17.12	21.48	28.91	17.03	21.53	13.66	15.03
22	20.82	32.93	13.48	10.24	12.08	17.92	20.92	29.93	16.11	19.29	12.88	18.44
23	20.65	32.47	13.25	10.15	11.09	20.21	20.59	30.39	15.41	17.47	12.23	20.01
24	20.21	30.65	13.75	10.52	10.92	20.68	20.74	30.40	14.38	16.55	11.08	21.06
25	19.04	27.81	13.17	10.53	9.71	20.01	20.91	29.98	14.18	16.30	10.28	22.81
26	18.60	25.12	12.22	9.96	9.58	19.66	20.53	28.99	14.60	15.81	9.60	25.73
27	18.92	23.82	12.46	9.15	10.39	19.61	20.05	28.03	15.27	15.50	10.31	26.66
28	17.89	25.55	13.07	4.49	11.25	19.59	19.49	27.35	14.99	15.36	11.14	26.87
29	16.78	25.02	12.59	4.98	---	19.52	18.81	26.72	14.98	15.29	10.52	26.52
30	16.15	23.60	11.48	5.83	---	19.60	18.25	26.28	14.35	15.13	9.34	26.72
31	15.53	---	11.60	6.22	---	19.41	---	25.93	---	15.02	9.71	---

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, 6,720 mg/L, Feb. 24, 1985; minimum daily mean, 19 mg/L, Jan. 21, 22, 1967.

SEDIMENT LOADS: Maximum daily, 9,830,000 tons, Feb. 24, 1985; minimum daily, 2,800 tons, Jan. 21, 1967.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,920 mg/L, July 11; minimum daily mean, 105 mg/L, Sept. 7.

SEDIMENT LOADS: Maximum daily, 3,770,000 tons, May 22; minimum daily, 40,100 tons, Feb. 1.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	17.0	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	24.0
3	---	---	---	1.5	---	---	---	---	---	---	---	---
4	---	11.0	---	---	---	3.0	---	---	---	---	---	---
5	---	---	.5	---	5.0	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	14.0	---	---	---	---	---	---	---	---	27.5	27.0	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	24.0	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	16.5	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	21.0	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	15.0	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	22.5
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	6.0	---	---	---	---	---	---
18	---	---	---	---	2.0	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	4.0	---	---	---	18.5	---	28.0	---	---
22	---	---	---	---	---	---	---	---	---	---	26.0	---
23	---	---	---	---	---	---	---	---	27.5	---	---	---
24	16.0	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	20.0	27.0	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	23.0
31	---	---	---	---	---	13.0	---	---	---	---	---	---

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	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)
OCT 07...	1220	209000	39	46	54	63	80	83	100	100	--
DEC 05...	1345	305000	28	33	37	43	56	62	96	100	--
FEB 05...	1130	294000	27	32	39	51	77	81	97	100	--
MAR 17...	1200	275000	30	36	44	54	70	72	98	100	100
MAY 21...	1010	497000	35	41	48	60	91	92	98	100	--
SEP 30...	1040	424000	34	37	45	56	90	93	99	100	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)
FEB 05...	0	1	17	70	81	89	96	98	100
JUN 27...	0	0	5	54	81	91	96	98	100

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	165000	333	148000	227000	254	156000	358000	597	577000
2	198000	292	156000	248000	233	156000	407000	498	547000
3	229000	328	203000	277000	283	212000	413000	635	708000
4	233000	654	411000	273000	343	253000	364000	665	654000
5	227000	628	385000	251000	402	272000	313000	367	310000
6	214000	507	293000	233000	367	231000	295000	483	385000
7	209000	426	240000	227000	421	258000	284000	315	242000
8	204000	443	244000	221000	311	186000	277000	302	226000
9	201000	306	166000	223000	219	132000	278000	277	208000
10	199000	245	132000	228000	226	139000	297000	316	253000
11	219000	204	121000	234000	220	139000	369000	406	404000
12	299000	208	168000	234000	277	175000	449000	740	897000
13	369000	741	738000	239000	426	275000	439000	813	964000
14	381000	1240	1280000	287000	457	354000	386000	748	780000
15	385000	1440	1500000	340000	623	572000	322000	593	516000
16	380000	1250	1280000	412000	796	885000	295000	402	320000
17	358000	1130	1090000	448000	1190	1440000	286000	268	207000
18	338000	858	783000	467000	1280	1610000	264000	218	155000
19	317000	647	554000	505000	1230	1680000	244000	230	152000
20	309000	639	533000	540000	1340	1950000	241000	188	122000
21	321000	534	463000	569000	1210	1860000	234000	210	133000
22	324000	503	440000	585000	1040	1640000	225000	158	96000
23	326000	546	481000	566000	1120	1710000	223000	138	83100
24	317000	538	460000	514000	979	1360000	228000	137	84300
25	298000	558	449000	454000	757	928000	218000	135	79500
26	294000	430	341000	404000	844	921000	206000	130	72300
27	295000	405	323000	391000	575	607000	210000	132	74800
28	277000	427	319000	412000	573	637000	213000	152	87400
29	261000	503	354000	395000	694	740000	203000	193	106000
30	248000	416	279000	371000	530	531000	193000	204	106000
31	239000	269	174000	---	---	---	195000	155	81600
TOTAL	8634000	---	14508000	10775000	---	22009000	8929000	---	9631000

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	190000	148	75900	128000	116	40100	208000	160	89900
2	183000	192	94900	163000	219	96400	202000	175	95400
3	183000	223	110000	191000	686	354000	201000	211	115000
4	180000	163	79200	256000	905	626000	218000	291	171000
5	176000	159	75600	291000	889	698000	209000	334	188000
6	163000	136	59900	290000	777	608000	207000	342	191000
7	157000	127	53800	288000	727	565000	203000	535	293000
8	147000	132	52400	277000	639	478000	201000	483	262000
9	143000	142	54800	274000	484	358000	200000	472	255000
10	146000	142	56000	267000	531	383000	199000	416	224000
11	156000	190	80000	247000	515	343000	204000	408	225000
12	152000	176	72200	230000	669	415000	218000	368	217000
13	144000	153	59500	204000	554	305000	226000	334	204000
14	135000	163	59400	181000	410	200000	248000	352	236000
15	132000	149	53100	180000	326	158000	267000	512	369000
16	132000	145	51700	172000	178	82700	273000	585	431000
17	139000	145	54400	169000	179	81700	276000	553	412000
18	139000	150	56300	165000	194	86400	289000	585	456000
19	142000	150	57500	173000	147	68700	291000	497	390000
20	144000	166	64500	173000	164	76600	277000	504	377000
21	160000	195	84200	186000	161	80900	277000	546	408000
22	170000	169	77600	189000	158	80600	296000	603	482000
23	170000	185	84900	182000	192	94300	334000	681	614000
24	173000	251	117000	176000	238	113000	336000	845	767000
25	172000	224	104000	161000	236	103000	325000	751	659000
26	165000	206	91800	166000	254	114000	318000	1260	1080000
27	143000	178	68700	176000	225	107000	317000	1280	1100000
28	102000	176	48500	192000	189	98000	316000	908	775000
29	111000	157	47100	---	---	---	315000	613	521000
30	118000	132	42100	---	---	---	314000	480	407000
31	120000	143	46300	---	---	---	310000	418	350000
TOTAL	4687000	---	2133300	5747000	---	6814400	8075000	---	12364300
APRIL			MAY			JUNE			
1	304000	410	337000	275000	269	200000	402000	390	423000
2	298000	333	268000	288000	246	191000	397000	361	387000
3	297000	300	241000	320000	354	306000	387000	329	344000
4	297000	296	237000	330000	670	597000	374000	382	386000
5	302000	346	282000	321000	1230	1070000	358000	293	283000
6	314000	326	276000	309000	1330	1110000	341000	306	282000
7	354000	304	291000	296000	1070	855000	332000	399	358000
8	376000	1080	1100000	290000	918	719000	325000	391	343000
9	377000	1140	1160000	298000	551	443000	332000	488	437000
10	373000	1270	1280000	311000	540	453000	329000	693	616000
11	373000	1800	1810000	314000	661	560000	311000	608	511000
12	375000	1010	1020000	312000	522	440000	293000	516	408000
13	369000	887	884000	322000	325	283000	280000	473	358000
14	362000	535	523000	347000	495	464000	270000	351	256000
15	357000	447	431000	351000	897	850000	268000	342	247000
16	354000	372	356000	375000	1810	1830000	277000	403	301000
17	353000	304	290000	376000	1540	1560000	268000	578	418000
18	355000	308	295000	383000	2030	2100000	256000	625	432000
19	357000	289	279000	412000	2710	3010000	251000	435	295000
20	354000	293	280000	470000	2710	3440000	253000	745	509000
21	350000	256	242000	501000	2730	3690000	247000	632	421000
22	340000	251	230000	519000	2690	3770000	236000	390	249000
23	337000	297	270000	521000	2010	2830000	225000	653	397000
24	340000	274	252000	513000	1490	2060000	214000	929	537000
25	340000	335	308000	495000	943	1260000	210000	908	515000
26	330000	274	244000	470000	645	819000	220000	547	325000
27	318000	354	304000	449000	594	720000	225000	367	223000
28	306000	306	253000	435000	400	470000	224000	461	279000
29	292000	299	236000	424000	338	387000	223000	927	558000
30	280000	307	232000	414000	340	380000	215000	634	368000
31	---	---	---	406000	330	362000	---	---	---
TOTAL	10134000	---	14211000	11847000	---	37229000	8543000	---	11466000

MISSISSIPPI RIVER MAIN STEM

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07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	219000	369	218000	213000	234	135000	153000	244	101000
2	238000	503	323000	203000	222	122000	152000	182	74700
3	246000	541	359000	205000	192	106000	148000	174	69500
4	251000	382	259000	201000	180	97700	153000	147	60700
5	278000	429	322000	194000	188	98500	152000	146	59900
6	297000	444	356000	193000	203	106000	150000	111	45000
7	281000	726	551000	196000	240	127000	149000	105	42200
8	266000	659	473000	195000	367	193000	142000	123	47200
9	283000	1070	818000	193000	266	139000	138000	130	48400
10	349000	2100	1980000	188000	198	101000	139000	107	40200
11	369000	2920	2910000	182000	161	79100	139000	166	62300
12	379000	1950	2000000	176000	173	82200	148000	128	51100
13	392000	1570	1660000	178000	201	96600	149000	138	55500
14	401000	1410	1530000	170000	155	71100	159000	153	65700
15	411000	1250	1390000	177000	157	75000	187000	180	90900
16	425000	1480	1700000	180000	164	79700	185000	196	97900
17	428000	1800	2080000	216000	189	110000	179000	1080	522000
18	410000	2020	2240000	230000	282	175000	183000	1030	509000
19	379000	1560	1600000	212000	994	569000	190000	561	288000
20	342000	1530	1410000	211000	1490	849000	189000	777	397000
21	310000	1130	946000	205000	886	490000	244000	429	283000
22	273000	637	470000	195000	373	196000	287000	423	328000
23	247000	657	438000	186000	337	169000	315000	667	567000
24	237000	603	386000	173000	242	113000	332000	819	734000
25	234000	508	321000	163000	221	97300	372000	1120	1120000
26	227000	294	180000	158000	159	67800	416000	2490	2800000
27	224000	241	146000	168000	141	64000	430000	2580	3000000
28	223000	210	126000	171000	149	68800	434000	1680	1970000
29	222000	205	123000	162000	110	48100	425000	1190	1370000
30	221000	238	142000	155000	180	75300	428000	1060	1220000
31	220000	222	132000	159000	269	115000	---	---	---
TOTAL	9282000	---	27589000	5808000	---	4916200	6867000	---	16120200
YEAR	99328000		178991400						

MERAMEC RIVER BASIN

07010500 MARAMEC SPRING NEAR ST. JAMES, MO

LOCATION.--Lat 37°57'20", long 91°32'57", in NW¼SE¼ sec.1, T.37 N., R.6 W., Phelps County, Hydrologic Unit 07140102, 650 ft downstream from spring outlet, 1 mi upstream from Meramac River, and 6 mi southeast of St. James.

PERIOD OF RECORD.--March 1903 to July 1906, November 1921 to October 1929, October 1965 to March 1986 (discontinued). Monthly discharge only for some months prior to October 1905 published in WSP 1311. Occasional discharge measurements 1930, 1932, 1934, 1939-40, 1946, 1953-55, 1957, 1961-65.

GAGE.--Nonrecording gage. Datum of gage is 773.97 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 11, 1921, gage at site 150 ft upstream at different datum. Nov. 11, 1921 to June 4, 1938, at site 50 ft upstream at datum 0.21 ft higher.

REMARKS.--Estimated daily discharges: Nov. 19-20. Records fair. Several observations of water temperature and specific conductance were made during the year. Occasional backwater from Meramec River.

AVERAGE DISCHARGE.--30 years (1903-05, 1922-29, 1965-85), 155 ft³/s, 112,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 770 ft³/s, Dec. 6, 1982, minimum measured, 56 ft³/s Aug. 1, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, during period Oct. 1985 to March 1986, 542 ft³/s, Nov. 21; minimum daily, 128 ft³/s, March 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	150	447	181	163	172						
2	134	154	460	181	163	172						
3	131	154	416	176	176	172						
4	141	154	393	181	317	163						
5	141	154	364	176	306	163						
6	141	150	335	181	317	154						
7	141	150	317	172	335	154						
8	138	145	294	172	306	145						
9	136	145	283	167	288	145						
10	134	141	358	181	260	145						
11	141	141	393	181	233	150						
12	145	196	441	176	206	163						
13	150	352	393	176	196	185						
14	154	404	369	176	188	176						
15	150	393	364	167	181	167						
16	150	485	340	167	196	159						
17	145	441	306	176	212	154						
18	145	429	283	172	212	154						
19	141	470	255	167	201	159						
20	141	520	255	172	190	150						
21	141	542	260	168	196	150						
22	141	491	244	163	185	145						
23	138	447	235	167	185	145						
24	141	425	227	167	181	138						
25	150	404	222	163	176	138						
26	150	381	206	163	176	138						
27	141	410	196	163	176	131						
28	141	472	206	163	172	131						
29	141	435	201	163	---	128						
30	134	410	190	163	---	131						
31	138	---	190	162	---	138	---		---			---
TOTAL	4391	9745	9443	5303	6093	4715						
MEAN	142	325	305	171	218	152						
MAX	154	542	460	181	335	185						
MIN	131	141	190	162	163	128						
CAL YR 1985	TOTAL	93242	MEAN	255	MAX	700	MIN	131				

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 downstream from railroad bridge, 400 ft upstream from highway bridge, 0.8 mi upstream from Whittenburg Creek, 1.5 mi north of Steelville, and at mile 149.4.

DRAINAGE AREA.--781 mi².

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 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 above National Geodetic Vertical Datum of 1929. Prior to May 24, 1934 and July 20, 1966 to July 20, 1967, nonrecording gage, and May 24, 1934 to Oct. 10, 1942, water-stage recorder at site 400 ft downstream at present datum. July 21, 1967 to Feb. 13, 1973 at site 1,900 ft downstream and at datum 2.0 ft lower.

REMARKS.--Estimated daily discharges: Nov. 21, and Dec. 2, 3. Records good. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--64 years, 583 ft³/s, 10.14 in/yr, 422,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,200 ft³/s, June 18, 1985, gage height, 26.15 ft; minimum, 74 ft³/s, July 22, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 20, 1915, reached a stage of 26.5 ft, discharge, 60,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 20	0200	*31,200	*20.75	No other peak greater than base discharge.			

Minimum discharge, 169 ft³/s, Aug. 23-27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	242	354	3150	505	323	395	284	327	462	257	190	177
2	241	494	2670	487	394	388	278	404	412	257	188	177
3	241	445	1870	464	2430	374	287	387	370	254	183	173
4	242	384	1670	453	2110	364	290	352	341	252	177	183
5	243	352	1430	438	1260	358	300	332	565	244	177	176
6	240	328	1320	424	980	349	338	316	749	235	194	194
7	238	312	1200	405	1340	337	417	303	1060	232	196	192
8	236	300	1140	376	1090	330	690	288	818	226	192	183
9	232	290	1080	359	889	333	1130	280	933	222	197	177
10	231	298	1780	374	755	338	789	326	1390	224	219	175
11	237	299	3710	370	670	327	648	430	1610	217	228	203
12	258	307	4970	373	601	379	580	503	986	235	218	203
13	285	1050	2570	371	552	491	532	467	703	620	210	230
14	294	4240	1760	367	531	519	504	436	557	413	200	201
15	278	2220	1420	361	506	480	488	667	839	318	200	186
16	264	3230	1240	362	495	450	473	1090	807	276	203	180
17	257	1900	1130	366	549	421	450	1040	538	254	200	197
18	258	3320	1000	362	606	413	431	806	453	239	194	227
19	260	12500	879	362	605	420	411	686	410	230	190	246
20	263	22500	811	359	573	414	397	598	380	222	183	231
21	272	4280	728	359	538	383	394	531	355	213	180	211
22	272	2490	730	350	509	362	394	479	338	208	176	199
23	265	1950	722	340	488	348	394	450	321	199	174	214
24	262	1580	746	337	469	334	394	449	307	194	169	255
25	254	1350	699	339	453	326	391	500	302	194	169	273
26	256	1370	626	330	447	320	364	511	292	213	171	251
27	255	2390	631	312	435	311	333	490	280	226	189	249
28	249	4750	593	309	414	308	326	451	272	206	180	239
29	253	3110	564	315	---	300	326	564	265	203	177	231
30	249	2130	535	312	---	298	320	639	259	201	180	501
31	277	---	526	307	---	287	---	519	---	198	179	---
TOTAL	7904	80523	43900	11548	21012	11457	13353	15621	17374	7682	5883	6534
MEAN	255	2684	1416	373	750	370	445	504	579	248	190	218
MAX	294	22500	4970	505	2430	519	1130	1090	1610	620	228	501
MIN	231	290	526	307	323	287	278	280	259	194	169	173
CAL YR 1985	TOTAL		560029	MEAN		1534	MAX	38300	MIN		231	
WTR YR 1986	TOTAL		242791	MEAN		665	MAX	22500	MIN		169	

MERAMEC RIVER BASIN

07013000 MERAMEC RIVER NEAR STEELVILLE, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.03	2.23	4.87	2.75	2.22	2.41	2.17	2.26	2.56	2.02	1.80	1.75
2	2.03	2.55	---	2.72	2.37	2.39	2.15	2.41	2.46	2.02	1.79	1.76
3	2.03	2.47	---	2.67	4.25	2.36	2.18	2.40	2.36	2.00	1.77	1.74
4	2.03	2.32	---	2.66	5.02	2.34	2.17	2.32	2.30	2.00	1.76	1.79
5	2.03	2.27	3.82	2.61	4.01	2.32	2.20	2.28	2.51	1.97	1.75	1.76
6	2.02	2.20	13.40	2.58	3.44	2.31	2.21	2.25	3.15	1.93	1.82	1.81
7	2.01	2.17	23.06	2.54	4.25	2.28	2.41	2.22	3.73	1.93	1.78	1.80
8	2.01	2.13	3.39	2.49	3.70	2.27	2.77	2.18	3.35	1.90	1.80	1.78
9	1.99	2.11	3.28	2.46	3.41	2.27	3.75	2.15	3.00	1.89	1.80	1.76
10	1.99	2.15	3.74	2.46	3.19	2.28	3.27	2.16	3.62	1.90	1.89	1.75
11	1.99	2.13	5.74	2.45	3.03	2.27	2.99	2.45	4.54	1.88	1.91	1.76
12	2.06	2.16	8.41	2.44	2.88	2.35	2.84	2.65	3.59	1.90	1.88	1.82
13	2.06	2.28	5.52	2.43	2.78	2.60	2.72	2.58	3.13	2.25	1.86	1.94
14	2.14	7.97	4.64	2.41	2.73	2.71	2.68	2.45	2.87	2.55	1.83	1.84
15	2.10	4.50	4.17	2.39	2.67	2.60	2.61	2.77	2.78	2.24	1.81	1.79
16	2.07	6.15	3.90	2.39	2.62	2.53	2.59	3.63	3.32	2.09	1.85	1.77
17	2.05	4.87	3.72	2.40	2.71	2.46	2.53	3.66	2.84	2.02	1.83	1.76
18	2.05	4.24	3.56	2.37	2.87	2.43	2.49	3.27	2.63	1.95	1.81	1.86
19	2.05	10.69	3.38	2.38	2.88	2.46	2.44	3.07	2.51	1.93	1.80	2.01
20	2.05	19.23	3.28	2.36	2.82	2.45	2.41	2.88	2.41	1.89	1.77	1.94
21	2.08	---	3.14	2.35	2.74	2.38	2.40	2.73	2.33	1.87	1.77	1.87
22	2.08	5.16	3.13	2.34	2.66	2.34	2.40	2.60	2.28	1.85	1.75	1.83
23	2.06	4.47	3.08	2.30	2.61	2.31	2.40	2.52	2.23	1.83	1.75	1.86
24	2.06	4.04	3.16	2.29	2.58	2.28	2.40	2.48	2.20	1.81	1.73	1.95
25	2.03	3.72	3.10	2.29	2.53	2.26	2.40	2.53	2.16	1.81	1.73	2.08
26	2.03	3.53	2.99	2.27	2.51	2.24	2.36	2.66	2.14	1.81	1.74	2.00
27	2.03	4.85	2.96	2.24	2.49	2.23	2.28	2.65	2.10	1.95	1.79	2.00
28	2.01	7.26	2.90	2.22	2.45	2.22	2.26	2.51	2.07	1.84	1.78	1.94
29	2.01	5.76	2.84	2.24	---	2.20	2.26	2.57	2.05	1.84	1.75	1.91
30	2.01	4.66	2.80	2.22	---	2.20	2.26	3.00	2.03	1.83	1.77	2.24
31	2.05	---	2.79	2.22	---	2.18	---	2.71	---	1.83	1.76	---

MERAMEC RIVER BASIN

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07013050 CROOKED CREEK NEAR DILLARD, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°42'42", long. 91°11'48", in NW¼ sec.31, T.35 N., R.2 W., Crawford County, Hydrologic Unit 07140102, at bridge on county road.

PERIOD OF RECORD.--October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
OCT											
21...	1010	6.4	605	7.70	16.5	9.3	94	6	2	2	1
NOV											
22...	1400	21	225	7.80	10.5	11.1	99	3	2	<1	1
DEC											
16...	1105	10	280	8.70	4.5	13.4	102	2	<1	2	<1
JAN											
21...	1000	7.4	332	7.80	6.5	12.3	101	2	<1	<1	<1
FEB											
13...	1220	10	414	8.20	2.5	14.2	104	2	2	<1	2
MAR											
03...	1000	7.8	436	8.60	6.5	12.0	98	1	<1	2	3
APR											
07...	0930	9.2	446	8.30	16.0	11.7	119	1	<1	1	2
MAY											
12...	0940	16	420	8.20	17.5	8.5	89	1	2	<1	<1
JUN											
11...	1140	28	284	7.80	20.5	9.2	103	1	1	<1	<1
JUL											
14...	1135	11	338	7.80	23.5	7.7	91	1	<1	<1	<1
AUG											
13...	1145	5.9	450	7.40	22.5	8.3	96	1	<1	<1	<1
SEP											
15...	0925	4.2	438	7.60	19.5	7.4	81	1	<1	<1	4

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)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT										
21...	<1	<1	<10	3	2	<1	2	2	<10	19
NOV										
22...	6	1	360	53	4	<1	4	2	30	12
DEC										
16...	15	<1	170	10	12	2	11	<1	20	7
JAN										
21...	<1	<1	50	11	<1	<1	4	<1	50	55
FEB										
13...	1	2	80	<3	<1	1	9	2	10	14
MAR										
03...	2	<1	10	7	2	<1	8	<1	20	--
APR										
07...	4	2	30	4	1	<1	<1	4	20	--
MAY										
12...	5	2	20	7	<1	<1	5	<1	<10	--
JUN										
11...	2	<1	10	5	<5	<5	<1	2	<10	20
JUL										
14...	5	3	10	7	<5	<5	4	1	20	--
AUG										
13...	1	<1	80	<3	<5	<5	5	1	20	25
SEP										
15...	3	3	<10	9	<5	<5	1	2	10	--

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 downstream from Brazil Creek, 4.0 mi southeast of Sullivan, and at mile 117.0.

DRAINAGE AREA.--1,475 mi².

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,(M), 1924-30, 1933: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 581.82 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 21, 1952, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Jan. 31 to Feb. 9, Feb. 19-25, and May 25 to June 2. Water discharge records good except for estimated daily discharges, which are poor. Water diverted from river 0.5 mi above gage by mining company. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--55 years, 1,217 ft³/s, 11.20 in/yr, 881,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,300 ft³/s, June 9, 1945, gage height, 32.0 ft; maximum gage height, 32.34 ft, Dec. 4, 1982; minimum discharge, 131 ft³/s, Sept. 20, 22, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1915 reached a stage of 33.5 ft, from information by local residents, discharge 90,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 19	2145	*50,900	*27.95	Feb. 3	Unknown	11,600	13.44
Dec. 12	1030	11,200	13.25				

Minimum discharge, 357 ft³/s, Sept. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	469	964	4050	1300	1600	997	785	806	1620	598	432	369
2	462	1190	6060	1250	5000	972	781	818	1090	636	409	362
3	459	1150	4270	1220	10500	953	787	852	999	628	396	371
4	454	959	3180	1190	6300	931	790	810	925	594	384	379
5	446	834	2710	1150	3780	914	810	777	1280	565	375	374
6	440	766	2400	1110	2940	902	842	760	2970	540	442	373
7	437	716	2160	1090	3080	880	943	747	3040	515	469	385
8	431	658	1990	1040	2730	859	1090	729	2410	493	498	386
9	429	609	1890	981	1870	852	1870	738	2400	482	480	372
10	425	692	2430	974	1690	859	1660	787	3550	471	566	367
11	448	668	6310	976	1560	857	1380	879	3540	467	551	435
12	570	642	10500	966	1450	968	1220	1040	2460	488	565	474
13	567	1590	6520	951	1390	1190	1110	1080	1880	964	515	446
14	642	7140	4020	938	1330	1340	1030	997	1560	1580	478	440
15	594	6310	3140	924	1290	1270	974	1700	1390	999	459	405
16	549	6740	2700	912	1330	1180	950	2430	1910	806	467	384
17	515	5190	2440	910	1440	1110	910	2370	1460	682	494	411
18	504	5240	2230	904	1470	1060	878	2120	1200	607	533	841
19	513	27300	2030	901	1410	1050	852	1810	1060	554	488	593
20	513	38500	1880	891	1340	1030	838	1530	963	524	445	525
21	524	20900	1760	873	1270	983	845	1330	891	491	428	489
22	527	5470	1690	857	1220	937	859	1180	843	465	408	445
23	517	3840	1700	833	1170	907	882	1060	804	448	394	529
24	504	3100	1700	816	1150	882	865	1160	784	433	379	592
25	480	2630	1660	806	1130	859	855	1560	744	429	373	660
26	465	2870	1560	791	1100	850	832	1480	717	446	371	608
27	454	4240	1500	768	1070	835	813	1460	691	511	393	730
28	445	8240	1480	766	1040	822	808	1460	670	483	402	603
29	478	7280	1410	768	---	813	787	2140	639	531	381	532
30	551	4320	1360	755	---	804	775	2240	614	498	374	2090
31	665	---	1320	750	---	793	---	1820	---	461	373	---
TOTAL	15477	170748	90050	29361	62650	29659	28821	40670	45104	18389	13722	15970
MEAN	499	5692	2905	947	2238	957	961	1312	1503	593	443	532
MAX	665	38500	10500	1300	10500	1340	1870	2430	3550	1580	566	2090
MIN	425	609	1320	750	1040	793	775	729	614	429	371	362
CAL YR 1985		TOTAL	1132962	MEAN	3104	MAX	40600	MIN	425			
WTR YR 1986		TOTAL	560621	MEAN	1536	MAX	38500	MIN	362			

MERAMEC RIVER BASIN

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07014500 MERAMEC RIVER NEAR SULLIVAN, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.54	3.23	7.83	3.98	---	3.32	2.86	3.00	---	2.54	2.17	1.99
2	2.52	3.76	9.85	3.92	---	3.25	2.85	2.95	---	2.63	2.10	1.96
3	2.52	3.80	8.07	3.87	---	3.22	2.87	3.09	3.33	2.62	2.06	1.95
4	2.51	3.43	6.77	3.81	---	3.18	2.88	2.97	3.17	2.54	2.03	2.00
5	2.50	3.16	6.13	3.74	---	3.14	2.93	2.89	3.36	2.48	2.00	2.00
6	2.50	3.01	5.72	3.68	---	3.11	2.95	2.84	5.18	2.43	2.22	1.99
7	2.50	2.91	5.36	3.63	---	3.07	3.16	2.81	6.17	2.37	2.15	2.02
8	2.47	2.82	5.11	3.53	---	3.03	3.36	2.75	5.75	2.32	2.33	2.04
9	2.47	2.75	4.91	3.43	---	3.00	5.21	2.73	4.95	2.29	2.27	1.99
10	2.46	2.78	5.23	3.39	4.56	3.02	4.61	2.93	7.21	2.26	2.50	1.98
11	2.48	2.84	8.55	3.42	4.34	3.03	4.10	2.94	7.31	2.25	2.44	1.96
12	2.73	2.77	13.13	3.40	4.14	3.18	3.87	3.34	5.84	2.27	2.50	2.29
13	2.63	3.31	10.29	3.37	4.03	3.57	3.68	3.48	4.93	2.62	2.38	2.18
14	2.81	10.50	7.76	3.34	3.93	3.94	3.58	3.25	4.36	4.74	2.29	2.20
15	2.74	9.62	6.72	3.31	3.81	3.83	3.46	4.70	4.01	3.37	2.23	2.09
16	2.67	10.01	6.15	3.29	3.90	3.68	3.42	5.56	5.06	2.98	2.26	2.02
17	2.62	9.12	5.77	3.28	4.10	3.52	3.34	5.71	4.22	2.73	2.26	2.01
18	2.58	7.75	5.48	3.27	4.15	3.41	3.25	5.30	3.73	2.58	2.43	2.29
19	2.61	16.15	5.18	3.27	4.07	3.42	3.20	4.79	3.44	2.46	2.32	2.62
20	2.60	24.63	4.93	3.26	---	3.37	3.13	4.30	3.26	2.39	2.22	2.40
21	2.63	19.96	4.76	3.23	---	3.28	3.14	3.97	3.11	2.33	2.15	2.33
22	2.63	9.16	4.61	3.19	---	3.20	3.16	3.66	3.00	2.27	2.09	2.21
23	2.61	7.57	4.64	3.14	---	3.13	3.22	3.45	2.95	2.22	2.07	2.20
24	2.60	6.69	4.64	3.10	---	3.08	3.17	3.37	2.91	2.18	2.02	2.50
25	2.57	6.07	4.60	3.09	3.57	3.03	3.14	---	2.83	2.15	1.99	2.64
26	2.53	5.66	4.44	3.06	3.49	3.02	3.08	---	2.78	2.11	1.98	2.58
27	2.53	7.25	4.30	3.01	3.44	2.98	3.03	---	2.73	2.38	2.04	2.77
28	2.50	11.49	4.29	2.99	3.40	2.95	3.03	3.91	2.70	2.26	2.09	2.57
29	2.51	11.24	4.19	3.02	---	2.92	2.96	5.47	2.63	2.40	2.01	2.40
30	2.66	8.11	4.10	2.98	---	2.91	2.92	---	2.58	2.32	1.99	5.15
31	2.76	---	4.03	---	---	2.89	---	---	---	2.25	2.00	---

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 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 18...	1300	508	346	8.10	17.0	9.0	91	<10	K11	200
NOV 22...	1130	5330	188	7.50	10.0	12.5	107	12	K700	--
DEC 12...	1400	10900	149	7.60	5.5	11.8	92	120	1100	--
JAN 10...	1215	966	308	7.70	0.5	15.4	103	<10	<1	170
FEB 13...	1200	1390	290	7.40	2.5	14.5	107	19	K5	--
MAR 13...	1315	1210	328	8.50	12.5	13.0	125	12	K8	--
APR 10...	1310	1630	289	8.20	16.0	8.9	92	31	88	150
MAY 16...	1215	2660	300	8.10	20.0	10.1	113	26	>600	--
JUN 12...	1230	2430	239	8.00	21.5	7.4	86	<10	160	--
JUL 11...	0840	464	335	8.20	27.5	6.2	80	<10	K6	180
AUG 27...	1400	399	345	8.30	24.5	7.3	89	13	26	--
SEP 19...	1320	592	342	8.10	21.5	7.7	89	21	K260	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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 18...	21	41	24	2.9	1.2	181	2.8	9.6	3.9	<0.10
NOV 22...	--	--	--	--	--	81	5.1	--	--	--
DEC 12...	--	--	--	--	--	69	3.4	--	--	--
JAN 10...	17	35	21	2.7	1.2	156	6.1	10	3.0	<0.10
FEB 13...	--	--	--	--	--	152	13	--	--	--
MAR 13...	--	--	--	--	--	175	0.6	--	--	--
APR 10...	4	30	18	3.0	1.5	139	1.8	11	4.1	<0.10
MAY 16...	--	--	--	--	--	153	2.4	--	--	--
JUN 12...	--	--	--	--	--	118	2.3	--	--	--
JUL 11...	2	36	21	2.6	1.3	171	2.1	8.8	3.2	0.10
AUG 27...	--	--	--	--	--	180	1.8	--	--	--
SEP 19...	--	--	--	--	--	174	2.9	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 18...	201	4	0.200	0.020	<0.010	7	4	5	1	190
NOV 22...	--	34	0.300	0.070	0.090	--	--	--	--	--
DEC 12...	--	78	0.300	0.040	0.060	--	--	--	--	--
JAN 10...	163	1	0.300	0.020	<0.010	<1	<1	3	1	30
FEB 13...	--	9	0.400	0.030	0.020	--	--	--	--	--
MAR 13...	--	2	0.200	0.040	0.010	--	--	--	--	--
APR 10...	157	11	0.300	0.040	0.050	<1	<1	4	3	860
MAY 16...	--	26	0.200	0.020	0.030	--	--	--	--	--
JUN 12...	--	43	0.300	0.040	0.050	--	--	--	--	--
JUL 11...	178	10	0.100	0.020	0.020	<1	<1	5	2	120
AUG 27...	--	1	0.100	0.010	0.020	--	--	--	--	--
SEP 19...	--	12	<0.100	--	0.090	--	--	--	--	--

[illegible]

MERAMEC RIVER BASIN

07015720 BOURBEUSE RIVER NEAR HIGH GATE, MO

LOCATION.--Lat 38°08'49", long 91°34'50", in SW¼NE¼ 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 downstream from Lanes Fork, 5 mi east of High Gate, and 11 mi north of St. James.

DRAINAGE AREA.--135 mi².

PERIOD OF RECORD.--July 1965 to current year. Occasional low-flow measurements 1963, 1964.

REVISED RECORDS.--WDR MO-83-1: 1982.

GAGE.--Water-stage recorder. Datum of gage is 804.1 ft above 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.--Estimated daily discharges: Nov. 21-25, Dec. 14-26, Jan. 7-12, Feb. 12-15, Mar. 1-11, Mar. 27 to April 29, May 31 to June 3, June 8, 9, 12-14, 17-24, July 7-12, 16, Aug. 1-26 and Aug. 28 to Sept 10, 16. Records poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--21 years, 133 ft³/s, 13.38 in/yr, 96,360 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,300 ft³/s, Dec. 3, 1982, from rating curve extended above 33,500 ft³/s, gage height, 23.65 ft; no flow Aug. 27 to Sept. 15, 1971, July 28 to Aug. 24, 1975, and Aug. 18-22, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1957 reached a stage of about 23 ft, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 15	1630	7,340	11.45	Dec. 11	0945	5,100	9.40
Nov. 18	1245	13,000	15.47	Feb. 3	1215	*17,200	*17.50
Nov. 26	1745	5,080	9.38	July 13	0215	3,630	7.86
Dec. 1	0645	7,720	11.77	Sept. 30	1015	7,590	11.66

Minimum discharge not determined, occurred during period of no gage height record.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	32	3110	38	11	30	21	6.7	17	2.4	1.0	.70
2	.70	28	440	34	98	26	20	6.5	16	2.3	1.0	.70
3	.70	14	260	26	9050	24	19	6.6	15	2.2	1.0	.70
4	.85	9.4	192	25	2040	22	18	6.5	14	1.9	1.0	.70
5	1.2	7.1	129	24	654	20	17	6.3	67	1.8	1.0	.70
6	1.2	6.1	97	24	709	18	16	6.2	39	1.7	4.0	.70
7	1.2	5.8	80	23	869	16	15	6.0	21	1.6	2.0	.70
8	1.4	5.2	75	23	411	15	15	6.0	18	1.5	2.0	.70
9	1.4	4.8	175	22	247	14	14	5.7	17	1.4	2.0	.70
10	1.4	6.9	922	22	169	13	14	5.5	31	1.3	3.0	.70
11	2.0	16	2520	21	141	30	13	5.4	22	1.2	3.0	2.2
12	4.5	14	584	20	115	95	12	5.4	19	1.9	2.0	6.9
13	5.5	109	298	18	105	127	12	5.4	18	718	2.0	2.2
14	6.6	1790	200	17	100	81	11	5.3	16	54	2.0	1.9
15	5.6	2670	150	15	95	57	11	5.6	869	25	2.0	1.3
16	4.8	744	120	14	106	44	10	6.3	166	13	2.0	1.0
17	4.5	252	105	13	395	38	10	6.6	50	9.0	1.0	1.3
18	4.8	6420	96	13	267	41	9.5	6.9	20	5.0	1.0	33
19	5.5	4950	90	13	179	78	9.0	6.6	10	3.0	1.0	36
20	11	733	85	13	126	63	8.5	6.5	8.0	2.5	1.0	12
21	6.9	500	80	14	93	46	8.0	6.3	6.8	2.0	1.0	5.4
22	5.1	400	75	13	75	39	8.0	6.1	6.0	1.4	1.0	2.9
23	4.0	350	70	13	65	35	7.7	6.3	5.3	1.3	1.0	104
24	3.6	300	65	13	57	31	7.6	6.0	4.7	1.2	1.0	82
25	3.4	500	60	12	50	30	7.4	5.9	4.3	1.2	1.0	29
26	3.3	860	55	12	46	29	7.2	5.9	4.0	1.2	1.0	15
27	2.9	1840	52	12	41	28	7.0	6.5	3.5	1.2	.83	86
28	2.4	813	46	12	34	26	6.9	16	3.1	1.2	.70	47
29	2.2	331	44	12	---	25	6.7	33	2.9	1.0	.70	23
30	2.7	272	43	11	---	23	6.6	21	2.7	1.0	.70	3800
31	4.5	---	40	11	---	22	---	18	---	1.0	.70	---
TOTAL	106.55	23983.3	10358	553	16348	1186	348.1	253.0	1496.3	864.4	44.63	4299.10
MEAN	3.44	799	334	17.8	584	38.3	11.6	8.16	49.9	27.9	1.44	143
MAX	11	6420	3110	38	9050	127	21	33	869	718	4.0	3800
MIN	.70	4.8	40	11	11	13	6.6	5.3	2.7	1.0	.70	.70
CAL YR 1985	TOTAL 126579.04		MEAN 347		MAX 12700		MIN .52					
WTR YR 1986	TOTAL 59840.38		MEAN 164		MAX 9050		MIN .70					

MERAMEC RIVER BASIN

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07015720 BOURBEUSE RIVER NEAR HIGH GATE, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-0.20	.36	11.12	.54	.19	---	.39	.22	---	-0.33	---	---
2	-0.19	.56	2.55	.53	.95	---	.38	.22	---	-0.33	---	---
3	-0.19	.36	1.80	.41	15.47	---	.37	.21	---	-0.36	---	---
4	-0.18	.25	1.78	.40	6.09	---	.37	.20	.34	-0.38	---	---
5	-0.16	.19	1.23	.39	3.18	---	.37	.20	.33	-0.40	---	---
6	-0.16	.15	1.04	.38	2.10	---	.37	.20	.62	-0.40	---	---
7	-0.16	.14	.91	---	3.78	---	.37	.19	.43	---	---	---
8	-0.14	.12	.87	---	2.40	---	.36	.18	.42	---	---	---
9	-0.14	.11	.79	---	1.78	---	.35	.17	.41	---	---	---
10	-0.14	.16	3.05	---	1.42	---	.34	.17	.63	---	---	---
11	-0.12	.42	8.70	---	1.25	---	.33	.16	.44	---	---	-0.62
12	.01	.34	3.02	---	---	.53	.33	.16	.42	---	---	-0.31
13	---	.50	2.03	.33	---	1.21	.32	.15	.41	2.80	---	-0.51
14	.08	8.50	---	.30	---	.90	.33	.14	.39	.51	---	-0.53
15	.05	2.64	---	.28	1.08	.71	.31	.16	7.38	.35	---	-0.57
16	.02	3.59	---	.24	.67	.59	.31	.18	1.21	---	---	---
17	.01	1.96	---	.24	2.32	.52	.30	.19	---	-0.06	---	-0.62
18	.01	10.28	---	.24	1.85	.47	.30	.19	---	-0.16	---	-0.19
19	.04	9.78	---	.24	1.46	.85	.29	.18	---	-0.24	---	.28
20	.21	3.47	---	.24	1.17	.77	.29	.17	---	-0.30	---	-0.20
21	.10	---	---	.25	.98	.61	.28	.17	---	-0.39	---	-0.38
22	.05	---	---	.24	.83	.54	.27	.16	---	-0.44	---	-0.48
23	.03	---	---	.23	.75	.48	.26	.16	---	-0.45	---	-0.42
24	.01	---	---	.23	.70	.44	.26	.15	---	-0.46	---	.50
25	.01	---	---	.22	.63	.43	.26	.15	.14	-0.46	---	.03
26	.02	---	---	.22	.59	.42	.25	.14	-0.29	-0.46	---	-0.20
27	.01	3.56	.69	.21	.56	---	.24	.16	-0.30	-0.46	---	.87
28	.00	3.72	.64	.22	.47	---	.23	.17	-0.31	-0.46	---	.25
29	.00	2.25	.60	.22	---	---	.23	.57	-0.33	-0.47	---	-0.03
30	.02	1.81	.60	.21	---	---	.22	.44	-0.36	-0.47	---	11.05
31	.04	---	.58	.20	---	---	---	---	---	-0.47	---	---

MERAMEC RIVER BASIN

07016400 BOURBEUSE RIVER ABOVE UNION, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°25'55", long 91°01'11", in SW¼NW¼ sec.34, T.43 N., R.1 W., Franklin County, Hydrologic Unit 07140103, at bridge on North Bend Drive, 5.5 mi upstream from gaging station, 0.5 mi southwest of Union.

DRAINAGE AREA.--808 mi² approximately.

PERIOD OF RECORD.--August 1963 to September 1974, November 1983 to current year.

REMARKS.--Discharge from Bourbeuse River at Union, Mo.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 18...	1045	47	330	8.00	18.0	7.8	80	<10	K13	170
NOV 22...	1015	4920	120	7.20	9.0	11.1	93	26	K4200	--
DEC 12...	1230	9510	85	7.30	3.5	12.8	94	37	3900	--
JAN 10...	1100	143	271	7.30	0.5	19.4	130	10	K7	130
FEB 13...	1030	609	182	6.90	0.5	15.8	110	23	23	--
MAR 12...	1430	287	261	8.30	10.5	12.9	119	21	1600	--
APR 10...	1130	151	300	8.10	16.5	9.9	103	<10	K8	150
MAY 16...	1030	149	332	8.20	22.0	9.6	111	21	420	--
JUN 12...	1115	147	290	8.00	25.5	6.5	81	<10	K40	--
JUL 11...	1100	51	260	8.20	29.5	6.8	91	<10	K17	120
AUG 27...	1210	57	230	8.00	26.0	6.6	83	11	60	--
SEP 19...	1120	1880	100	7.40	19.0	7.3	80	46	>1200	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LITY WH WAT TOTAL 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 18...	14	32	21	4.4	1.8	154	3.0	18	5.0	<0.10
NOV 22...	--	--	--	--	--	41	5.2	--	--	--
DEC 12...	--	--	--	--	--	31	3.1	--	--	--
JAN 10...	28	26	16	4.9	1.7	103	10	23	12	<0.10
FEB 13...	--	--	--	--	--	66	18	--	--	--
MAR 12...	--	--	--	--	--	97	1	--	--	--
APR 10...	20	29	18	5.5	1.7	121	2.0	13	6.2	<0.10
MAY 16...	--	--	--	--	--	151	1.9	--	--	--
JUN 12...	--	--	--	--	--	124	2.4	--	--	--
JUL 11...	5	22	17	5.0	2.0	117	1.5	16	11	0.20
AUG 27...	--	--	--	--	--	107	2.2	--	--	--
SEP 19...	--	--	--	--	--	46	4.0	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 18...	176	5	<0.100	0.030	0.020	1	1	6	<1	290
NOV 22...	--	122	0.300	0.070	0.130	--	--	--	--	--
DEC 12...	--	426	0.300	0.060	0.060	--	--	--	--	--
JAN 10...	156	2	0.800	0.100	0.070	<1	<1	3	2	330
FEB 13...	--	23	0.600	0.040	0.040	--	--	--	--	--
MAR 12...	--	49	0.400	0.090	0.090	--	--	--	--	--
APR 10...	163	2	<0.100	0.010	0.040	<1	<1	3	1	190
MAY 16...	--	8	<0.100	0.130	0.110	--	--	--	--	--
JUN 12...	--	25	0.100	0.040	0.060	--	--	--	--	--
JUL 11...	144	5	<0.100	0.050	0.050	<1	<1	11	1	250
AUG 27...	--	6	<0.100	0.020	0.030	--	--	--	--	--
SEP 19...	--	523	0.300	--	0.190	--	--	--	--	--

[illegible]

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 upstream from Flat Creek, 0.5 mi east of Union, 7.0 mi upstream from Birch Creek, and at mile 13.4.

DRAINAGE AREA.--808 mi².

PERIOD OF RECORD.--June 1921 to current year; Oct. 1916 to 1921 gage heights 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 above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1948, datum of all gages 3.00 ft higher. Prior to Oct. 21, 1933, nonrecording gage, at site 30 ft upstream. Oct. 21, 1933, to June 11, 1944, nonrecording gage, at present site.

REMARKS.--Estimated daily discharges: Mar. 25 to Apr. 10 and July 13-17. Records good except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--65 years, 655 ft³/s, 11.01 in/yr, 474,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,300 ft³/s, December 5, 1982, gage height, 33.80 ft; minimum, 11 ft³/s, Oct. 10, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 22, 1915, reached a stage of 28.5 ft, present datum, from floodmarks, discharge, about 50,000 ft³/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 greater than base discharge of 8,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 21	1245	*24,400	*21.06	Dec. 13	0515	11,000	14.62
Dec. 3	0530	10,200	13.97	Feb. 6	0330	20,200	19.60

Minimum discharge, 32 ft³/s, Aug. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	98	2580	233	178	306	210	126	154	72	47	41
2	57	86	7790	225	459	295	180	121	146	70	44	40
3	56	87	6550	215	4550	281	160	123	143	64	39	40
4	52	101	1390	204	10500	268	150	127	132	63	36	40
5	51	103	933	194	16300	257	155	131	128	62	34	40
6	50	116	741	184	15900	250	160	125	121	61	174	39
7	50	111	631	173	2850	239	170	119	129	59	113	39
8	49	95	551	167	3330	230	180	113	210	58	128	40
9	47	84	514	158	2030	226	200	112	200	56	85	43
10	45	83	762	145	1260	213	177	112	208	53	82	43
11	45	79	4810	137	918	208	145	143	167	51	73	61
12	48	75	9400	133	719	277	142	120	147	51	74	56
13	47	93	7520	128	603	309	140	161	202	51	79	55
14	45	362	1710	127	539	481	137	160	183	47	75	60
15	46	2410	1060	126	485	546	130	153	173	45	75	73
16	46	4990	807	125	443	527	129	147	153	71	76	84
17	46	4840	699	124	441	518	128	140	277	297	69	89
18	47	4150	608	121	676	528	128	240	379	115	60	796
19	50	11800	513	121	1170	541	126	211	243	88	55	1680
20	50	16700	458	120	873	602	127	185	179	70	51	861
21	48	23100	409	119	674	666	126	172	145	59	50	433
22	47	7020	398	115	562	652	123	155	126	54	49	292
23	48	1280	393	112	488	616	121	140	122	50	47	243
24	51	919	379	111	436	575	120	131	102	48	44	260
25	50	738	343	109	400	560	120	125	90	45	44	525
26	50	767	325	105	369	480	117	142	85	43	45	747
27	53	2910	330	100	344	420	113	160	80	41	54	1240
28	53	7620	307	99	324	360	111	169	75	43	49	1170
29	54	6670	280	97	---	300	111	249	70	43	44	1110
30	58	2110	255	96	---	280	111	193	74	42	42	4250
31	63	---	241	93	---	240	---	161	---	49	42	---
TOTAL	1561	99597	53687	4316	67821	12251	4247	4666	4643	2021	1979	14490
MEAN	50.4	3320	1732	139	2422	395	142	151	155	65.2	63.8	483
MAX	63	23100	9400	233	16300	666	210	249	379	297	174	4250
MIN	45	75	241	93	178	208	111	112	70	41	34	39
CAL YR 1985		TOTAL	571088	MEAN	1565	MAX	23200	MIN	45			
WTR YR 1986		TOTAL	271279	MEAN	743	MAX	23100	MIN	34			

MERAMEC RIVER BASIN

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07016500 BOURBEUSE RIVER AT UNION, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.09	1.41	5.52	2.05	1.46	2.19	---	1.61	1.70	1.33	1.30	1.40
2	1.08	1.32	11.53	2.03	2.53	2.17	---	1.58	1.68	1.34	1.28	1.40
3	1.08	1.30	13.88	1.99	7.89	2.13	---	1.60	1.66	1.30	1.24	1.41
4	1.05	1.39	4.65	1.96	13.61	2.09	---	1.60	1.62	1.29	1.20	1.41
5	1.04	1.39	3.77	1.92	17.20	2.05	---	1.64	1.59	1.29	1.20	1.41
6	1.04	1.46	3.35	1.89	19.42	2.03	---	1.60	1.58	1.28	3.06	1.41
7	1.03	1.48	3.10	1.85	6.36	1.99	---	1.56	1.51	1.27	1.57	1.40
8	1.05	1.38	2.91	1.80	7.68	1.96	---	1.54	2.01	1.26	1.88	1.41
9	1.03	1.31	2.75	1.85	5.76	1.95	---	1.52	1.85	1.24	1.60	1.44
10	1.02	1.28	2.88	1.71	4.39	1.92	---	1.52	1.97	1.23	1.59	1.44
11	1.02	1.28	7.79	1.68	3.73	1.89	1.71	1.74	1.80	1.21	1.54	1.45
12	1.05	1.25	12.95	1.67	3.30	2.20	1.71	1.56	1.71	1.21	1.53	1.52
13	1.04	1.25	14.55	1.65	3.05	2.18	1.70	1.78	1.96	---	1.59	1.48
14	1.04	2.47	5.23	1.64	2.88	2.67	1.74	1.77	1.86	---	1.58	1.48
15	1.04	3.96	4.01	1.63	2.75	2.89	1.67	1.72	1.84	---	1.55	1.51
16	1.04	9.56	3.48	1.62	2.64	2.82	1.66	1.67	1.74	---	1.60	1.58
17	1.04	10.01	3.26	1.62	2.58	2.81	1.64	1.65	1.87	---	1.55	1.59
18	1.04	7.28	3.04	1.61	2.68	2.80	1.64	2.10	2.60	1.68	1.53	3.44
19	1.07	14.65	2.84	1.61	4.20	2.86	1.63	1.99	2.13	1.52	1.46	4.20
20	1.08	17.34	2.68	1.60	3.64	2.88	1.62	1.85	1.88	1.42	1.44	3.89
21	1.06	20.84	2.47	1.59	3.19	3.16	1.64	1.80	1.73	1.34	1.42	2.83
22	1.06	13.08	2.49	1.58	2.91	3.14	1.62	1.73	1.61	1.30	1.42	2.35
23	1.05	4.44	2.49	1.56	2.71	3.07	1.59	1.65	1.61	1.28	1.40	2.13
24	1.07	3.73	2.47	1.56	2.58	3.00	1.60	1.60	1.51	1.26	1.40	2.01
25	1.07	3.34	2.42	1.55	2.48	---	1.60	1.57	1.43	1.24	1.38	2.40
26	1.07	3.11	2.21	1.53	2.39	---	1.58	1.55	1.39	1.24	1.40	3.18
27	1.09	4.50	2.36	1.50	2.32	---	1.57	1.73	1.37	1.20	1.54	4.60
28	1.11	11.69	2.26	1.50	2.25	---	1.55	1.68	1.35	1.24	1.46	3.63
29	1.09	12.19	2.22	1.48	---	---	1.54	2.18	1.33	1.20	1.43	4.28
30	1.14	5.87	2.11	1.48	---	---	1.53	1.89	1.31	1.24	1.39	8.69
31	1.14	---	2.08	1.46	---	---	---	1.74	---	1.32	1.41	---

MERAMEC RIVER BASIN

07017200 BIG RIVER AT IRONDALE, MO

LOCATION.--Lat 37°49'48", long 90°41'27", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.15, T.36 N., R.3 E., Washington County, Hydrologic Unit 07140104, on right bank 50 ft upstream from bridge on State Highway U, 0.2 mi upstream from Mill Creek, and 0.8 mi west of Irondale.

DRAINAGE AREA.--175 mi².

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 753.28 ft above National Geodetic Vertical Datum of 1929 (Missouri State Highway and Transportation Commission benchmark).

REMARKS.--Estimated daily discharges: Dec. 6 to Jan 8 and Jan. 27 to Feb. 24. Records fair except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--21 years, 190 ft³/s, 14.76 in/yr, 137,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,200 ft³/s, Nov. 1, 1972, gage height, 27.92 ft, from floodmarks, from rating curve extended above 13,000 ft³/s on basis of step backwater computations and indirect measurement of peak flow of February 1966 flood; minimum, 2.2 ft³/s, Sept. 16, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 5,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 19	0630	*39,600	*25.57	Dec. 3	1100	6,740	10.46
Nov. 27	1315	5,060	9.05	May 16	0500	7,100	10.76

Minimum daily discharge, 12 ft³/s, Aug. 5, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	65	953	88	62	83	75	67	138	21	17	18
2	15	63	741	86	250	80	74	65	119	41	16	18
3	15	47	1730	84	1000	80	72	62	104	30	14	18
4	15	39	278	78	600	78	71	60	92	25	13	48
5	15	36	227	75	350	77	78	57	606	20	12	79
6	15	35	193	71	285	76	83	55	550	19	17	109
7	15	35	185	68	400	74	94	55	240	18	21	109
8	16	32	175	65	370	72	338	54	168	17	21	112
9	16	31	161	69	250	74	237	53	311	15	19	112
10	16	32	450	70	190	74	172	59	587	14	53	112
11	27	34	1500	68	160	75	144	160	283	16	43	131
12	22	34	1200	67	140	419	127	102	177	651	27	127
13	23	774	600	63	130	323	111	76	134	547	21	112
14	29	181	410	60	120	208	100	70	107	167	16	58
15	31	586	330	59	116	166	90	215	89	189	12	31
16	34	887	250	58	120	141	85	1970	74	86	30	26
17	31	281	200	58	130	124	82	450	62	62	32	23
18	31	1040	180	58	160	121	76	280	52	47	26	309
19	31	16500	160	58	150	225	76	211	46	38	31	143
20	32	2040	145	58	130	161	89	169	39	32	28	67
21	32	1080	146	58	120	135	147	145	36	27	25	49
22	32	763	147	58	110	116	131	126	33	23	23	42
23	32	580	148	66	105	107	102	113	42	20	23	295
24	32	488	150	60	102	95	89	1160	35	19	22	264
25	31	439	140	58	99	90	84	876	30	18	20	102
26	31	994	130	58	94	89	78	615	27	18	19	69
27	31	2710	120	60	89	86	75	349	24	20	19	58
28	30	1410	110	59	86	81	74	293	23	20	20	49
29	31	775	100	60	---	80	73	321	23	24	20	42
30	43	579	97	63	---	79	68	206	20	21	22	40
31	44	---	92	62	---	76	---	163	---	18	19	---
TOTAL	813	32590	11448	2023	5918	3765	3195	8657	4271	2283	701	2772
MEAN	26.2	1086	369	65.3	211	121	107	279	142	73.6	22.6	92.4
MAX.	44	16500	1730	88	1000	419	338	1970	606	651	53	309
MIN	15	31	92	58	62	72	68	53	20	14	12	18
CAL YR 1985	TOTAL	154195	MEAN	422	MAX	16500	MIN	15				
WTR YR 1986	TOTAL	78436	MEAN	215	MAX	16500	MIN	12				

MERAMEC RIVER BASIN

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07017200 BIG RIVER AT IRONDALE, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.74	3.13	4.32	---	---	10.56	3.23	3.23	3.36	2.89	2.82	2.85
2	2.74	3.18	4.24	---	---	3.28	3.23	3.22	3.32	3.04	2.80	2.85
3	2.74	3.02	7.77	---	---	3.28	3.22	3.19	3.27	2.98	2.78	2.85
4	2.74	2.94	3.77	---	---	3.28	3.22	3.19	3.25	2.93	2.76	2.86
5	2.73	2.90	3.67	---	---	3.26	3.26	3.16	3.22	2.89	2.76	3.20
6	2.73	2.88	3.60	---	---	3.25	3.29	3.14	4.18	2.88	2.82	3.27
7	2.73	2.87	---	---	---	3.23	3.34	3.14	3.63	2.86	2.89	3.28
8	2.73	2.85	---	---	---	3.21	3.88	3.13	3.43	2.84	2.90	3.29
9	2.73	2.82	---	3.25	---	3.21	3.72	3.12	3.67	2.82	2.88	3.29
10	2.72	2.82	---	3.27	---	3.23	3.58	3.11	4.50	2.80	3.07	3.29
11	2.73	2.85	---	3.26	---	3.24	3.52	3.57	3.70	2.80	3.06	3.29
12	2.77	2.85	---	3.25	---	3.69	3.48	3.45	3.47	3.02	2.95	3.34
13	2.77	6.31	---	3.24	---	3.87	3.45	3.31	3.36	4.56	2.90	3.29
14	2.82	3.60	---	3.22	---	3.64	3.43	3.25	3.28	3.39	2.88	3.11
15	2.83	3.36	---	3.22	---	3.53	3.39	3.56	3.24	3.51	2.50	2.99
16	2.81	5.07	---	3.21	---	3.48	3.36	6.93	3.18	3.23	2.94	2.93
17	2.83	3.80	---	3.21	---	3.44	3.34	4.03	3.14	3.13	2.99	2.91
18	2.82	4.49	---	3.21	---	3.41	3.30	3.69	3.10	3.07	2.92	2.93
19	2.82	24.31	---	3.21	---	3.70	3.29	3.54	3.06	3.01	2.98	3.39
20	2.83	5.90	---	3.21	---	3.54	3.33	3.45	3.04	2.97	2.95	3.15
21	2.84	4.79	---	3.21	---	3.49	3.54	3.38	3.01	2.94	2.94	3.07
22	2.84	4.38	---	3.21	---	3.43	3.52	3.34	2.98	2.92	2.91	3.13
23	2.83	4.09	---	3.21	---	3.40	3.43	3.30	3.02	2.88	2.91	3.03
24	2.83	3.94	---	3.23	---	3.37	3.39	3.28	3.00	2.86	2.90	3.63
25	2.82	3.83	---	3.21	3.38	3.35	3.36	4.54	2.97	2.85	2.89	3.29
26	2.82	3.79	---	3.21	3.36	3.33	3.33	4.33	2.94	2.83	2.87	3.18
27	2.82	5.59	---	---	3.34	3.32	3.30	3.82	2.93	2.84	2.87	3.12
28	2.82	5.22	---	---	3.32	3.27	3.29	3.62	2.90	2.86	2.89	3.12
29	2.81	4.39	---	---	---	3.28	3.28	3.79	2.92	2.93	2.87	3.04
30	2.98	4.09	---	---	---	3.27	3.24	3.53	2.89	2.88	2.90	3.03
31	2.96	---	---	---	---	3.25	---	3.42	---	2.85	2.87	---

MERAMEC RIVER BASIN

07018100 BIG RIVER NEAR RICHWOODS, MO

LOCATION.--Lat 38°09'34", long 90°42'22", in sec.33, T.40 N., R.3 E., Jefferson County, Hydrologic Unit 07140104, on left bank downstream side of bridge on State Highway H, 1.8 mi east of Fletcher, 6.8 mi east of Richwoods, and at mile 53.7.

DRAINAGE AREA.--735 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1942 to current year. Prior to May 1949 monthly discharge only, published in WSP 1311. Prior to 1984 published as Big River near De Soto, Mo.

GAGE.--Water-stage recorder. Datum of gage is 523.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Mar. 1-5. Water discharge records good except for estimated daily discharges, which are poor. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--38 years, 700 ft³/s, 12.93 in/yr, 507,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,800 ft³/s, June 30, 1957, gage height, 27.15 ft, (former datum); minimum discharge, 20 ft³/s, Sept. 19, 1954, minimum gage height, 1.89 ft, (former datum), Sept. 15, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1915 reached a stage of about 29.4 ft, (former datum) from floodmark, 1.0 mi downstream adjusted to gage site by comparison with recorded flood 5.5 ft lower; discharge, 70,500 ft³/s, from rating curve extended above 37,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 19	1345	*45,000	*26.36	Nov. 28	0500	14,900	16.34

Minimum discharge 137 ft³/s, Sept. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196	306	2500	566	316	390	353	304	602	183	188	138
2	193	362	2660	547	416	376	344	296	520	197	164	138
3	191	349	1600	529	4720	362	340	279	458	199	151	142
4	190	304	1310	501	2570	348	338	265	414	190	145	142
5	187	261	1170	478	1530	334	337	254	416	184	140	139
6	185	237	1060	457	1350	324	368	247	919	173	195	137
7	185	227	960	439	1990	309	378	240	1100	166	261	155
8	188	225	842	383	1600	299	371	234	683	161	267	180
9	182	222	815	379	1130	293	532	236	596	158	216	183
10	182	236	2250	410	906	294	592	350	742	157	363	185
11	186	265	7360	408	764	294	508	596	1190	172	417	212
12	187	266	6770	408	686	696	460	819	724	185	310	455
13	187	1750	2580	402	611	1460	428	601	562	1060	233	345
14	197	2150	1760	411	604	1030	409	487	471	962	193	239
15	201	1440	1430	406	560	781	391	934	457	505	176	201
16	200	5100	1290	404	567	668	367	2510	391	425	209	186
17	193	2330	1190	409	665	602	345	3800	341	334	222	173
18	190	1950	1090	403	794	569	331	1150	305	265	190	1730
19	190	32800	951	390	706	690	326	791	283	222	187	1920
20	194	35100	889	374	620	768	338	637	265	197	175	663
21	201	6930	808	370	567	651	377	547	246	183	165	384
22	203	2530	830	351	527	583	438	481	232	172	158	277
23	201	1870	827	336	493	546	456	433	389	164	157	240
24	198	1510	840	327	482	518	411	1220	368	159	152	276
25	196	1300	779	333	464	479	378	4740	256	154	151	566
26	193	1530	701	324	444	447	352	2860	222	152	147	342
27	190	7400	711	308	426	425	330	1800	205	184	152	286
28	190	12000	672	295	404	413	320	1020	194	194	156	250
29	193	3570	640	314	---	396	311	1120	190	230	149	208
30	224	2170	610	303	---	382	302	1000	183	310	141	312
31	237	---	583	300	---	367	---	719	---	249	141	---
TOTAL	6030	126690	48478	12265	26912	16094	11531	30970	13924	8246	6071	10804
MEAN	195	4223	1564	396	961	519	384	999	464	266	196	360
MAX	237	35100	7360	566	4720	1460	592	4740	1190	1060	417	1920
MIN	182	222	583	295	316	293	302	234	183	152	140	137
CAL YR 1985	TOTAL		641540	MEAN	1758	MAX	35100	MIN	182			
WTR YR 1986	TOTAL		318015	MEAN	871	MAX	35100	MIN	137			

MERAMEC RIVER BASIN

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07018100 BIG RIVER NEAR RICHWOODS, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.94	3.34	6.91	4.21	3.42	---	3.54	3.37	4.31	2.83	2.90	2.53
2	2.92	3.60	8.19	4.14	3.68	---	3.51	3.35	4.09	2.90	2.73	2.53
3	2.91	3.57	6.39	4.10	8.53	---	3.50	3.28	3.88	2.94	2.64	2.53
4	2.90	3.44	5.88	4.04	7.52	---	3.49	3.22	3.73	2.88	2.58	2.57
5	2.89	3.26	5.61	3.96	6.17	---	3.47	3.18	3.65	2.86	2.55	2.53
6	2.87	3.16	5.41	3.89	5.44	3.68	3.58	3.14	3.90	2.78	2.73	2.53
7	2.87	3.12	5.20	3.84	6.60	3.64	3.60	3.12	5.45	2.74	3.24	2.50
8	2.90	3.11	5.02	3.56	6.29	3.60	3.59	3.09	4.54	2.70	3.21	2.82
9	2.86	3.10	4.87	3.61	5.46	3.58	3.69	3.07	4.29	2.68	3.03	2.84
10	2.86	3.08	5.67	3.84	5.04	3.58	4.29	3.33	4.63	2.66	3.16	2.85
11	2.89	3.27	10.17	3.84	4.77	3.58	4.02	3.85	5.78	2.79	3.75	2.84
12	2.89	3.26	12.74	3.74	4.61	3.94	3.87	4.94	4.67	2.78	3.42	3.25
13	2.89	3.44	7.68	3.72	4.44	5.91	3.78	4.34	4.20	4.59	3.13	3.57
14	2.94	7.78	6.50	3.74	4.41	5.30	3.70	3.90	3.94	5.45	2.90	3.15
15	2.98	5.16	5.95	3.75	4.17	4.77	3.67	5.01	3.92	4.08	2.78	2.97
16	2.97	10.22	5.69	3.73	4.32	4.48	3.59	5.20	3.67	3.71	2.87	2.88
17	2.92	7.51	5.51	3.75	4.44	4.30	3.51	9.84	3.51	3.51	3.09	2.76
18	2.90	5.65	5.36	3.74	4.82	4.18	3.47	5.55	3.39	3.25	2.88	5.54
19	2.89	21.45	5.12	3.70	4.65	4.22	3.45	4.81	3.30	3.08	2.87	6.92
20	2.92	24.69	4.98	3.60	4.45	4.74	3.46	4.42	3.21	2.94	2.80	4.57
21	2.97	10.73	4.74	3.66	4.31	4.44	3.60	4.15	3.16	2.85	2.72	3.69
22	2.98	7.58	4.85	3.58	4.21	4.24	3.74	3.95	3.09	2.78	2.67	3.30
23	2.97	6.62	4.83	3.54	4.11	4.12	3.87	3.79	3.09	2.72	2.66	3.11
24	2.96	6.06	4.87	3.52	4.10	4.04	3.72	4.05	3.64	2.68	2.64	3.27
25	2.95	5.70	4.78	3.52	4.04	3.93	3.62	9.69	3.20	2.65	2.61	4.40
26	2.92	5.53	4.44	3.49	3.99	3.82	3.53	7.05	3.06	2.62	2.60	3.55
27	2.91	10.09	4.58	3.45	3.95	3.75	3.46	6.54	2.98	2.89	2.61	3.34
28	2.91	16.20	4.50	3.35	3.88	3.72	3.42	5.26	2.92	2.93	2.66	3.19
29	2.90	8.86	4.41	3.47	---	3.67	3.40	5.22	2.88	2.87	2.62	3.00
30	3.06	7.06	4.37	3.43	---	3.62	3.36	5.26	2.84	3.39	2.56	3.08
31	3.14	---	4.25	3.41	---	3.58	---	4.63	---	3.23	2.50	---

MERAMEC RIVER BASIN

07018100 BIG RIVER NEAR RICHWOODS, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CaCO3) (00900)
OCT										
17...	1500	193	598	8.20	17.5	9.5	97	10	K14	310
NOV										
22...	0830	2640	284	7.60	9.0	8.7	73	22	1600	--
DEC										
12...	0900	8060	194	7.80	5.0	11.5	88	14	3900	--
JAN										
10...	0900	445	502	8.00	0.5	15.9	107	20	K2	270
FEB										
13...	0840	617	410	7.30	0.5	13.8	96	22	K3	--
MAR										
12...	1320	617	441	8.40	11.0	13.2	123	15	240	--
APR										
10...	0945	601	598	8.40	16.5	9.4	98	<10	K19	260
MAY										
16...	0915	1220	359	8.10	20.5	7.9	89	17	46	--
JUN										
12...	0945	743	338	8.20	24.0	7.1	86	12	K260	--
JUL										
11...	1230	174	505	8.30	29.0	6.9	92	13	K220	270
AUG										
27...	1040	152	488	8.20	24.5	6.1	74	<10	K84	--
SEP										
19...	0950	1820	223	8.00	19.0	7.8	85	34	>1200	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LITY WH WAT TOTAL 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										
17...	62	63	38	6.2	2.0	254	3.1	63	7.8	<0.10
NOV										
22...	--	--	--	--	--	125	6.1	--	--	--
DEC										
12...	--	--	--	--	--	86	2.7	--	--	--
JAN										
10...	46	54	32	4.9	1.5	220	4.3	26	6.1	0.10
FEB										
13...	--	--	--	--	--	188	19	--	--	--
MAR										
12...	--	--	--	--	--	203	1.1	--	--	--
APR										
10...	38	51	31	5.3	1.7	207	1.2	81	6.4	<0.10
MAY										
16...	--	--	--	--	--	167	2.6	--	--	--
JUN										
12...	--	--	--	--	--	154	1.9	--	--	--
JUL										
11...	41	53	33	5.4	1.8	226	2.2	50	6.7	0.10
AUG										
27...	--	--	--	--	--	222	2.8	--	--	--
SEP										
19...	--	--	--	--	--	92	2.0	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT										
17...	337	11	<0.100	0.030	0.020	1	<1	6	1	320
NOV										
22...	--	37	0.500	0.050	0.080	--	--	--	--	--
DEC										
12...	--	243	0.300	0.080	0.040	--	--	--	--	--
JAN										
10...	281	3	0.500	0.030	0.030	<1	<1	3	4	30
FEB										
13...	--	1	0.500	0.050	0.030	--	--	--	--	--
MAR										
12...	--	6	<0.100	0.040	0.020	--	--	--	--	--
APR										
10...	277	2	<0.100	0.020	0.020	<1	<1	5	2	210
MAY										
16...	--	22	0.300	0.060	0.050	--	--	--	--	--
JUN										
12...	--	18	0.200	0.010	0.050	--	--	--	--	--
JUL										
11...	290	14	<0.100	0.020	0.030	<1	<1	14	1	270
AUG										
27...	--	13	<0.100	0.020	0.020	--	--	--	--	--
SEP										
19...	--	163	0.400	--	0.180	--	--	--	--	--

[illegible]

MERAMEC RIVER BASIN

07018500 BIG RIVER AT BYRNESVILLE, MO

LOCATION.--Lat 38°23'30", long 90°38'16", in SE $\frac{1}{4}$ sec.12, T.42 N., R.3 E., Jefferson County, Hydrologic Unit 07140104, on right bank on downstream side of pier of privately owned bridge at Byrnesville, 4.0 mi upstream from Heads Creek, at mile 14.1.

DRAINAGE AREA.--917 mi².

PERIOD OF RECORD.--October 1921 to current year. Prior to June 1922 monthly discharge only, published 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 above National Geodetic Vertical Datum of 1929. Prior to Mar. 9, 1940, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharge. Records good. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--65 years, 858 ft³/s, 12.71 in/yr, 621,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,000 ft³/s, Nov. 21, 1985, gage height, 26.47 ft; minimum discharge, 25 ft³/s, Aug. 30, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 21, 1915, reached a stage of 30.2 ft from floodmarks, discharge, 80,000 ft³/s, by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 21	0015	*43,000	*26.47	Dec. 12	1445	8,500	15.59
Nov. 29	0345	11,600	17.77	Feb. 3	2100	15,200	19.48

Minimum discharge, 131 ft³/s, Sept. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	201	273	2940	568	345	497	384	326	791	211	252	140
2	197	318	3170	549	671	477	372	325	636	215	204	139
3	195	363	2470	534	10000	467	366	314	529	214	179	136
4	193	351	1820	515	8940	456	362	300	471	219	164	140
5	192	313	1550	493	2680	445	357	287	427	208	155	142
6	190	269	1350	475	2070	433	360	281	445	202	222	136
7	187	245	1200	455	2750	424	381	275	1150	193	241	133
8	186	231	1070	426	2380	410	383	270	982	184	287	136
9	189	227	975	375	1770	401	375	284	709	181	269	173
10	184	296	1380	413	1370	401	528	281	638	161	247	182
11	192	292	4770	423	1130	402	550	369	1020	166	318	200
12	215	291	7910	415	972	552	481	745	1090	179	377	218
13	208	489	4460	412	867	1270	444	825	721	199	307	374
14	205	3450	2490	409	796	1510	423	594	543	1120	249	330
15	206	2580	1910	413	744	1080	405	666	506	840	215	253
16	209	3420	1650	410	716	859	392	1210	447	463	208	222
17	206	3760	1480	410	754	725	376	3560	388	390	217	208
18	200	2630	1340	410	910	651	359	2010	349	326	233	2420
19	197	10100	1190	406	969	617	348	1150	321	270	204	2670
20	195	32300	1050	400	845	796	350	854	299	236	196	1390
21	200	36500	948	390	747	806	361	674	281	211	185	680
22	205	9070	948	382	678	672	380	552	268	193	174	433
23	205	2810	930	367	630	594	425	486	260	182	166	345
24	203	1960	923	358	603	548	435	450	364	173	159	315
25	198	1630	903	351	577	519	401	2510	354	166	155	338
26	193	1940	761	349	553	487	375	3390	274	162	152	530
27	189	4260	742	339	535	460	356	2690	247	158	169	554
28	186	9380	710	330	517	440	341	1540	232	177	158	392
29	188	8470	664	324	---	423	331	1130	221	197	155	324
30	195	3060	622	333	---	409	328	1310	214	210	152	758
31	229	---	593	329	---	397	---	1090	---	279	142	---
TOTAL	6138	141278	54919	12763	46519	18628	11729	30748	15177	8285	6511	14411
MEAN	198	4709	1772	412	1661	601	391	992	506	267	210	480
MAX	229	36500	7910	568	10000	1510	550	3560	1150	1120	377	2670
MIN	184	227	593	324	345	397	328	270	214	158	142	133
CAL YR 1985	TOTAL	715057	MEAN	1959	MAX	36500	MIN	184				
WTR YR 1986	TOTAL	367106	MEAN	1006	MAX	36500	MIN	133				

MERAMEC RIVER BASIN

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07018500 BIG RIVER AT BYRNESVILLE, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.20	3.65	9.18	4.85	3.93	4.62	4.18	3.93	5.43	3.39	3.65	3.03
2	3.19	3.83	9.70	4.81	5.12	4.55	4.14	3.92	5.05	3.43	3.40	3.02
3	3.19	4.08	8.70	4.74	15.92	4.50	4.11	3.89	4.76	3.40	3.26	3.01
4	3.18	4.03	7.41	4.69	17.79	4.46	4.08	3.83	4.52	3.46	3.16	3.04
5	3.19	3.91	6.89	4.61	9.08	4.42	4.07	3.77	4.37	3.39	3.10	3.07
6	3.17	3.70	6.54	4.53	7.51	4.38	4.07	3.74	4.35	3.37	3.29	3.02
7	3.16	3.59	6.23	4.47	9.03	4.34	4.16	3.71	5.18	3.32	3.44	3.01
8	3.15	3.50	5.99	4.39	8.52	4.29	4.18	3.69	5.88	3.27	3.82	3.01
9	3.18	3.48	5.76	4.19	7.36	4.25	4.13	3.65	5.23	3.23	3.69	3.20
10	3.18	3.78	6.17	4.36	6.60	4.23	4.44	3.68	5.03	3.15	3.65	3.26
11	3.20	3.81	10.72	4.39	6.13	4.24	4.82	4.04	5.40	3.16	3.55	3.28
12	3.35	3.78	15.15	4.35	5.79	4.51	4.58	5.09	6.12	3.20	4.19	3.38
13	3.32	3.81	11.98	4.29	5.57	5.70	4.44	5.55	5.29	3.31	3.89	3.88
14	3.32	12.09	8.68	4.27	5.38	6.98	4.36	4.96	4.81	6.38	3.62	4.01
15	3.31	7.76	7.59	4.29	5.29	6.04	4.27	5.09	4.72	5.67	3.43	3.65
16	3.35	8.56	7.05	4.29	5.19	5.56	4.23	6.15	4.48	4.58	3.39	3.47
17	3.33	11.22	6.76	4.28	5.25	5.26	4.15	9.65	4.23	4.22	3.40	3.40
18	---	8.49	6.51	4.28	5.54	5.06	4.08	7.88	4.05	3.97	3.54	8.70
19	3.28	16.87	6.23	4.28	5.79	4.97	4.03	6.23	3.92	3.71	3.37	8.72
20	3.28	23.53	5.93	4.24	5.52	5.27	4.03	5.57	3.83	3.55	3.34	6.81
21	3.31	26.23	5.42	4.21	5.29	5.46	4.07	5.15	3.74	3.42	3.28	5.25
22	3.33	16.54	5.66	4.17	5.13	5.13	4.15	4.83	3.68	3.33	3.22	4.45
23	3.34	9.30	5.63	4.11	5.02	4.93	4.30	4.60	3.64	3.26	3.17	4.04
24	3.34	7.70	5.64	4.07	4.94	4.81	4.41	4.46	3.63	3.21	3.13	3.87
25	3.31	7.02	5.63	4.05	4.88	4.71	4.27	7.24	4.12	3.17	3.10	3.93
26	3.29	6.63	5.35	4.03	4.81	4.59	4.16	11.09	3.73	3.14	3.08	4.84
27	3.27	9.35	5.19	4.00	4.75	4.48	4.08	9.61	3.59	3.11	3.21	4.92
28	3.26	15.61	5.17	3.95	4.69	4.41	4.01	7.00	3.51	3.19	3.12	4.28
29	3.27	17.45	5.10	3.88	---	4.35	3.96	6.05	3.46	3.30	3.11	3.96
30	3.30	9.67	5.00	3.95	---	4.29	3.94	6.43	3.42	3.35	3.10	5.61
31	3.43	---	4.93	3.94	---	4.24	---	6.18	---	3.76	3.06	---

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO

LOCATION.--Lat 38°30'20", long 90°35'30", in SE¼ sec.32, T.44 N., R.4 E., St. Louis County, Hydrologic Unit 07140102, on right bank, 44 ft upstream from bridge on north access roadway of I-44, 2.0 mi east of Eureka, 3.0 mi downstream from Big River, and at mile 34.1.

DRAINAGE AREA.--3,788 mi².

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 above National Geodetic Vertical Datum of 1929. Prior to Jan. 17, 1933, nonrecording gage at site 200 ft 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 higher.

REMARKS.--No estimated daily discharges. Water discharge records good. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--67 years, 3,158 ft³/s, 11.32 in/yr, 2,288,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 145,000 ft³/s, Dec. 6, 1982, gage height, 42.89 ft; minimum, 196 ft³/s, Aug. 27, 31, Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 22, 1915, reached a stage of 42.2 ft, from floodmarks, present datum, discharge, 175,000 ft³/s, by slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 22,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 22	0315	*84,600	*34.68	Dec. 13	0700	24,400	16.23
Nov. 29	1445	26,700	17.35	Feb. 4	1715	32,800	20.12

Minimum daily discharge, 578 ft³/s, Sept. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	893	1170	13100	2450	1540	2020	1570	1380	2780	1050	909	589
2	876	1420	13300	2380	4730	1950	1540	1380	2350	1040	808	587
3	866	1730	17000	2320	14900	1880	1530	1350	2080	979	726	579
4	865	1800	13700	2260	31000	1830	1530	1370	1910	981	666	578
5	857	1690	7540	2180	28200	1780	1530	1370	1790	955	628	607
6	847	1500	6100	2100	23400	1720	1550	1320	1750	921	795	600
7	840	1380	5300	2030	22700	1680	1590	1280	3030	881	1380	591
8	833	1280	4670	1950	11200	1630	1630	1240	4260	842	1160	585
9	835	1200	4180	1850	9090	1590	1670	1220	3660	809	1130	606
10	835	1270	4300	1820	6620	1570	2110	1410	3230	769	1030	637
11	845	1370	11000	1800	5180	1550	2640	1420	4150	752	978	702
12	930	1360	20500	1790	4280	1840	2340	1710	4990	753	1190	793
13	966	1700	24200	1760	3640	2610	2120	2030	3830	787	1080	903
14	987	5910	20700	1730	3300	3230	2000	2010	3040	1410	1000	1030
15	993	11900	10100	1710	3040	3130	1900	2100	2930	2270	916	871
16	1000	17100	7220	1690	2860	2910	1810	2770	2350	1920	878	799
17	971	17600	6040	1670	2860	2600	1750	5180	2370	1630	838	780
18	938	16500	5290	1670	2960	2390	1700	5150	2440	1480	847	5620
19	920	27000	4670	1660	3480	2310	1630	3640	2200	1220	824	8970
20	920	39500	4150	1640	3710	2300	1610	3130	1900	1060	817	5110
21	922	67900	3670	1620	3270	2410	1600	2690	1710	940	769	2770
22	927	78900	3560	1580	2940	2310	1570	2360	1560	856	722	1950
23	932	52600	3440	1530	2700	2160	1590	2120	1470	795	685	1560
24	935	16900	3420	1500	2530	2020	1630	1950	1450	750	648	1400
25	926	7490	3300	1470	2390	1910	1610	3160	1510	718	623	1620
26	911	6570	3110	1450	2300	1830	1540	5490	1310	687	608	2060
27	897	11400	3000	1410	2200	1770	1490	4750	1200	672	660	4570
28	879	20800	2900	1380	2120	1710	1440	3470	1140	711	675	3790
29	900	25800	2790	1350	---	1660	1400	2840	1080	824	639	2920
30	936	20800	2650	1340	---	1630	1370	3270	1050	831	626	8630
31	990	---	2550	1330	---	1610	---	3260	---	940	602	---
TOTAL	28172	463540	237450	54420	209140	63540	50990	77820	70520	31233	25857	62807
MEAN	909	15450	7660	1755	7469	2050	1700	2510	2351	1008	834	2094
MAX	1000	78900	24200	2450	31000	3230	2640	5490	4990	2270	1380	8970
MIN	833	1170	2550	1330	1540	1550	1370	1220	1050	672	602	578

CAL YR 1985	TOTAL	2826051	MEAN	7743	MAX	78900	MIN	833
WTR YR 1986	TOTAL	1375489	MEAN	3768	MAX	78900	MIN	578

MERAMEC RIVER BASIN

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07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.76	2.96	10.41	4.10	3.13	3.73	3.25	3.08	4.38	2.81	2.71	2.38
2	2.74	3.15	10.17	4.04	6.25	3.66	3.23	3.08	3.98	2.82	2.62	2.37
3	2.74	3.44	12.44	3.99	8.15	3.60	3.21	3.06	3.71	2.76	2.53	2.37
4	2.73	3.52	11.99	3.93	19.20	3.55	3.20	3.06	3.53	2.76	2.47	2.36
5	2.72	3.45	7.65	3.86	18.72	3.50	3.20	3.08	3.40	2.74	2.43	2.38
6	2.71	3.29	6.73	3.80	15.49	3.46	3.21	3.04	3.32	2.71	2.53	2.39
7	2.71	3.19	6.21	3.74	16.64	3.41	3.24	3.01	3.82	2.67	3.24	2.37
8	2.69	3.11	5.80	3.67	9.43	3.37	3.27	2.98	5.52	2.64	2.90	2.37
9	2.70	3.04	5.46	3.55	8.69	3.33	3.31	2.95	5.19	2.60	2.89	2.39
10	2.70	3.07	5.35	3.53	7.12	3.30	3.44	3.15	4.62	2.57	2.82	2.43
11	2.70	3.18	8.07	3.52	6.17	3.29	4.15	3.09	5.09	2.54	2.74	2.44
12	2.79	3.18	13.64	3.51	5.57	3.37	3.89	3.21	6.02	2.54	2.98	2.58
13	2.82	3.12	16.23	3.48	5.11	3.96	3.71	3.65	5.30	2.59	2.85	2.62
14	2.84	4.15	15.70	3.45	4.83	4.67	3.61	3.62	4.62	2.63	2.79	2.84
15	2.84	9.04	9.22	3.43	4.62	4.57	3.51	3.74	4.54	3.82	2.70	2.67
16	2.87	12.25	7.44	3.42	4.46	4.42	---	4.19	3.97	3.61	2.67	2.60
17	2.83	13.09	6.68	3.41	4.43	4.17	3.36	5.22	3.83	3.22	2.63	2.57
18	2.80	11.05	6.20	3.40	4.48	3.98	3.32	6.26	3.97	3.20	2.64	4.10
19	2.78	17.08	5.80	3.40	4.76	3.91	3.28	5.10	3.84	2.98	2.61	8.61
20	2.78	21.24	5.47	3.38	5.16	3.83	3.25	4.70	3.53	2.84	2.61	6.36
21	2.78	30.22	5.12	3.36	4.82	3.97	3.25	4.29	3.35	2.74	2.57	4.45
22	2.79	34.00	5.03	3.35	4.53	3.92	3.22	3.98	3.22	2.66	2.52	3.61
23	2.79	29.10	4.90	3.30	4.33	3.79	3.23	3.74	3.14	2.60	2.48	3.25
24	2.80	13.91	4.90	3.27	4.18	3.67	3.27	3.57	3.14	2.55	2.45	3.09
25	2.79	7.63	4.81	3.25	4.06	3.58	3.26	3.54	3.22	2.52	2.42	3.27
26	2.78	6.71	4.70	3.23	3.96	3.50	3.21	6.51	3.04	2.49	2.40	3.42
27	2.76	9.07	4.58	3.21	3.89	3.44	3.17	5.75	2.95	2.47	2.45	5.45
28	2.75	13.93	4.49	3.18	3.81	3.39	3.13	5.01	2.90	2.46	2.47	5.29
29	2.75	16.94	4.39	3.15	---	3.34	3.10	---	2.85	2.63	2.43	4.45
30	2.80	15.23	4.27	3.15	---	3.31	3.07	4.57	2.81	2.61	2.42	5.97
31	2.82	---	4.18	3.15	---	3.28	---	4.77	---	2.72	2.39	---

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.

WATER TEMPERATURE: January 1978 to September 1981.

SUSPENDED-SEDIMENT: February 1969 to September 1970, October 1980 to May 1981, November 1981 to September 1986 (discontinued).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 660 microsiemens, June 11, 1980; minimum daily, 136 microsiemens, Mar. 27, 1978.

WATER TEMPERATURE: Maximum daily, 32.0°C, July 1, 9, 1978; minimum daily, 0.0°C many days during winter periods.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,380 mg/L, Nov. 21, 1985; minimum daily mean, 2 mg/L, Dec. 10, 13, 16, 17, 20, 1980, Oct. 7, 8, 1985, Aug. 11, 15, 16, 1986.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 619,000 tons, Nov. 21, 1985; minimum daily, 3.2 tons, Dec. 20, 1980.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED SEDIMENT CONCENTRATIONS: Maximum daily mean, 3380 mg/L, Nov. 21; minimum daily mean, 2 mg/L, Oct. 7, 8, Aug. 11, 15, 16.

SUSPENDED SEDIMENT LOADS.--Maximum daily, 619,000 tons, Nov. 21; minimum daily, 3.5 tons, Oct. 7.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED 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)
NOV 21...	1415	72400	99	7.20	12.0	220	9.2	82	4000	20000
JAN 09...	1145	1870	351	7.60	0.5	2.3	15.8	108	K5	K4
MAR 12...	0945	1720	369	8.40	10.5	4.0	11.2	103	33	<1
MAY 15...	1430	2140	346	8.40	22.5	43	7.5	88	1400	K8400
JUL 22...	1100	862	332	8.20	29.0	8.5	7.1	92	20	52
SEP 18...	1420	7730	265	8.10	21.5	260	6.0	69	>6000	>10000

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD 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)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LILITY WH WAT TOTAL FIELD MG/L AS CACO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
NOV 21...	45	4	10	4.8	1.0	4	0.1	2.5	38	10
JAN 09...	190	27	39	22	4.0	4	0.1	1.5	156	15
MAR 12...	190	16	38	22	4.6	5	0.2	1.3	163	19
MAY 15...	180	14	38	21	4.4	5	0.1	1.7	163	19
JUL 22...	160	2	32	20	3.7	5	0.1	1.9	156	17
SEP 18...	130	15	31	12	4.6	7	0.2	2.8	105	25

K--Results based on colony count outside the acceptable range (non-ideal colony count).

MERAMEC RIVER BASIN

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07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
NOV 21...	1.6	<0.10	7.1	58	63	0.08	11300	0.150	0.040
JAN 09...	5.7	0.10	8.0	196	190	0.27	990	0.580	0.030
MAR 12...	6.3	<0.10	2.0	208	220	0.28	966	<0.100	0.030
MAY 15...	5.6	<0.10	6.2	197	230	0.27	1140	0.210	0.020
JUL 22...	4.8	<0.10	9.1	182	180	0.25	424	<0.100	<0.010
SEP 18...	6.5	0.10	6.9	151	160	0.21	3150	0.500	0.060

DATE	NITRO- GEN, AMMONIA + DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 21...	0.05	1.3	0.230	0.71	0.060	0.030	5	1060	--
JAN 09...	0.04	<0.20	0.020	--	0.020	0.020	39	197	--
MAR 12...	0.04	0.20	0.020	--	<0.010	<0.010	2	8.8	--
MAY 15...	0.03	0.50	0.040	--	0.030	0.010	136	786	85
JUL 22...	--	0.30	0.030	--	0.010	<0.010	36	84	85
SEP 18...	0.08	0.70	0.190	--	0.100	0.070	733	15300	96

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 21...	300	<1	53	<0.5	>1	<1	<3	3	230	5
JAN 09...	<10	<1	130	<0.5	<1	<1	<3	1	<3	1
MAY 15...	10	<1	160	<0.5	<1	<1	<3	2	10	1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 21...	<4	12	<0.1	<10	1	<1	<1	13	<6	40
JAN 09...	<4	49	<0.1	<10	2	<1	<1	57	<6	10
MAY 15...	4	2	<0.1	<10	1	<1	<1	52	<6	10

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	893	8	19	1170	21	67	13100	546	19300
2	876	9	21	1420	49	186	13300	213	7660
3	866	7	17	1730	55	257	17000	53	2430
4	865	11	25	1800	47	227	13700	31	1130
5	857	10	22	1690	33	149	7540	49	990
6	847	3	7.1	1500	28	115	6100	48	797
7	840	2	3.5	1380	30	114	5300	39	551
8	833	2	4.7	1280	31	106	4670	42	528
9	835	4	9.5	1200	25	80	4180	46	525
10	835	4	8.3	1270	25	85	4300	46	537
11	845	5	11	1370	25	92	11000	39	1160
12	930	9	21	1360	25	92	20500	142	7850
13	966	13	34	1700	210	831	24200	980	64000
14	987	20	55	5910	811	12900	20700	878	49200
15	993	27	73	11900	476	15300	10100	590	16100
16	1000	28	77	17100	673	31100	7220	271	5280
17	971	29	76	17600	2180	103000	6040	197	3210
18	938	35	89	16500	775	34600	5290	85	1220
19	920	38	94	27000	1690	123000	4670	40	500
20	920	29	72	39500	1470	157000	4150	41	455
21	922	30	75	67900	3380	619000	3670	38	378
22	927	27	68	78900	1840	393000	3560	38	365
23	932	21	54	52600	1060	151000	3440	23	217
24	935	20	52	16900	500	22900	3420	13	122
25	926	26	66	7490	75	1520	3300	12	108
26	911	33	82	6570	38	676	3110	11	92
27	897	24	59	11400	99	3030	3000	11	88
28	879	30	72	20800	1130	63300	2900	10	76
29	900	34	82	25800	1460	102000	2790	11	85
30	936	36	92	20800	1570	88100	2650	26	184
31	990	15	41	---	---	---	2550	19	132
TOTAL	28172	---	1482.1	463540	---	1923827	237450	---	185270
JANUARY			FEBRUARY			MARCH			
1	2450	16	105	1540	274	1140	2020	34	188
2	2380	23	149	4730	1900	24300	1950	42	219
3	2320	13	79	14900	2180	87900	1880	38	191
4	2260	10	64	31000	1100	92300	1830	32	156
5	2180	9	55	28200	504	38400	1780	42	201
6	2100	8	47	23400	153	9620	1720	48	224
7	2030	15	85	22700	62	3820	1680	58	261
8	1950	8	43	11200	68	2060	1630	38	167
9	1850	13	66	9090	64	1580	1590	40	173
10	1820	66	324	6620	43	761	1570	44	185
11	1800	88	426	5180	41	580	1550	35	146
12	1790	65	315	4280	114	1320	1840	24	118
13	1760	48	227	3640	72	708	2610	24	172
14	1730	51	236	3300	109	970	3230	18	155
15	1710	79	364	3040	71	584	3130	14	120
16	1690	71	322	2860	36	280	2910	21	166
17	1670	68	308	2860	37	284	2600	18	123
18	1670	73	328	2960	50	402	2390	14	90
19	1660	66	294	3480	75	707	2310	10	65
20	1640	62	276	3710	48	482	2300	10	64
21	1620	58	254	3270	32	282	2410	8	54
22	1580	48	207	2940	31	242	2310	15	93
23	1530	61	254	2700	35	259	2160	12	67
24	1500	70	285	2530	31	209	2020	14	73
25	1470	56	222	2390	38	247	1910	13	69
26	1450	46	181	2300	50	313	1830	13	63
27	1410	54	208	2200	44	264	1770	13	63
28	1380	53	198	2120	51	294	1710	13	61
29	1350	46	166	---	---	---	1660	12	53
30	1340	50	180	---	---	---	1630	12	52
31	1330	63	227	---	---	---	1610	14	62
TOTAL	54420	---	6495	209140	---	270308	63540	---	3894

MERAMEC RIVER BASIN

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07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	1570	19	82	1380	28	104	2780	32	240
2	1540	17	70	1380	30	111	2350	31	197
3	1530	16	66	1350	42	154	2080	28	157
4	1530	24	100	1370	25	94	1910	27	138
5	1530	16	65	1370	27	100	1790	32	154
6	1550	22	92	1320	38	134	1750	28	131
7	1590	31	134	1280	50	173	3030	28	226
8	1630	26	115	1240	48	163	4260	31	352
9	1670	22	98	1220	47	154	3660	28	272
10	2110	22	126	1410	60	226	3230	26	230
11	2640	27	192	1420	64	244	4150	32	364
12	2340	21	134	1710	51	234	4990	290	3900
13	2120	24	138	2030	44	241	3830	407	4210
14	2000	27	146	2010	43	231	3040	428	3510
15	1900	20	101	2100	39	220	2930	80	628
16	1810	17	81	2770	341	2550	2350	104	658
17	1750	20	94	5180	375	5240	2370	60	385
18	1700	26	120	5150	381	5300	2440	23	152
19	1630	26	115	3640	516	5070	2200	30	178
20	1610	27	118	3130	402	3400	1900	13	66
21	1600	21	91	2690	358	2600	1710	12	55
22	1570	20	85	2360	111	709	1560	8	33
23	1590	20	87	2120	43	244	1470	8	31
24	1630	27	118	1950	166	874	1450	10	39
25	1610	25	109	3160	176	1500	1510	9	36
26	1540	31	128	5490	118	1740	1310	10	35
27	1490	33	131	4750	133	1710	1200	8	26
28	1440	35	137	3470	229	2150	1140	9	27
29	1400	39	145	2840	141	1080	1080	10	29
30	1370	31	115	3270	17	147	1050	12	33
31	---	---	---	3260	28	246	---	---	---
TOTAL	50990	---	3333	77820	---	37143	70520	---	16492
JULY			AUGUST			SEPTEMBER			
1	1050	9	25	909	16	38	589	---	---
2	1040	17	47	808	18	38	587	---	---
3	979	16	41	726	16	31	579	---	---
4	981	10	26	666	13	23	578	---	---
5	955	10	25	628	15	25	607	---	---
6	921	10	24	795	19	40	600	---	---
7	881	11	25	1380	23	88	591	---	---
8	842	14	33	1160	18	55	585	---	---
9	809	18	40	1130	3	8.9	606	13	21
10	769	17	36	1030	3	8.2	637	---	---
11	752	17	35	978	2	5.2	702	---	---
12	753	17	35	1190	4	13	793	---	---
13	787	18	39	1080	3	8.6	903	---	---
14	1410	19	73	1000	3	8.0	1030	---	---
15	2270	19	118	916	2	4.9	871	---	---
16	1920	20	105	878	2	4.7	799	---	---
17	1630	21	93	838	---	---	780	---	---
18	1480	19	77	847	---	---	5620	---	---
19	1220	20	67	824	---	---	8970	---	---
20	1060	21	61	817	---	---	5110	---	---
21	940	20	52	769	---	---	2770	---	---
22	856	20	47	722	---	---	1950	---	---
23	795	20	44	685	---	---	1560	---	---
24	750	17	35	648	---	---	1400	---	---
25	718	17	34	623	---	---	1620	---	---
26	687	19	36	608	---	---	2060	---	---
27	672	17	30	660	---	---	4570	---	---
28	711	17	32	675	---	---	3790	---	---
29	824	16	35	639	---	---	2920	---	---
30	831	17	37	626	---	---	8630	---	---
31	940	17	42	602	---	---	---	---	---
TOTAL	31233	---	1449	25857	---	---	62807	---	---
YEAR	1375489		2450113.6						

MERAMEC RIVER BASIN

07019280 MERAMEC RIVER AT PAULINA HILLS, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 38°27'46", long 90°24'53", Jefferson County, Hydrologic Unit 07140102, at bridge on State Highway 21 at Paulina Hills, 0.3 mi downstream from Saline Creek, and 10 mi upstream from mouth.

DRAINAGE AREA.--3,950 mi², approximately.

PERIOD OF RECORD.--August 1963 to July 1975, October 1981 to current year.

REMARKS.--Records of discharge are given for gaging station near Eureka, Mo.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT										
17...	1315	1060	428	8.00	18.5	7.1	74	<10	K36	210
NOV										
21...	1500	77800	120	7.30	12.0	8.0	72	38	3400	--
DEC										
11...	1500	14400	287	7.60	5.5	11.0	85	<10	2900	--
JAN										
09...	1400	2070	370	7.60	2.0	13.3	95	12	58	190
FEB										
12...	1520	4580	279	7.10	3.0	12.8	96	19	120	--
MAR										
12...	1150	2000	382	8.50	11.0	13.8	128	14	K100	--
APR										
10...	0730	1980	400	8.30	17.5	9.1	96	32	<10	200
MAY										
16...	0725	2800	390	8.20	23.0	7.9	93	13	K150	--
JUN										
12...	0715	5640	300	8.00	25.0	6.5	80	<10	200	--
JUL										
22...	0830	948	351	8.20	29.5	6.5	--	<10	K18	170
AUG										
27...	0815	730	391	8.10	25.5	6.4	79	<10	180	--
SEP										
19...	0800	10400	239	7.90	20.0	6.9	76	24	>6000	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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										
17...	25	43	25	8.4	1.7	184	3.6	25	10	<0.10
NOV										
21...	--	--	--	--	--	52	5.4	--	--	--
DEC										
11...	--	--	--	--	--	58	2.4	--	--	--
JAN										
09...	27	40	21	6.8	1.5	160	7.7	16	9.7	0.10
FEB										
12...	--	--	--	--	--	115	19	--	--	--
MAR										
12...	--	--	--	--	--	165	1.0	--	--	--
APR										
10...	20	42	23	6.9	1.6	178	1.8	27	9.0	<0.10
MAY										
16...	--	--	--	--	--	181	2.3	--	--	--
JUN										
12...	--	--	--	--	--	140	2.7	--	--	--
JUL										
22...	10	35	20	5.9	2.1	157	2.0	21	7.1	<0.10
AUG										
27...	--	--	--	--	--	174	3.3	--	--	--
SEP										
19...	--	--	--	--	--	104	2.6	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[illegible]

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 downstream from Kaskaskia River, and at mile 109.9 above Ohio River.

DRAINAGE AREA.--708,600 mi², 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.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 341.05 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 1, 1962, nonrecording gage 0.4 mi downstream at present datum.

REMARKS.--Estimated daily discharges: Oct. 16-21, Apr. 9-15, July 6-8, and Sept. 24-30. Water discharge records good. 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. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--59 years, 191,000 ft³/s, 138,400,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge determined, 886,000 ft³/s, July 3, 1947, Apr. 30, 1973; discharge including unmeasured overflow, was greater May 24, 1943; maximum gage height, 43.32 ft, Apr. 30, 1973; minimum daily discharge, 30,000 ft³/s, Dec. 12, 1937.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 30, 1844, reached a stage of 39.8 ft and a discharge of 1,350,000 ft³/s, computed by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 620,000 ft³/s, Nov. 23, maximum gage height, 35.14 ft, Nov. 23, minimum, 114,000 ft³/s, Jan. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172000	236000	421000	193000	126000	208000	314000	281000	421000	225000	231000	160000
2	168000	237000	428000	189000	150000	216000	308000	283000	415000	237000	220000	155000
3	200000	266000	456000	184000	204000	205000	304000	308000	407000	253000	214000	155000
4	239000	275000	433000	183000	260000	211000	303000	331000	394000	262000	211000	154000
5	238000	260000	339000	181000	318000	218000	304000	331000	379000	272000	205000	156000
6	229000	239000	338000	174000	345000	209000	311000	321000	361000	298000	199000	155000
7	217000	227000	317000	165000	347000	207000	335000	309000	346000	304000	201000	151000
8	209000	220000	306000	157000	341000	202000	373000	298000	336000	287000	200000	149000
9	207000	217000	299000	149000	323000	201000	384000	298000	336000	281000	200000	143000
10	203000	221000	307000	145000	314000	197000	382000	310000	343000	326000	197000	139000
11	206000	228000	345000	152000	291000	199000	376000	318000	332000	373000	191000	139000
12	245000	232000	421000	155000	264000	213000	374000	319000	315000	393000	183000	144000
13	345000	242000	454000	152000	242000	228000	370000	323000	297000	412000	180000	150000
14	386000	265000	438000	145000	217000	242000	361000	335000	285000	424000	179000	151000
15	397000	314000	381000	138000	202000	265000	353000	349000	277000	436000	175000	166000
16	397000	399000	327000	136000	195000	280000	350000	349000	280000	449000	180000	188000
17	382000	444000	310000	139000	191000	284000	348000	351000	283000	460000	191000	184000
18	360000	474000	290000	146000	186000	293000	348000	354000	271000	458000	230000	203000
19	339000	532000	264000	147000	190000	307000	358000	387000	262000	439000	230000	215000
20	331000	566000	247000	152000	193000	297000	352000	429000	262000	406000	220000	205000
21	330000	583000	242000	160000	198000	285000	350000	460000	261000	369000	216000	210000
22	335000	605000	229000	177000	210000	291000	342000	484000	251000	329000	208000	268000
23	333000	616000	223000	184000	208000	321000	336000	502000	242000	289000	198000	302000
24	326000	599000	225000	186000	201000	345000	334000	512000	231000	268000	187000	332000
25	309000	556000	222000	187000	190000	336000	335000	515000	224000	257000	174000	351000
26	297000	505000	207000	183000	178000	325000	331000	506000	224000	252000	164000	397000
27	298000	469000	207000	173000	183000	322000	321000	488000	235000	243000	163000	431000
28	289000	470000	212000	140000	192000	320000	310000	473000	236000	241000	171000	441000
29	271000	467000	209000	116000	---	319000	300000	463000	236000	239000	172000	439000
30	258000	447000	197000	121000	---	321000	288000	445000	231000	235000	161000	435000
31	248000	---	192000	124000	---	319000	---	432000	---	234000	158000	---
TOTAL	8764000	11411000	9486000	4933000	6459000	8186000	10155000	11864000	8973000	9951000	6009000	6868000
MEAN	282700	380400	306000	159100	230700	264100	338500	382700	299100	321000	193800	228900
MAX	397000	616000	456000	193000	347000	345000	384000	515000	421000	460000	231000	441000
MIN	168000	217000	192000	116000	126000	197000	288000	281000	224000	225000	158000	139000
CAL YR 1985	TOTAL 100088000			MEAN 274200			MAX 744000			MIN 107000		
WTR YR 1986	TOTAL 103059000			MEAN 282400			MAX 616000			MIN 116000		

MISSISSIPPI RIVER MAIN STEM

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07020500 MISSISSIPPI RIVER AT CHESTER, IL--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.62	16.71	26.62	14.35	7.95	13.91	21.26	19.91	27.28	15.78	16.43	11.17
2	11.31	16.44	26.44	14.04	9.04	14.82	20.86	19.88	27.00	16.34	15.65	10.68
3	13.16	18.27	27.96	13.53	13.42	13.96	20.61	20.99	26.73	17.55	15.08	10.60
4	16.77	19.11	27.74	13.48	17.63	14.12	20.57	22.44	26.24	18.16	15.01	10.34
5	16.69	18.36	25.30	13.32	20.92	14.95	20.58	22.68	25.53	18.53	14.72	10.50
6	16.24	16.93	22.97	12.89	22.68	14.18	20.86	22.13	24.70	20.30	14.02	10.45
7	15.38	16.06	21.92	12.25	22.48	14.13	21.86	21.41	23.97	20.75	14.23	10.15
8	14.91	15.65	21.22	11.61	22.05	13.74	23.92	20.77	23.51	.72	14.21	10.05
9	14.67	15.26	20.86	10.78	20.82	13.74	24.75	20.66	23.38	19.17	14.17	9.48
10	14.34	15.48	21.03	10.48	20.44	13.47	24.64	21.24	23.90	21.18	14.07	8.98
11	14.35	15.98	22.58	10.77	19.39	13.55	---	21.75	23.46	23.92	13.51	9.00
12	15.89	16.36	26.51	11.32	17.67	14.34	24.39	21.89	22.48	24.93	13.05	9.52
13	22.26	16.82	28.54	11.17	16.47	15.54	24.36	21.62	21.44	25.86	12.62	9.89
14	24.57	18.04	28.14	10.62	14.85	16.33	23.98	22.51	20.65	26.51	12.71	9.88
15	25.22	20.04	25.58	9.80	13.50	17.83	23.62	23.37	20.01	26.99	12.32	10.79
16	25.25	24.97	22.64	9.58	13.13	18.89	23.47	23.35	20.03	27.61	12.65	12.86
17	24.73	27.16	21.65	9.58	12.77	19.14	23.35	23.56	20.37	28.08	13.08	12.73
18	23.70	28.62	20.67	10.14	12.46	19.53	23.35	23.46	19.63	28.18	15.96	13.45
19	22.69	30.92	19.13	10.08	12.59	20.61	23.45	25.01	18.91	27.52	16.37	14.94
20	22.05	32.99	17.85	10.26	12.95	20.20	23.59	27.00	18.71	26.03	15.56	14.45
21	21.66	33.45	17.69	10.42	13.07	19.53	23.50	28.51	18.70	24.18	15.32	13.97
22	22.23	34.36	16.79	11.63	14.08	19.65	23.17	29.61	17.95	22.27	14.86	17.98
23	22.18	34.95	16.27	12.37	14.08	21.09	22.74	30.50	17.48	20.02	14.06	19.88
24	21.97	34.53	16.27	12.54	13.64	22.77	22.59	30.91	16.58	18.60	13.29	21.57
25	21.08	32.84	16.43	12.70	12.98	22.47	22.77	31.32	15.91	17.99	12.30	22.55
26	20.22	30.66	15.38	12.55	11.85	21.79	22.68	30.99	15.66	17.66	11.50	24.61
27	20.26	28.63	14.89	11.90	12.11	21.60	22.16	30.19	16.45	17.16	11.19	26.48
28	19.94	28.63	15.38	9.69	12.75	21.52	21.61	29.35	16.53	16.88	11.94	27.13
29	18.89	28.65	15.45	6.62	---	21.53	21.10	29.15	16.56	16.76	12.09	27.13
30	18.06	27.80	14.61	7.08	---	21.43	20.42	28.27	16.34	16.53	11.31	26.84
31	17.42	---	14.15	7.54	---	21.47	---	27.70	---	16.48	10.91	---

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,510 mg/L, May 25, 1981; minimum daily mean, 13 mg/L, Mar. 18, 1981.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 3,170,000 tons, June 6, 1982; minimum daily, 3,580 tons, Mar. 18, 1981.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,220 mg/L, May 20; minimum daily mean, 114 mg/L, Jan. 29, 30 31.

SUSPENDED-SEDIMENT LOADS: Maximum daily 2,739,000 tons, May 21; minimum daily, 35,800 tons, Jan. 29.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	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)
FEB 06...	1300	345000	25	30	36	47	70	73	93	100	100
MAR 20...	1310	297000	28	33	40	50	65	67	93	98	100
MAY 22...	1325	485000	38	44	50	61	91	92	99	100	100
JUN 26...	0954	223000	54	61	67	76	90	91	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)
JUN 26...	0	0	16	60	86	96	99	100

07020500 MISSISSIPPI RIVER AT CHESTER, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	172000	---	---	236000	243	155000	421000	370	421000
2	168000	---	---	237000	271	174000	428000	480	555000
3	200000	---	---	266000	269	193000	456000	502	617000
4	239000	---	---	275000	220	164000	433000	523	611000
5	238000	---	---	260000	319	224000	339000	387	354000
6	229000	---	---	239000	285	184000	338000	351	320000
7	217000	---	---	227000	330	202000	317000	304	260000
8	209000	572	323000	220000	228	136000	306000	278	230000
9	207000	414	231000	217000	199	116000	299000	252	203000
10	203000	318	174000	221000	204	122000	307000	226	187000
11	206000	313	174000	228000	200	123000	345000	200	186000
12	245000	355	235000	232000	225	141000	421000	---	---
13	345000	987	920000	242000	203	132000	454000	---	---
14	386000	1770	1850000	265000	297	213000	438000	---	---
15	397000	1580	1690000	314000	445	377000	381000	---	---
16	397000	1230	1320000	399000	673	725000	327000	---	---
17	382000	1020	1060000	444000	769	922000	310000	---	---
18	360000	796	775000	474000	881	1130000	290000	---	---
19	339000	692	634000	532000	794	1140000	264000	---	---
20	331000	607	542000	566000	768	1170000	247000	---	---
21	330000	507	451000	583000	806	1270000	242000	---	---
22	335000	523	473000	605000	805	1310000	229000	183	113000
23	333000	569	511000	616000	763	1270000	223000	228	137000
24	326000	531	467000	599000	719	1160000	225000	192	117000
25	309000	407	340000	556000	560	841000	222000	178	107000
26	297000	342	274000	505000	484	659000	207000	168	93700
27	298000	328	264000	469000	445	564000	207000	157	87800
28	289000	306	239000	470000	416	527000	212000	159	91200
29	271000	368	270000	467000	513	647000	209000	162	91200
30	258000	354	247000	447000	419	506000	197000	154	82100
31	248000	274	184000	---	---	---	192000	160	82800
TOTAL	8764000	---	---	11411000	---	16497000	9486000	---	---
JANUARY			FEBRUARY			MARCH			
1	193000	159	82700	126000	129	44100	208000	216	122000
2	189000	182	93000	150000	167	67200	216000	247	144000
3	184000	194	96500	204000	235	130000	205000	225	125000
4	183000	182	89700	260000	1260	885000	211000	294	168000
5	181000	256	125000	318000	965	829000	218000	311	183000
6	174000	257	121000	345000	---	---	209000	322	182000
7	165000	246	110000	347000	---	---	207000	387	216000
8	157000	230	97600	341000	---	---	202000	354	193000
9	149000	187	75400	323000	---	---	201000	339	184000
10	145000	161	62900	314000	---	---	197000	300	160000
11	152000	172	70400	291000	---	---	199000	332	178000
12	155000	209	87600	264000	---	---	213000	335	192000
13	152000	193	79300	242000	---	---	228000	335	206000
14	145000	172	67300	217000	---	---	242000	358	234000
15	138000	156	58100	202000	---	---	265000	430	308000
16	136000	135	49400	195000	225	119000	280000	513	388000
17	139000	162	60600	191000	179	92100	284000	571	437000
18	146000	172	68000	186000	225	113000	293000	621	491000
19	147000	191	75800	190000	189	97000	307000	616	510000
20	152000	178	73100	193000	187	97800	297000	628	504000
21	160000	162	70000	198000	209	112000	285000	656	506000
22	177000	178	85000	210000	226	128000	291000	657	516000
23	184000	195	96700	208000	225	126000	321000	736	638000
24	186000	203	102000	201000	191	104000	345000	945	880000
25	187000	200	101000	190000	207	106000	336000	970	881000
26	183000	195	96300	178000	193	93200	325000	1150	1010000
27	173000	199	93000	183000	188	92600	322000	1220	1060000
28	140000	141	53200	192000	185	95800	320000	943	815000
29	116000	114	35800	---	---	---	319000	812	699000
30	121000	114	37100	---	---	---	321000	688	596000
31	124000	114	38100	---	---	---	319000	587	506000
TOTAL	4933000	---	2451600	6459000	---	---	8186000	---	13232000

MISSISSIPPI RIVER MAIN STEM

07020500 MISSISSIPPI RIVER AT CHESTER, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	314000	508	431000	281000	287	217000	421000	470	534000
2	308000	418	348000	283000	275	210000	415000	475	532000
3	304000	362	297000	308000	298	247000	407000	420	461000
4	303000	328	268000	331000	446	398000	394000	392	417000
5	304000	345	283000	331000	890	796000	379000	415	425000
6	311000	385	323000	321000	1410	1220000	361000	434	423000
7	335000	317	287000	309000	1220	1010000	346000	449	420000
8	373000	348	351000	298000	1010	812000	336000	465	422000
9	384000	1490	1550000	298000	777	624000	336000	473	428000
10	382000	1560	1610000	310000	702	587000	343000	501	464000
11	376000	1380	1410000	318000	627	539000	332000	500	449000
12	374000	1050	1060000	319000	771	664000	315000	467	397000
13	370000	762	762000	323000	575	501000	297000	568	456000
14	361000	615	599000	335000	628	567000	285000	490	377000
15	353000	547	521000	349000	1280	1210000	277000	394	295000
16	350000	467	442000	349000	1630	1530000	280000	418	316000
17	348000	445	418000	351000	1390	1320000	283000	543	416000
18	348000	411	386000	354000	1720	1650000	271000	569	417000
19	358000	331	320000	387000	2050	2150000	262000	575	408000
20	352000	360	342000	429000	2220	2570000	262000	596	421000
21	350000	359	339000	460000	2200	2740000	261000	603	425000
22	342000	315	291000	484000	1940	2540000	251000	539	365000
23	336000	292	265000	502000	1650	2230000	242000	546	357000
24	334000	309	279000	512000	1250	1720000	231000	648	403000
25	335000	330	299000	515000	1170	1630000	224000	551	333000
26	331000	379	338000	506000	916	1250000	224000	390	236000
27	321000	317	275000	488000	694	914000	235000	316	201000
28	310000	431	361000	473000	608	776000	236000	350	223000
29	300000	316	256000	463000	583	729000	236000	535	341000
30	288000	288	224000	445000	527	632000	231000	414	258000
31	---	---	---	432000	498	582000	---	---	---
TOTAL	10155000	---	14935000	11864000	---	34565000	8973000	---	11620000
JULY			AUGUST			SEPTEMBER			
1	225000	364	221000	231000	208	130000	160000	138	59400
2	237000	404	259000	220000	208	123000	155000	199	83500
3	253000	570	390000	214000	212	123000	155000	265	111000
4	262000	595	421000	211000	307	175000	154000	241	100000
5	272000	486	357000	205000	254	141000	156000	208	87600
6	298000	618	497000	199000	167	89800	155000	189	79000
7	304000	767	630000	201000	157	85300	151000	189	76900
8	287000	753	583000	200000	159	85800	149000	188	75700
9	281000	698	530000	200000	136	73500	143000	186	71900
10	326000	1130	997000	197000	132	70200	139000	165	61900
11	373000	1920	1940000	191000	126	65000	139000	187	70300
12	393000	2040	2170000	183000	122	60300	144000	242	94000
13	412000	1880	2090000	180000	133	64400	150000	266	108000
14	424000	1750	2000000	179000	137	66300	151000	243	99200
15	436000	1790	2110000	175000	153	72100	166000	215	96500
16	449000	2000	2430000	180000	182	88700	188000	254	129000
17	460000	1960	2440000	191000	202	104000	184000	332	165000
18	458000	1820	2250000	230000	227	141000	203000	488	267000
19	439000	1660	1970000	230000	445	276000	215000	426	247000
20	406000	1510	1660000	220000	737	438000	205000	231	128000
21	369000	1370	1360000	216000	656	382000	210000	209	119000
22	329000	1220	1080000	208000	438	246000	268000	403	291000
23	289000	932	727000	198000	327	175000	302000	894	729000
24	268000	740	535000	187000	269	136000	332000	983	881000
25	257000	599	416000	174000	240	113000	351000	1070	1010000
26	252000	494	336000	164000	196	86900	397000	1760	1890000
27	243000	364	239000	163000	231	102000	431000	1880	2190000
28	241000	259	168000	171000	201	92600	441000	1740	2070000
29	239000	298	192000	172000	212	98100	439000	1600	1890000
30	235000	332	211000	161000	262	114000	435000	1620	1910000
31	234000	228	144000	158000	205	87300	---	---	---
TOTAL	9951000	---	31353000	6009000	---	4105300	6868000	---	15190900
YEAR	103059000		165876400						

HEADWATER DIVERSION CHANNEL BASIN

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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 downstream from Perkins Creek.

DRAINAGE AREA.--423 mi².

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 above National Geodetic Vertical Datum of 1929. Jan. 1920 to Oct. 1, 1925, at site 500 ft upstream at datum 49.82 ft lower, Oct. 1, 1925 to Nov. 12, 1930, at site 500 ft upstream at datum 0.18 ft higher. Nov. 13, 1930 to June 8, 1953, nonrecording gage at present site and datum. Since Dec. 18, 1949, auxiliary nonrecording gage, 6.0 mi downstream.

REMARKS.--Estimated daily discharges: May 29 to July 7. Records good except for May 29 to July 7, which are poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--66 years, 520 ft³/s, 16.69 in/yr, 376,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 97,100 ft³/s, Dec. 4, 1982, gage height, 29.92 ft; minimum, 16 ft³/s, Aug. 31, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1915 reached a stage of 28.0 ft, present datum, from floodmarks by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s (revised) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 20	1930	5,060	18.15	May 17	1615	*6,750	*20.94

Minimum discharge, 72 ft³/s, July 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	449	1340	199	122	309	336	393	450	110	103	84
2	91	781	1290	193	131	293	315	354	450	115	95	83
3	90	654	1030	187	296	278	298	314	425	120	89	82
4	90	518	839	181	1690	264	282	288	400	125	84	82
5	90	424	720	175	3840	254	317	267	375	115	81	81
6	90	361	622	170	2330	245	316	251	1000	105	80	87
7	89	317	540	165	1630	236	346	237	1700	95	82	86
8	88	278	479	159	1280	226	376	226	1500	91	88	81
9	87	251	421	155	1020	219	361	227	1300	91	97	81
10	88	234	395	151	844	219	346	287	1500	89	121	79
11	89	241	764	150	734	216	332	361	1700	90	227	78
12	92	475	1610	149	646	1400	318	343	1000	85	169	80
13	98	1430	1380	146	570	2430	307	337	600	96	139	81
14	106	3000	1010	144	533	1600	302	309	450	111	123	81
15	131	1600	800	142	495	1150	291	930	400	131	113	81
16	135	2240	690	140	445	893	274	2720	350	127	115	80
17	123	2290	610	141	537	741	263	5510	300	112	136	80
18	115	1380	538	143	719	1040	254	3230	280	102	137	83
19	118	1260	477	145	681	3380	263	1080	240	95	122	97
20	568	4270	431	141	617	2680	1710	812	220	90	111	105
21	1530	3520	384	139	564	1580	3840	688	210	84	105	110
22	663	1740	342	137	518	1180	2670	509	190	81	99	107
23	420	1240	329	134	480	937	1630	426	200	78	95	104
24	318	928	310	132	445	780	1200	381	200	77	99	117
25	265	735	281	130	410	675	931	455	180	75	96	126
26	229	647	264	129	383	597	756	526	160	74	90	125
27	204	1280	248	125	358	540	644	478	140	116	90	114
28	185	3250	237	123	332	486	570	442	130	156	90	109
29	179	2770	226	124	---	438	496	600	125	123	88	103
30	186	1680	215	123	---	398	437	650	120	119	86	100
31	219	---	208	122	---	364	---	500	---	112	85	---
TOTAL	6868	40243	19030	4594	22650	26048	20781	24131	16295	3190	3335	2787
MEAN	222	1341	614	148	809	840	693	778	543	103	108	92.9
MAX	1530	4270	1610	199	3840	3380	3840	5510	1700	156	227	126
MIN	87	234	208	122	122	216	254	226	120	74	80	78
CAL YR 1985		TOTAL	299802	MEAN	821	MAX	35900	MIN	87			
WTR YR 1986		TOTAL	189952	MEAN	520	MAX	5510	MIN	74			

MISSISSIPPI RIVER MAIN STEM

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 downstream from Headwater Diversion Channel, and at mile 43.7 above Ohio River.

DRAINAGE AREA.--713,200 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: Oct. 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 U.S. Army 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). WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 300.00 ft above 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 upstream at datum 4.65 ft 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 higher. Prior to Apr. 5, 1941, various auxiliary gages used. Since Oct. 1, 1943, former gage at Cape Girardeau used as auxiliary gage.

REMARKS.--Estimated daily discharges. Nov. 14-25, Dec. 27 to Feb. 20, Mar. 20 to Apr. 2, Apr. 11-16, June 14-25, and Sept. 24-30. Water discharge records good except for estimated daily discharges, 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. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--54 years, 197,600 ft³/s, 143,200,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 893,000 ft³/s, May 27, 1943, elevation, 340.33 ft, present datum; maximum elevation, 343.43 ft, Apr. 30, 1973; minimum discharge, 23,400 ft³/s, Dec. 13, 1937, at site then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 4, 1844, reached an elevation of 345.14 ft, present datum, at Grays Point, from floodmarks, discharge, 1,375,000 ft³/s, computed by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 664,000 ft³/s, Nov. 24, gage height, 39.84 ft; minimum, 124,000 ft³/s, Jan. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171000	259000	444000	201000	141000	217000	319000	297000	438000	232000	238000	161000
2	168000	247000	427000	199000	140000	231000	312000	292000	428000	233000	231000	160000
3	173000	257000	442000	196000	181000	227000	306000	300000	418000	248000	220000	157000
4	216000	279000	459000	194000	242000	216000	302000	322000	407000	261000	215000	156000
5	244000	271000	436000	191000	305000	225000	303000	332000	393000	270000	212000	155000
6	240000	255000	391000	191000	348000	218000	305000	329000	377000	287000	204000	154000
7	228000	240000	360000	183000	361000	211000	315000	320000	365000	306000	201000	151000
8	219000	229000	346000	178000	338000	205000	341000	310000	357000	299000	202000	148000
9	213000	223000	337000	171000	346000	199000	361000	304000	355000	287000	202000	145000
10	210000	224000	334000	166000	376000	195000	365000	309000	360000	297000	203000	139000
11	206000	233000	350000	164000	321000	193000	363000	319000	363000	338000	197000	136000
12	219000	246000	397000	171000	296000	210000	369000	323000	351000	364000	189000	138000
13	293000	265000	446000	170000	277000	233000	373000	320000	334000	383000	183000	142000
14	359000	275000	459000	167000	255000	243000	373000	325000	319000	396000	183000	146000
15	378000	296000	426000	159000	232000	267000	367000	347000	308000	410000	180000	148000
16	382000	366000	366000	154000	219000	290000	366000	402000	302000	422000	180000	166000
17	376000	419000	333000	152000	214000	307000	363000	403000	305000	436000	182000	178000
18	360000	459000	318000	155000	200000	317000	362000	376000	298000	444000	204000	180000
19	346000	500000	296000	158000	195000	318000	364000	376000	286000	435000	232000	208000
20	337000	569000	277000	157000	201000	345000	368000	406000	279000	410000	225000	207000
21	335000	603000	267000	161000	208000	335000	371000	438000	277000	378000	218000	196000
22	342000	617000	259000	167000	224000	333000	362000	463000	272000	345000	214000	241000
23	346000	636000	247000	180000	237000	344000	352000	486000	262000	311000	204000	291000
24	343000	631000	239000	184000	232000	371000	344000	502000	250000	285000	194000	322000
25	332000	600000	238000	190000	221000	379000	343000	518000	236000	269000	183000	342000
26	317000	557000	229000	189000	207000	365000	339000	519000	228000	261000	174000	363000
27	309000	482000	215000	184000	200000	353000	334000	507000	232000	254000	166000	404000
28	306000	487000	224000	173000	206000	344000	324000	490000	239000	248000	166000	432000
29	292000	480000	224000	143000	---	334000	316000	480000	239000	245000	171000	440000
30	277000	464000	213000	126000	---	328000	307000	466000	238000	242000	170000	437000
31	267000	---	204000	127000	---	324000	---	451000	---	239000	162000	---
TOTAL	8804000	11669000	10203000	5301000	6923000	8677000	10289000	12032000	9516000	9835000	6105000	6643000
MEAN	284000	389000	329100	171000	247300	279900	343000	388100	317200	317300	196900	221400
MAX	382000	636000	459000	201000	376000	379000	373000	519000	438000	444000	238000	440000
MIN	168000	223000	204000	126000	140000	193000	302000	292000	228000	232000	162000	136000
CAL YR 1985	TOTAL 105554000			MEAN 289200	MAX 738000	MIN 112000						
WTR YR 1986	TOTAL 105997000			MEAN 290400	MAX 636000	MIN 126000						

MISSISSIPPI RIVER MAIN STEM

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07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATION AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.43	22.54	33.85	19.32	13.47	19.50	25.58	24.45	31.25	20.62	20.91	15.53
2	16.17	21.78	32.87	19.04	14.23	20.48	25.30	23.99	30.82	20.49	20.69	15.58
3	16.24	22.03	33.25	18.64	16.81	20.47	24.86	24.36	30.21	21.39	19.95	15.26
4	19.09	23.93	34.31	18.52	22.07	19.38	24.64	25.48	29.85	22.19	19.52	15.18
5	21.30	23.60	33.51	18.25	26.67	20.18	24.68	26.33	29.30	22.66	19.44	15.04
6	21.12	22.98	31.37	18.30	25.08	19.81	24.64	26.02	28.53	23.54	18.81	14.88
7	20.51	21.83	29.88	17.38	27.82	19.31	24.94	25.71	28.14	24.73	18.67	14.70
8	19.85	21.13	28.91	17.02	24.64	19.04	26.50	25.08	27.57	24.63	18.82	14.58
9	19.52	20.76	28.34	16.40	23.52	18.59	27.67	24.83	27.38	23.88	18.69	14.31
10	19.34	20.77	28.17	15.90	22.67	18.40	27.95	24.87	27.56	23.93	18.81	13.73
11	18.97	21.31	28.59	15.80	22.30	18.19	27.62	25.45	27.87	26.09	18.51	13.41
12	19.42	21.86	30.43	---	21.07	18.98	27.58	25.67	27.37	27.81	17.96	13.56
13	23.07	22.48	32.98	---	20.05	20.51	27.83	25.50	26.36	28.49	17.35	13.87
14	27.38	23.72	33.79	---	18.90	21.02	27.66	25.76	25.71	29.36	17.28	14.39
15	28.50	23.72	32.91	---	17.54	22.18	27.18	26.73	24.98	29.89	17.20	14.35
16	28.73	28.26	30.07	---	16.79	23.83	26.97	29.92	24.66	30.36	17.12	15.66
17	28.55	31.10	27.93	---	16.26	24.77	26.95	29.95	24.75	30.97	17.23	16.94
18	27.85	32.86	27.15	15.00	16.02	25.39	26.96	28.56	24.52	31.49	18.31	16.82
19	26.97	34.60	25.99	---	15.56	26.51	26.99	28.15	23.85	31.46	20.64	19.13
20	26.25	36.70	24.73	---	15.73	26.95	27.06	29.56	23.35	30.27	20.28	19.07
21	25.72	38.42	23.89	15.48	19.68	26.45	27.49	31.02	23.21	28.86	19.78	18.33
22	26.06	38.96	23.63	15.94	20.29	26.08	27.18	31.89	23.03	27.13	19.55	19.26
23	26.53	39.25	22.68	---	20.84	26.70	26.82	32.97	22.39	25.52	19.01	22.64
24	26.40	39.80	22.16	17.25	20.64	28.14	26.58	33.50	21.80	23.93	18.35	24.34
25	25.97	38.70	22.02	17.81	20.07	28.74	26.58	34.24	20.87	22.85	17.51	25.51
26	25.31	37.40	21.49	17.95	19.29	28.06	26.60	34.31	20.35	22.35	16.67	26.55
27	24.83	35.89	20.57	17.51	18.54	27.34	26.31	33.89	20.47	22.01	16.04	28.38
28	24.83	34.94	21.06	16.92	18.87	26.90	25.93	33.26	21.01	21.57	15.86	29.75
29	24.08	34.67	20.73	14.74	---	26.40	25.41	32.77	20.95	21.25	16.43	30.20
30	23.44	34.56	20.46	12.55	---	26.00	25.04	32.39	21.01	21.23	16.39	30.08
31	22.80	---	19.47	12.81	---	25.84	---	31.79	---	20.95	15.70	---

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 September 1981.

WATER TEMPERATURE: October 1974 to September 1981.

SUSPENDED-SEDIMENT: October 1980 to current year.

REMARKS.--Discontinued as National stream-quality accounting network station September 1986.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 705 microsiemens, Aug. 5-7, 1980; minimum daily, 272 microsiemens, Apr. 6, 1979.

WATER TEMPERATURE: 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, 3,890 mg/L, Dec. 22, 1986; minimum daily mean, 13 mg/L, Jan. 28, 1981.

SUSPENDED-SEDIMENT LOADS: Maximum daily 6,280,000 tons, Mar. 1, 1985; minimum daily, 2,530 tons, Jan. 28, 1981.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,890 mg/L, Dec. 22; minimum daily mean 145 mg/L, Feb. 1.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 3,053,000 tons, July 15; minimum daily, 55,100 tons, Feb. 1.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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)
OCT										
22...	1200	343000	385	7.70	15.0	140	9.3	89	2400	1000
NOV										
20...	1200	560000	310	7.70	10.0	190	10.1	87	3600	18000
DEC										
17...	1000	334000	384	8.30	1.5	1.8	11.9	82	1100	460
JAN										
22...	0845	165000	548	7.80	2.5	21	13.1	94	220	410
FEB										
20...	1420	216000	532	7.40	2.5	43	13.4	100	510	K110
MAR										
19...	1335	322000	480	8.00	7.0	100	11.2	93	1600	2600
APR										
29...	1415	316000	478	8.30	16.5	46	9.5	98	K1100	200
MAY										
29...	1545	478000	500	7.90	20.5	54	9.6	108	1600	570
JUN										
25...	1400	235000	540	8.10	27.5	230	5.9	75	8800	490
JUL										
23...	1330	310000	419	8.00	29.0	330	5.5	72	2600	230
AUG										
05...	1335	211000	559	8.20	28.0	37	7.1	91	2000	K20
SEP										
04...	1350	157000	540	8.10	25.0	48	7.4	90	K1800	140

K--Results based on colony count outside the acceptable range (non-ideal colony count).

MISSISSIPPI RIVER MAIN STEM

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07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD 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)	PERCENT SODIUM (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 22...	160	35	43	13	15	16	0.5	4.2	125	45
NOV 20...	140	33	36	12	12	15	0.5	3.8	105	39
DEC 17...	180	32	45	16	15	15	0.5	4.0	148	52
JAN 22...	260	91	63	25	12	9	0.3	3.6	169	69
FEB 20...	210	29	52	19	24	20	0.7	4.5	170	63
MAR 19...	200	42	51	17	19	17	0.6	4.3	149	60
APR 29...	200	51	51	18	15	14	0.5	4.1	149	65
MAY 29...	220	64	55	19	16	14	0.5	4.2	147	69
JUN 25...	230	70	58	21	20	16	0.6	4.0	161	70
JUL 23...	170	32	45	15	14	15	0.5	4.1	138	48
AUG 05...	220	50	56	20	23	18	0.7	4.1	168	75
SEP 04...	220	58	54	20	31	23	0.9	6.4	160	91

DATE	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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
OCT 22...	14	0.30	9.7	228	230	0.31	211000	1.40	0.040
NOV 20...	10	0.20	8.8	183	190	0.25	277000	1.50	0.070
DEC 17...	18	0.20	13	238	250	0.32	215000	2.20	0.130
JAN 22...	20	0.20	6.2	346	300	0.47	154000	2.30	0.270
FEB 20...	29	0.20	11	307	310	0.42	179000	2.40	0.410
MAR 19...	22	0.20	9.7	301	280	0.41	262000	2.60	0.260
APR 29...	15	0.20	7.8	294	270	0.40	251000	2.40	0.050
MAY 29...	9.8	0.20	8.6	290	270	0.39	374000	3.40	0.040
JUN 25...	17	0.30	8.9	329	300	0.45	209000	3.70	0.050
JUL 23...	12	0.30	10	258	230	0.35	216000	2.80	0.030
AUG 05...	19	0.30	9.5	372	310	0.51	212000	1.90	0.020
SEP 04...	19	0.30	9.2	358	330	0.49	152000	1.20	0.070

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS, TOTAL (MG/L AS P) (00665)	PHOS- PHORUS TOTAL (MG/L AS PO4) (71886)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 22...	0.05	1.1	0.280	0.86	0.090	0.060	409	379000	93
NOV 20...	0.09	1.3	0.430	1.3	0.090	0.060	848	1280000	62
DEC 17...	0.17	1.0	0.250	--	0.180	0.100	357	322000	47
JAN 22...	0.35	1.0	0.170	--	0.090	0.090	88	39200	57
FEB 20...	0.53	1.3	0.220	--	0.130	0.120	66	38500	90
MAR 19...	0.33	2.2	0.170	--	0.120	0.100	--	--	--
APR 29...	0.06	1.3	0.170	--	0.070	0.070	--	--	--
MAY 29...	0.05	1.3	0.290	--	0.150	0.100	207	267000	93
JUN 25...	0.06	0.70	0.340	--	0.120	0.120	468	297000	99
JUL 23...	0.04	1.4	0.270	--	0.240	0.110	848	710000	96
AUG 05...	0.03	0.80	0.280	--	0.130	0.110	104	59200	76
SEP 04...	0.09	0.40	0.240	--	0.120	0.090	182	77100	91

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 20...	110	1	60	<0.5	<1	<1	<3	5	130	<1
JAN 22...	60	1	61	<0.5	1	<1	<3	3	9	1
MAY 29...	10	2	99	<0.5	<1	<1	<3	1	6	1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 20...	7	8	<0.1	<10	3	1	<1	140	<6	15
JAN 22...	5	5	0.2	<10	2	<1	<1	73	<6	53
MAY 29...	14	1	<0.1	<10	2	<1	<1	200	<6	14

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	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)
NOV 20...	1345	560000	27	32	37	46	66	73	88	94	100
MAR 19...	1410	326000	30	34	42	52	69	72	92	100	100
MAY 29...	1750	482000	31	35	39	47	73	76	93	99	100
JUN 25...	1440	234000	52	59	68	78	87	88	95	100	--
JUL 23...	1400	309000	39	43	51	62	92	93	98	100	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)
JUN 25...	0	1	21	80	91	94	95	97	98	100

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	171000	---	---	259000	353	247000	444000	445	533000
2	168000	---	---	247000	359	239000	427000	562	648000
3	173000	---	---	257000	364	252000	442000	766	915000
4	216000	---	---	279000	325	245000	459000	620	768000
5	244000	---	---	271000	312	228000	436000	459	540000
6	240000	---	---	255000	435	299000	391000	401	423000
7	228000	---	---	240000	369	239000	360000	381	371000
8	219000	---	---	229000	339	210000	346000	356	332000
9	213000	373	214000	223000	352	212000	337000	308	280000
10	210000	372	210000	224000	338	204000	334000	323	291000
11	206000	323	180000	233000	266	167000	350000	390	368000
12	219000	243	144000	246000	334	222000	397000	448	481000
13	293000	409	324000	265000	400	286000	446000	615	740000
14	359000	1120	1090000	275000	466	346000	459000	829	1030000
15	378000	2040	2090000	296000	414	331000	426000	614	707000
16	382000	1760	1810000	366000	660	652000	366000	401	396000
17	376000	1240	1260000	419000	951	1080000	333000	475	427000
18	360000	1020	993000	459000	1060	1320000	318000	828	710000
19	346000	859	802000	500000	1040	1400000	296000	1220	977000
20	337000	720	656000	569000	949	1460000	277000	2030	1520000
21	335000	584	528000	603000	892	1450000	267000	3450	2490000
22	342000	469	433000	617000	842	1400000	259000	3890	2730000
23	346000	570	533000	636000	786	1350000	247000	2990	1990000
24	343000	588	543000	631000	804	1370000	239000	492	318000
25	332000	531	476000	600000	868	1410000	238000	290	187000
26	317000	499	427000	557000	752	1130000	229000	242	150000
27	309000	366	305000	482000	706	919000	215000	272	158000
28	306000	407	336000	487000	536	705000	224000	228	159000
29	292000	477	376000	480000	518	672000	224000	229	139000
30	277000	500	375000	464000	539	675000	213000	254	146000
31	267000	437	314000	---	---	---	204000	240	132000
TOTAL	8804000	---	---	11669000	---	20720000	10203000	---	21056000

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	201000	236	128000	141000	145	55100	217000	275	161000
2	199000	241	130000	140000	249	94200	231000	211	131000
3	196000	193	102000	181000	676	330000	227000	273	167000
4	194000	198	104000	242000	1110	726000	216000	277	162000
5	191000	157	80700	305000	1100	908000	225000	323	196000
6	191000	184	94700	348000	1060	996000	218000	322	189000
7	183000	189	93400	361000	924	899000	211000	279	159000
8	178000	199	95900	338000	1000	913000	205000	289	160000
9	171000	220	102000	346000	976	911000	199000	329	176000
10	166000	240	108000	376000	876	889000	195000	343	181000
11	164000	211	93300	321000	728	631000	193000	387	202000
12	171000	196	90600	296000	558	446000	210000	437	248000
13	170000	154	70800	277000	425	318000	233000	425	267000
14	167000	177	79700	255000	318	219000	243000	368	242000
15	159000	213	91300	232000	281	176000	267000	332	239000
16	154000	236	98300	219000	281	166000	290000	461	361000
17	152000	381	156000	214000	217	125000	307000	509	422000
18	155000	349	146000	200000	239	129000	317000	477	408000
19	158000	1000	427000	195000	267	140000	318000	639	548000
20	157000	573	243000	201000	327	177000	345000	555	517000
21	161000	400	174000	208000	272	153000	335000	486	439000
22	167000	288	130000	224000	227	137000	333000	486	437000
23	180000	211	103000	237000	302	193000	344000	560	521000
24	184000	279	138000	232000	285	178000	371000	655	656000
25	190000	297	152000	221000	246	147000	379000	884	904000
26	189000	556	284000	207000	299	167000	365000	1030	1020000
27	184000	446	222000	200000	277	150000	353000	1130	1080000
28	173000	286	134000	206000	276	153000	344000	1280	1190000
29	143000	229	88800	---	---	---	334000	1030	933000
30	126000	173	59000	---	---	---	328000	682	604000
31	127000	173	59200	---	---	---	324000	707	619000
TOTAL	5301000	---	4078700	6923000	---	10526300	8677000	---	13539000
APRIL			MAY			JUNE			
1	319000	538	463000	297000	251	201000	438000	487	575000
2	312000	459	386000	292000	320	252000	428000	609	705000
3	306000	394	325000	300000	399	323000	418000	796	897000
4	302000	299	244000	322000	397	345000	407000	505	554000
5	303000	354	290000	332000	604	542000	393000	602	638000
6	305000	330	271000	329000	967	859000	377000	485	494000
7	315000	420	357000	320000	1490	1290000	365000	441	434000
8	341000	610	562000	310000	1150	958000	357000	782	754000
9	361000	1270	1240000	304000	968	795000	355000	581	557000
10	365000	806	794000	309000	1110	926000	360000	398	387000
11	363000	1410	1380000	319000	635	547000	363000	452	443000
12	369000	1280	1280000	323000	783	682000	351000	518	491000
13	373000	912	918000	320000	727	628000	334000	507	457000
14	373000	692	697000	325000	528	463000	319000	428	368000
15	367000	667	661000	347000	775	725000	308000	468	389000
16	366000	512	506000	402000	1770	1920000	302000	393	321000
17	363000	502	492000	403000	1560	1690000	305000	436	359000
18	362000	472	461000	376000	1240	1260000	298000	571	460000
19	364000	422	414000	376000	1490	1510000	286000	526	406000
20	368000	486	483000	406000	1740	1910000	279000	515	389000
21	371000	327	327000	438000	2070	2440000	277000	514	385000
22	362000	362	354000	463000	2000	2500000	272000	596	437000
23	352000	340	323000	486000	1860	2440000	262000	508	358000
24	344000	292	271000	502000	1850	2510000	250000	485	327000
25	343000	333	308000	518000	1270	1780000	236000	608	387000
26	339000	333	305000	519000	938	1320000	228000	659	406000
27	334000	318	286000	507000	825	1130000	232000	515	322000
28	324000	434	380000	490000	712	943000	239000	433	279000
29	316000	452	386000	480000	614	797000	239000	462	298000
30	307000	332	276000	466000	555	698000	238000	462	297000
31	---	---	---	451000	591	721000	---	---	---
TOTAL	10289000	---	15440000	12032000	---	35105000	9516000	---	13574000

MISSISSIPPI RIVER MAIN STEM

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07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	232000	433	271000	238000	214	138000	161000	206	89300
2	233000	329	207000	231000	248	155000	160000	258	112000
3	248000	317	212000	220000	268	159000	157000	274	116000
4	261000	508	359000	215000	272	158000	156000	416	175000
5	270000	642	468000	212000	238	136000	155000	240	100000
6	287000	904	701000	204000	262	144000	154000	198	82100
7	306000	497	411000	201000	384	209000	151000	164	66500
8	299000	723	584000	202000	345	189000	148000	171	68100
9	287000	768	596000	202000	208	113000	145000	149	58200
10	297000	723	579000	203000	258	141000	139000	149	55900
11	338000	1170	1060000	197000	190	101000	136000	167	61000
12	364000	1840	1810000	189000	157	80600	138000	189	70500
13	383000	2050	2120000	183000	162	80000	142000	194	74000
14	396000	1990	2130000	183000	202	99800	146000	177	69700
15	410000	2760	3050000	180000	206	99700	148000	169	67700
16	422000	1530	1750000	180000	182	88200	166000	344	154000
17	436000	1470	1730000	182000	169	83300	178000	1220	587000
18	444000	1630	1960000	204000	212	117000	180000	1160	567000
19	435000	1570	1850000	232000	330	207000	208000	1020	572000
20	410000	1370	1520000	225000	520	316000	207000	588	328000
21	378000	1320	1340000	218000	775	457000	196000	379	201000
22	345000	1210	1130000	214000	712	411000	241000	364	237000
23	311000	992	834000	204000	525	290000	291000	526	413000
24	285000	766	589000	194000	402	211000	322000	713	620000
25	269000	658	478000	183000	372	184000	342000	918	848000
26	261000	541	381000	174000	461	216000	363000	1250	1220000
27	254000	496	340000	166000	348	155000	404000	1700	1850000
28	248000	446	299000	166000	242	108000	432000	1940	2260000
29	245000	360	238000	171000	243	112000	440000	1760	2090000
30	242000	243	159000	170000	236	108000	437000	1550	1830000
31	239000	239	154000	162000	220	96200	---	---	---
TOTAL	9835000	---	29310000	6105000	---	5162800	6643000	---	15043000
YEAR	105997000		197973800						

ST. FRANCIS RIVER BASIN

07034000 ST. FRANCIS RIVER NEAR ROSELLE, MO

LOCATION.--Lat 37°35'45", long 90°29'50", in NE¼ sec.7, T.33 N., R.5 E., Madison County, Hydrologic Unit 08020202, on State Highway 72, 0.25 mi above Stouts Creek and 1.5 mi east of Roselle.

DRAINAGE AREA.--234 mi².

PERIOD OF RECORD.--June 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 684.99 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 13, 18, 19, and June 23 to July 6. Records good except for period of no gage height record, which are poor. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers gage-height and satellite telemeters at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,000 ft³/s, Nov. 19, 1985, gage height 20.40 ft, from rating curve extended above 23,000 ft³/s; minimum, 0.76 ft³/s, Aug. 22, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 43,000 ft³/s, Nov. 19, gage height, 20.40 ft; minimum daily, 7.2 ft³/s, Sept. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	228	675	86	48	95	96	85	240	60	20	9.0
2	14	172	613	80	51	91	93	78	176	50	15	9.3
3	14	83	361	80	636	88	88	70	131	35	12	8.5
4	15	54	291	78	1330	84	88	64	107	25	11	7.2
5	16	44	257	75	822	80	236	61	264	20	10	9.0
6	17	39	221	69	497	78	256	59	845	17	11	18
7	18	38	186	60	611	76	234	57	348	15	11	12
8	17	36	175	57	457	71	289	54	214	14	14	10
9	17	34	161	54	333	70	338	51	190	12	23	9.1
10	18	32	195	54	264	72	243	67	811	12	30	8.8
11	20	35	1550	52	212	77	189	103	524	12	48	8.8
12	22	59	1150	51	190	905	162	126	280	409	29	8.3
13	24	5380	581	50	152	768	142	97	162	798	17	8.1
14	41	1050	377	48	155	443	133	86	113	189	14	8.2
15	67	1430	301	49	132	314	127	1500	89	89	11	8.4
16	53	2960	280	51	151	248	115	10800	76	67	12	8.0
17	48	879	270	51	305	201	103	1350	60	53	17	7.5
18	43	1200	234	55	326	1070	97	562	48	40	20	12
19	84	28000	167	57	263	1590	92	336	42	32	16	199
20	127	6090	160	60	210	606	349	234	33	27	14	66
21	58	983	134	59	177	383	519	171	31	22	13	42
22	44	582	145	56	154	297	368	134	29	18	13	31
23	40	419	166	53	143	254	266	114	40	16	14	27
24	37	319	188	50	135	206	207	806	35	15	14	255
25	39	345	144	50	126	179	173	2330	30	14	13	96
26	37	976	115	50	118	160	147	1950	26	14	11	51
27	36	5120	118	50	112	140	126	739	24	22	11	38
28	36	2510	107	44	102	125	113	939	23	43	11	33
29	38	857	99	45	---	118	102	1210	22	46	11	30
30	45	552	91	47	---	112	90	641	22	47	11	27
31	65	---	90	46	---	105	---	365	---	31	10	---
TOTAL	1163	60506	9602	1767	8212	9106	5581	25239	5035	2264	487	1065.2
MEAN	37.5	2017	310	57.0	293	294	186	814	168	73.0	15.7	35.5
MAX	127	28000	1550	86	1330	1590	519	10800	845	798	48	255
MIN	13	32	90	44	48	70	88	51	22	12	10	7.2
CAL YR 1985		TOTAL	242413.8	MEAN	664	MAX	28000	MIN	5.9			
WTR YR 1986		TOTAL	130027.2	MEAN	356	MAX	28000	MIN	7.2			

ST. FRANCIS RIVER BASIN

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07034000 ST. FRANCIS RIVER NEAR ROSELLE, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.45	3.67	4.14	2.81	2.53	2.79	2.77	2.69	3.47	---	2.38	2.36
2	2.48	3.53	4.43	2.77	2.54	2.77	2.75	2.65	3.26	---	2.28	2.44
3	2.45	3.13	3.79	2.78	3.09	2.76	2.73	2.59	3.08	---	2.23	2.44
4	2.48	2.92	3.58	2.77	5.51	2.74	2.70	2.55	2.98	---	2.20	2.49
5	2.51	2.82	3.48	2.75	4.84	2.70	3.21	2.54	2.89	---	2.18	2.48
6	2.51	2.77	3.38	2.70	4.05	2.70	3.35	2.52	5.16	---	2.19	2.75
7	2.54	2.76	3.25	2.66	4.35	2.69	3.26	2.50	3.81	---	2.19	2.62
8	2.53	2.74	3.21	---	4.02	2.64	3.41	2.47	3.40	2.22	2.23	2.57
9	2.51	2.73	3.15	---	3.69	2.64	3.66	2.45	3.15	2.19	2.38	2.54
10	2.55	2.71	3.16	---	3.48	2.65	3.34	2.59	3.79	2.18	2.47	2.52
11	2.58	2.71	4.64	---	3.30	2.68	3.16	2.74	4.29	2.17	2.71	2.53
12	2.59	2.87	5.39	---	3.26	4.26	3.05	2.92	3.58	4.44	2.49	2.59
13	2.61	11.51	4.33	---	3.05	4.74	2.97	2.75	3.24	4.82	2.34	2.58
14	2.73	5.23	3.83	---	3.13	3.97	2.93	2.69	3.02	3.39	2.27	2.58
15	3.02	4.09	3.56	---	2.93	3.58	2.89	6.92	2.39	2.94	2.23	2.60
16	2.90	8.03	3.54	---	3.08	3.36	2.85	12.32	2.80	2.77	2.23	2.61
17	2.86	4.93	3.50	---	3.49	3.22	2.78	5.54	2.71	2.69	2.30	2.59
18	2.83	4.60	3.43	---	3.65	3.13	2.75	4.34	2.63	2.56	2.40	2.61
19	2.99	17.44	3.16	---	3.45	6.06	2.72	3.78	2.55	2.48	2.33	3.72
20	3.38	9.90	3.17	---	3.29	4.39	3.06	3.47	2.51	2.42	2.27	2.81
21	2.96	5.10	2.98	---	3.18	3.78	4.15	3.26	---	2.37	2.26	2.60
22	2.83	4.31	3.09	2.61	3.08	3.51	3.72	3.10	---	2.32	2.26	2.48
23	2.79	3.94	3.14	2.59	3.02	3.37	3.40	3.02	---	2.28	2.27	2.40
24	2.75	3.68	3.26	2.57	2.99	3.23	3.20	2.93	---	2.26	2.30	3.86
25	2.76	3.64	3.09	2.55	2.95	3.13	3.08	7.53	---	2.25	2.30	3.00
26	2.76	3.81	2.95	2.56	2.91	3.05	2.98	6.36	---	2.23	2.45	2.69
27	2.74	8.40	2.99	2.56	2.90	2.98	2.90	4.67	---	2.30	2.42	2.56
28	2.74	6.98	2.91	2.50	2.84	2.91	2.83	3.90	---	2.63	2.43	2.50
29	2.75	4.88	2.87	2.52	---	2.88	2.79	5.07	---	2.64	2.41	2.46
30	2.83	4.26	2.79	2.52	---	2.85	2.72	4.45	---	2.68	2.41	2.42
31	2.90	---	2.84	2.52	---	2.82	---	3.85	---	2.49	2.42	---

ST. FRANCIS RIVER BASIN

07035000 LITTLE ST. FRANCIS RIVER AT FREDERICKTOWN, MO

LOCATION.--Lat 37°33'33", long 90°18'46", in NW¼ sec.7, T.33 N., R.7 E., Madison County, Hydrologic Unit 08020202, on right bank at downstream side of State Highway 72 bridge, 0.5 mi downstream from Village Creek, 1.3 mi below City Lake, and 1.0 mi west of courthouse in Fredericktown.

DRAINAGE AREA.--90.5 mi².

PERIOD OF RECORD.--June 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 679.23 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers gage-height and satellite telemeters at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft³/s, May 16, 1986, , gage height, 22.22 ft, from rating curve extended above 8,400 ft³/s; minimum, 0.66 ft³/s, Oct. 8, 11, 16, 17, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,000 ft³/s, May 16, gage height, 22.22 ft; minimum, 1.7 ft³/s, Sept. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	183	393	51	18	33	45	103	111	43	8.0	2.9
2	2.9	160	304	48	22	33	42	28	86	26	6.1	3.1
3	3.0	86	235	47	551	31	38	20	66	15	5.2	3.4
4	2.8	58	230	44	819	30	45	19	56	11	4.4	5.6
5	2.6	43	261	40	397	29	227	17	353	9.8	92	3.7
6	2.5	36	240	38	256	28	162	17	433	8.3	110	2.5
7	2.6	34	225	35	231	27	126	16	140	7.4	129	2.2
8	2.5	29	221	31	166	24	139	24	116	6.2	153	2.6
9	3.3	26	213	30	131	25	106	99	145	5.2	188	2.4
10	4.2	31	231	31	105	27	85	76	389	5.1	206	2.5
11	4.6	37	577	30	89	27	73	47	226	6.0	159	3.7
12	6.3	70	385	30	79	714	64	40	151	100	92	4.0
13	7.4	2190	269	28	65	326	58	29	81	116	16	3.1
14	26	438	201	27	68	199	57	36	51	26	10	2.7
15	11	639	174	26	58	141	46	1090	40	21	8.5	2.7
16	6.0	725	162	26	68	108	41	5290	34	15	13	2.5
17	4.4	340	154	27	125	88	38	506	28	12	12	4.2
18	3.9	348	131	28	105	809	37	254	24	9.6	8.6	120
19	73	4850	106	28	86	792	37	177	22	8.1	6.8	55
20	106	842	100	26	74	311	287	154	20	6.9	5.7	18
21	44	405	91	25	63	211	327	124	18	5.8	4.6	12
22	27	310	93	23	56	161	186	107	18	4.7	3.9	9.9
23	21	253	101	21	52	135	122	72	28	4.4	3.6	60
24	19	219	99	20	50	109	94	345	20	3.9	3.2	99
25	16	239	78	21	45	93	77	200	15	3.5	3.0	26
26	14	466	70	20	44	82	63	184	13	5.7	4.6	17
27	13	1630	70	17	43	74	53	111	12	31	5.9	14
28	13	869	63	17	36	65	47	1060	11	19	6.1	12
29	15	422	59	19	---	59	40	461	11	36	3.6	10
30	22	322	55	18	---	53	39	207	10	20	3.2	11
31	41	---	55	17	---	48	---	134	---	11	3.0	---
TOTAL	523.0	16300	5646	889	3902	4892	2801	11047	2728	602.6	1278.0	517.7
MEAN	16.9	543	182	28.7	139	158	93.4	356	90.9	19.4	41.2	17.3
MAX	106	4850	577	51	819	809	327	5290	433	116	206	120
MIN	2.5	26	55	17	18	24	37	16	10	3.5	3.0	2.2
CAL YR 1985	TOTAL		83759.9	MEAN	229	MAX	4850	MIN	2.5			
WTR YR 1986	TOTAL		51126.3	MEAN	140	MAX	5290	MIN	2.2			

ST. FRANCIS RIVER BASIN

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07035000 LITTLE ST. FRANCIS RIVER AT FREDERICKTOWN, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.81	3.37	4.40	2.74	2.43	2.68	2.74	3.23	2.81	1.89	1.87	1.70
2	1.80	3.34	3.90	2.73	2.45	2.67	2.71	2.24	2.72	2.22	1.80	1.70
3	1.81	2.87	3.61	2.72	4.81	2.66	2.68	2.12	2.58	2.05	1.78	1.70
4	1.81	2.64	3.49	2.71	5.65	2.63	2.64	2.11	2.51	1.95	1.75	1.80
5	1.79	2.49	3.70	2.66	4.41	2.61	3.88	2.09	2.46	1.91	2.75	1.74
6	1.78	2.41	3.60	2.65	3.80	2.59	3.45	2.08	3.97	1.86	2.82	1.69
7	1.79	2.39	3.55	2.60	3.77	2.58	3.24	2.05	3.03	1.84	2.84	1.66
8	1.78	2.31	3.53	2.54	3.50	2.53	3.35	2.03	2.77	1.80	3.08	1.69
9	1.81	2.26	3.49	2.54	3.43	2.54	3.18	2.26	2.74	1.77	3.41	1.68
10	1.86	2.25	3.55	2.57	3.20	2.58	3.03	2.66	4.17	1.77	3.43	1.69
11	1.88	2.33	4.54	2.55	3.05	2.53	2.95	2.41	3.49	1.76	3.11	1.67
12	1.92	2.57	4.25	2.56	3.04	6.14	2.88	2.39	3.08	1.98	2.83	1.74
13	1.96	11.34	3.81	2.55	2.87	4.14	2.83	2.25	2.66	2.88	2.06	1.71
14	2.69	4.46	3.47	2.55	2.98	3.64	2.83	2.19	2.47	2.23	1.92	1.69
15	2.14	3.77	3.37	2.52	2.79	3.37	2.74	7.93	2.39	2.17	1.87	1.69
16	1.95	5.58	3.33	2.52	2.90	3.21	2.68	18.06	2.33	2.05	1.97	1.68
17	1.88	4.06	3.32	2.55	3.32	3.09	2.64	4.64	2.26	1.96	1.96	1.69
18	1.86	3.83	3.23	2.56	3.21	3.02	2.62	3.61	2.19	1.90	1.88	1.77
19	2.42	18.61	3.03	2.59	3.11	5.54	2.63	3.17	2.16	1.86	1.82	2.52
20	3.04	5.71	3.07	2.55	3.01	4.08	3.60	3.11	2.12	1.83	1.79	2.10
21	2.53	4.28	2.92	2.54	2.95	3.66	4.18	2.93	2.08	1.79	1.75	1.97
22	2.30	3.92	3.00	2.52	2.88	3.46	3.58	2.83	2.06	1.76	1.72	1.91
23	2.19	3.68	3.06	2.48	2.86	3.33	3.26	2.51	2.20	1.74	1.72	1.88
24	2.14	3.53	3.09	2.46	2.84	3.20	3.09	2.46	2.13	1.73	1.71	2.82
25	2.07	3.57	2.92	2.48	2.80	3.12	2.98	3.37	2.04	1.71	1.68	2.21
26	2.02	3.60	2.85	2.45	2.79	3.03	2.88	3.32	2.00	1.71	1.77	2.07
27	2.00	6.27	2.87	2.40	2.80	2.98	2.80	2.87	1.97	2.43	1.73	1.99
28	1.99	5.85	2.83	2.40	2.72	2.91	2.75	3.68	1.95	2.15	1.82	1.95
29	1.95	4.35	2.81	2.44	---	2.87	2.67	4.50	1.93	2.62	1.72	1.92
30	2.21	3.97	2.74	2.41	---	2.82	2.63	3.40	1.91	2.15	1.71	1.90
31	2.23	---	2.78	2.40	---	2.78	---	3.00	---	1.96	1.70	---

ST. FRANCIS RIVER BASIN

07036100 ST. FRANCIS RIVER NEAR SACO, MO

LOCATION.--Lat 37°23'06", long 90°28'27", in NE¼SE¼NE¼ sec.10, T.31 N., R.5 E., Madison County, Hydrologic Unit 08020202, on right bank at downstream side of State Highway C bridge, 1.3 mi downstream from Twelvemile Creek, and 3.5 mi northwest of Saco.

DRAINAGE AREA.--664 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 472.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Water-discharge records good. U.S. Army Corps of Engineers gage-height and satellite telemeters at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,800 ft³/s, Nov. 19, 1985, gage height, 25.80 ft, from rating curve extended above 50,000 ft³/s; minimum, 4.0 ft³/s, Sept. 24, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 65,800 ft³/s, Nov. 19, gage height 25.80 ft; minimum, 19 ft³/s, Sept. 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	1840	2110	288	127	320	316	281	927	83	101	26
2	48	1870	2330	271	131	301	297	302	708	82	78	25
3	46	1000	1470	261	1380	288	283	232	549	151	62	23
4	43	671	1090	251	7120	275	271	199	443	143	51	23
5	41	517	968	238	4590	257	807	182	380	106	43	22
6	40	435	859	225	2410	247	1140	172	2000	84	41	20
7	39	386	747	212	2320	236	880	160	1070	71	126	19
8	37	344	678	191	1850	222	831	150	637	62	151	23
9	35	305	619	185	1330	212	867	142	730	59	179	29
10	35	304	629	183	1020	212	740	199	2150	53	261	27
11	35	652	3380	177	839	212	599	271	2260	46	291	24
12	35	1110	4990	176	720	3690	513	337	1090	49	246	25
13	43	11500	2270	170	610	3580	464	298	711	1260	177	24
14	72	5590	1500	167	571	1890	424	259	501	548	104	23
15	94	3440	1110	162	520	1240	392	6240	401	265	68	21
16	120	9030	980	159	494	919	359	22900	328	187	63	22
17	108	4040	912	159	791	751	315	7730	272	147	60	23
18	86	2790	823	161	1080	3120	293	2490	225	124	60	36
19	121	38200	675	168	915	8430	284	1450	195	103	70	274
20	1330	23000	590	170	770	3120	1290	966	173	88	61	283
21	709	4350	509	166	664	1780	3110	732	154	77	51	143
22	435	2320	503	162	582	1260	1820	579	141	67	43	98
23	331	1630	509	155	520	984	1140	487	163	59	38	95
24	278	1200	550	149	477	816	839	653	350	53	33	153
25	233	1060	492	146	435	688	683	5960	190	49	29	359
26	208	2220	396	140	405	593	563	3950	141	45	27	179
27	188	10800	393	136	380	532	469	2150	120	51	26	124
28	170	10400	362	133	350	462	402	2070	105	72	28	101
29	164	3790	336	130	---	413	349	5240	97	130	29	86
30	208	2200	311	128	---	374	307	2780	89	246	29	74
31	269	---	298	126	---	342	---	1470	---	140	28	---
TOTAL	5651	146994	33389	5545	33401	37766	21047	71031	17300	4700	2654	2404
MEAN	182	4900	1077	179	1193	1218	702	2291	577	152	85.6	80.1
MAX	1330	38200	4990	288	7120	8430	3110	22900	2260	1260	291	359
MIN	35	304	298	126	127	212	271	142	89	45	26	19
CAL YR 1985	TOTAL		666856	MEAN		1827	MAX	38200	MIN		35	
WTR YR 1986	TOTAL		381882	MEAN		1046	MAX	38200	MIN		19	

ST. FRANCIS RIVER BASIN

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07036100 ST. FRANCIS RIVER NEAR SACO, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.38	5.50	5.93	2.60	1.82	2.60	2.66	2.54	4.34	1.48	1.63	1.04
2	1.37	5.92	6.83	2.54	1.82	2.52	2.57	2.64	3.81	1.47	1.47	1.02
3	1.35	4.52	5.47	2.49	2.32	2.46	2.52	2.33	3.41	1.81	1.35	1.01
4	1.33	3.75	4.83	2.45	9.81	2.41	2.46	2.16	3.09	1.88	1.26	1.01
5	1.32	3.32	4.53	2.40	8.78	2.34	3.64	2.07	2.90	1.65	1.20	1.00
6	1.31	3.06	4.34	2.34	6.38	2.30	4.74	2.02	6.85	1.49	1.16	.98
7	1.29	2.90	4.06	2.28	6.27	2.26	4.22	1.96	4.67	1.40	1.73	.97
8	1.29	2.76	3.86	2.17	5.71	2.20	4.03	1.89	3.67	1.34	1.87	.98
9	1.27	2.62	3.71	2.13	4.93	2.16	4.11	1.85	3.95	1.30	2.07	1.06
10	1.27	2.51	3.62	2.14	4.42	2.15	3.91	1.94	4.91	1.28	2.46	1.05
11	1.27	3.73	4.80	2.09	4.07	2.12	3.54	2.44	6.41	1.22	2.56	1.02
12	1.27	4.26	9.33	2.08	3.75	6.78	3.29	2.61	4.66	1.23	2.40	1.03
13	1.26	9.30	6.68	2.06	3.50	7.72	3.18	2.61	3.87	4.63	2.10	1.03
14	1.57	9.53	5.46	2.04	3.35	5.80	3.03	2.44	3.28	3.50	1.66	1.01
15	1.69	6.36	4.74	2.02	3.24	4.80	2.93	8.66	2.94	2.51	1.41	.99
16	1.86	11.84	4.46	2.00	3.11	4.24	2.78	16.20	2.73	2.09	1.34	.99
17	1.80	8.25	4.30	2.00	3.65	3.86	2.66	10.98	2.50	1.89	1.32	1.00
18	1.66	6.32	4.15	2.01	4.51	3.57	2.56	6.69	2.29	1.76	1.21	1.03
19	1.75	17.79	3.81	2.04	4.21	11.80	2.52	5.24	2.14	1.62	1.35	2.67
20	5.25	18.81	3.51	2.06	3.89	7.36	3.05	4.45	2.03	1.52	1.34	2.63
21	3.89	8.64	3.19	2.04	3.62	5.70	7.47	3.95	1.93	1.45	1.26	1.91
22	3.10	6.70	3.27	2.02	3.41	4.88	5.78	3.57	1.84	1.37	1.20	1.60
23	2.73	5.70	3.28	1.98	3.23	4.42	4.73	3.29	1.83	1.32	1.16	1.44
24	2.52	4.92	3.42	1.95	3.11	4.09	4.14	3.28	2.98	1.27	1.11	1.57
25	2.34	4.59	3.34	1.93	2.92	3.77	3.75	9.98	2.17	1.25	1.07	2.94
26	2.20	4.85	2.58	1.90	2.89	3.50	3.44	8.18	1.86	1.21	1.05	2.10
27	2.10	9.52	2.96	1.87	2.82	3.34	3.18	6.39	1.73	1.23	1.03	1.77
28	2.01	12.84	2.89	1.85	2.73	3.14	2.97	4.83	1.64	1.41	1.05	1.60
29	1.95	8.17	2.80	1.83	---	3.00	2.80	9.59	1.59	1.74	1.06	1.51
30	2.19	6.54	2.70	1.81	---	2.87	2.64	7.08	1.52	2.51	1.06	1.43
31	2.32	---	2.66	1.81	---	2.77	---	5.25	---	1.85	1.06	---

ST. FRANCIS RIVER BASIN

07036100 ST. FRANCIS RIVER NEAR SACO, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT										
21...	1315	664	200	7.60	19.0	8.7	91	<10	K290	90
NOV										
22...	1000	2350	120	7.50	9.0	10.7	91	16	840	--
DEC										
16...	1445	986	148	8.10	2.0	14.4	101	18	88	--
JAN										
21...	1410	168	230	8.60	6.5	13.4	109	11	K5	110
FEB										
13...	0850	623	164	7.90	1.0	15.1	104	11	K4	--
MAR										
03...	1330	290	188	8.60	7.5	13.8	113	12	K10	--
APR										
07...	1300	861	160	8.35	18.0	10.8	113	28	K64	76
MAY										
12...	1330	383	238	8.35	23.0	7.8	90	25	110	--
JUN										
11...	0800	2470	134	7.70	23.5	7.9	92	<10	K1400	--
JUL										
14...	1450	454	186	7.80	26.5	7.1	87	32	640	82
AUG										
13...	0820	187	136	7.70	24.5	7.2	85	20	K9	--
SEP										
15...	1235	21	204	7.40	22.0	6.4	72	<10	29	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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										
21...	11	18	11	4.3	2.2	77	3.8	16	5.4	<0.10
NOV										
22...	--	--	--	--	--	54	3.4	--	--	--
DEC										
16...	--	--	--	--	--	71	1.1	--	--	--
JAN										
21...	13	23	13	5.0	1.4	97	0.4	17	5.7	<0.10
FEB										
13...	--	--	--	--	--	61	1.5	--	--	--
MAR										
03...	--	--	--	--	--	78	0.2	--	--	--
APR										
07...	12	16	8.8	3.4	1.5	64	0.6	12	3.7	<0.10
MAY										
12...	--	--	--	--	--	99	0.4	--	--	--
JUN										
11...	--	--	--	--	--	55	2.1	--	--	--
JUL										
14...	18	17	9.7	5.0	4.1	64	2.0	25	5.5	<0.10
AUG										
13...	--	--	--	--	--	52	2.0	--	--	--
SEP										
15...	--	--	--	--	--	75	5.9	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

ST. FRANCIS RIVER BASIN

07036940 BIG CREEK AT CHLORIDE, MO

WATER-QUALITY RECORDS

LOCATION.--Lat. 37°27'42", long. 90°41'10", in SW¼NE¼ sec.14, T.32 N., R.3 E., Iron County, Hydrologic Unit 08020202, at bridge on county road.

PERIOD OF RECORD.--Partial-record station 1969 to 1975 water year; October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
OCT											
21...	1200	2.7	289	7.60	17.5	9.2	94	140	120	2	2
NOV											
22...	1200	15	120	7.70	10.5	11.0	98	11	9	2	1
DEC											
16...	1255	20	142	8.00	5.0	12.8	98	11	6	2	<1
JAN											
21...	1220	6.3	224	8.20	7.5	12.2	102	10	9	<1	<1
FEB											
13...	1015	18	276	7.60	1.5	14.5	102	11	10	<1	2
MAR											
03...	1155	10	184	8.30	8.0	12.1	102	14	12	2	2
APR											
07...	1120	32	146	8.30	14.0	11.4	110	5	3	<1	<1
MAY											
12...	1200	10	218	8.10	20.0	8.5	94	13	11	<1	<1
JUN											
11...	0920	56	132	7.60	20.0	9.6	106	5	5	<1	1
JUL											
14...	1330	4.9	282	7.80	26.5	9.1	113	16	14	<1	<1
AUG											
13...	0940	2.0	352	7.90	20.5	8.4	93	17	13	<1	<1
SEP											
15...	1120	1.3	382	7.70	20.5	8.9	98	13	9	<1	<1

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)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT										
21...	1	1	40	24	44	24	2	1	260	220
NOV										
22...	7	4	700	87	14	<1	5	9	40	41
DEC										
16...	10	<1	150	25	13	2	11	1	70	53
JAN										
21...	<1	1	90	19	12	2	3	2	60	49
FEB										
13...	2	2	90	35	5	8	8	2	50	40
MAR										
03...	3	1	20	17	8	3	6	1	60	45
APR										
07...	2	2	120	37	13	2	<1	2	30	--
MAY										
12...	6	3	30	13	11	3	6	1	40	--
JUN										
11...	4	<1	100	33	6	<5	<1	1	34	--
JUL										
14...	4	5	30	21	17	7	4	2	40	41
AUG										
13...	2	<1	180	8	15	<5	6	2	50	--
SEP										
15...	4	3	20	19	<5	<5	2	1	30	--

ST. FRANCIS RIVER BASIN

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07037000 BIG CREEK AT DES ARC, MO

LOCATION.--Lat 37°17'35", long 90°37'45", in SE $\frac{1}{4}$ sec.8, T.30 N., R.4 E., Iron County, Hydrologic Unit 08020202, at bridge on State Highway 143 at north edge of Des Arc, 420 ft above Black Creek and 6 mi above Pond Creek.

DRAINAGE AREA.--99.6 mi².

PERIOD OF RECORD.--July 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 507.89 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Sept. 30. Records fair except for period July 10 to Aug. 16, which are poor. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers gage-height and satellite telemeters at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft³/s, Nov. 19, 1985, gage height, 12.92 ft, on basis of contracted-opening and flow-over-road measurement of peak flow; minimum, 5.2 ft³/s, Aug. 28-30, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,000 ft³/s, Nov. 19, gage height, 12.92 ft, on basis of contracted-opening and flow-over-road measurement of peak flow; minimum daily, 8.5 ft³/s, Aug. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

	MEAN VALUES											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	235	316	71	36	68	67	79	134	31	11	18
2	22	341	285	67	38	63	62	67	145	31	10	17
3	22	216	234	65	97	61	58	59	124	29	9.6	15
4	22	165	204	63	508	57	59	55	105	29	11	14
5	21	138	181	61	465	55	144	50	94	29	8.6	13
6	19	122	162	58	325	51	180	46	123	26	8.6	11
7	19	111	143	55	320	48	251	42	124	23	8.5	11
8	19	98	138	52	260	46	306	39	112	20	16	13
9	18	87	127	51	212	47	238	37	120	17	17	12
10	18	85	129	50	179	45	189	36	301	17	40	11
11	19	106	336	49	156	42	158	63	274	16	41	10
12	19	145	473	49	140	209	139	79	204	22	31	11
13	25	735	336	47	127	277	126	71	161	36	26	13
14	51	439	253	45	123	211	119	73	137	38	21	13
15	53	393	209	45	111	170	106	1580	123	34	20	13
16	42	717	185	46	106	145	96	1690	116	31	22	12
17	38	398	167	46	132	126	87	531	103	28	26	11
18	35	371	151	43	157	462	81	347	88	24	25	10
19	158	6350	136	43	148	1010	75	253	77	21	20	86
20	466	1770	130	42	137	409	165	190	69	21	19	68
21	266	605	121	42	125	283	465	151	57	20	17	43
22	175	409	117	42	117	219	333	131	54	17	14	41
23	138	308	113	41	110	182	238	118	56	15	14	38
24	120	248	108	40	101	153	187	122	61	15	13	43
25	103	221	101	41	94	135	157	124	51	13	12	36
26	90	468	94	42	88	120	137	141	45	13	11	30
27	80	1260	89	38	80	109	122	132	41	17	12	25
28	73	937	83	38	73	100	111	175	38	21	13	22
29	70	473	80	38	---	92	95	226	35	16	13	20
30	70	352	76	36	---	85	84	197	33	14	16	18
31	73	---	73	36	---	77	---	161	---	12	18	---
TOTAL	2366	18303	5350	1482	4565	5157	4635	7065	3205	696	44.3	698
MEAN	76.3	610	173	47.8	163	166	155	228	107	22.5	17.6	23.3
MAX	466	6350	473	71	508	1010	465	1690	301	38	41	86
MIN	18	85	73	36	36	42	58	36	33	12	8.5	10
CAL YR 1985	TOTAL		86984		MEAN	238	MAX	6350	MIN	18		
WTR YR 1986	TOTAL		54066.3		MEAN	148	MAX	6350	MIN	8.5		

ST. FRANCIS RIVER BASIN

07037000 BIG CREEK AT DES ARC, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM) WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.77	3.36	3.33	2.40	2.13	2.41	2.49	2.62	3.14	2.33	2.13	2.29
2	2.77	4.12	3.26	2.37	2.13	2.38	2.46	2.53	3.22	2.34	2.12	2.30
3	2.78	3.73	3.10	2.35	2.40	2.36	2.43	2.48	3.07	2.31	2.10	2.26
4	2.78	3.53	3.00	2.33	3.55	2.33	2.41	2.45	2.95	2.29	2.14	2.25
5	2.77	3.40	2.92	2.32	3.78	2.31	2.87	2.41	2.89	2.31	2.09	2.23
6	2.75	3.33	2.85	2.31	3.35	2.30	3.02	2.39	3.01	2.29	2.08	2.20
7	2.75	3.27	2.78	2.28	3.38	2.28	3.07	2.35	3.03	2.26	2.07	---
8	2.75	3.21	2.74	2.27	3.20	2.26	3.48	2.32	2.94	2.23	2.21	---
9	2.74	3.16	2.68	2.26	3.04	2.27	3.26	2.30	2.95	2.20	2.16	---
10	2.74	3.12	2.66	2.25	2.92	2.27	3.09	2.27	3.58	2.17	2.40	---
11	2.75	3.24	2.97	2.24	2.83	2.23	2.98	2.47	3.56	2.46	2.51	---
12	2.75	3.31	3.79	2.24	2.76	2.94	2.90	2.60	3.31	2.43	2.40	---
13	2.76	4.93	3.43	2.22	2.69	3.31	2.83	2.56	3.14	2.57	2.34	---
14	2.92	4.39	3.15	2.21	2.69	3.09	2.81	2.57	3.02	2.61	2.30	---
15	3.07	3.92	3.01	2.21	2.60	2.94	2.73	6.44	2.94	2.47	2.28	---
16	2.98	5.11	2.93	2.21	2.57	2.85	2.69	8.19	2.90	2.44	2.29	---
17	2.94	4.26	2.86	2.22	2.68	2.75	2.64	4.32	2.83	2.41	2.36	---
18	2.91	3.99	2.80	2.21	2.83	2.68	2.61	3.90	2.74	2.38	2.40	---
19	3.10	9.93	2.73	2.20	2.81	5.00	2.59	3.62	2.68	2.34	2.32	---
20	4.60	5.82	2.70	---	2.76	3.71	2.89	3.43	2.64	2.32	2.31	---
21	3.90	4.07	2.64	---	2.69	3.34	3.97	3.25	2.57	2.34	2.28	---
22	3.58	3.61	2.62	---	2.65	3.14	3.58	3.16	2.50	2.28	2.25	---
23	3.42	3.33	2.60	2.17	2.61	3.01	3.29	3.09	2.50	2.41	2.23	---
24	3.32	3.15	2.59	2.16	2.57	2.90	3.10	3.04	2.58	2.18	2.23	---
25	3.23	3.05	2.55	2.17	2.53	2.82	2.99	3.13	2.52	2.17	2.21	---
26	3.17	3.01	2.52	2.18	2.50	2.75	2.90	3.15	2.47	2.15	2.20	---
27	3.12	4.19	2.50	2.14	2.48	2.69	2.82	3.18	2.43	2.17	2.18	---
28	3.08	4.76	2.46	2.14	2.44	2.65	2.76	3.14	2.40	2.25	2.22	---
29	3.05	3.77	2.45	2.15	---	2.62	2.69	3.54	2.38	2.21	2.23	---
30	3.06	3.45	2.42	2.13	---	2.59	2.64	3.42	2.35	2.18	2.24	---
31	3.05	---	2.41	2.13	---	2.54	---	3.26	---	2.15	2.29	---

ST. FRANCIS RIVER BASIN

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07037500 ST. FRANCIS RIVER NEAR PATTERSON, MO

LOCATION.--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 upstream from Clark Creek, and 3 mi east of Patterson.

DRAINAGE AREA.--956 mi².

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 above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1938, nonrecording gage at site 50 ft upstream at datum 2.00 ft 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 upstream at present datum. Sept. 6, 1956 to Sept. 26, 1958, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: May 25-28. Records good. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers gage-height and satellite telemeters at station.

AVERAGE DISCHARGE.--66 years, 1,134 ft³/s, 16.11 in/yr, 821,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 155,000 ft³/s, Dec. 3, 1982, gage height, 35.77 ft, on basis of contracted-opening measurement of peak flow; minimum discharge, 8 ft³/s, Aug. 28 to Sept. 1, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in Aug. 1915 reached a stage of 33.8 ft, present datum, from floodmarks, discharge, 100,000 ft³/s, from rating curve extended above 55,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 21,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 19	0315	*51,000	*25.81	May 17	0015	29,100	21.12

Minimum discharge, 50 ft³/s, Sept. 8-11, 14, 15, 17, and 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	161	1050	3720	594	245	506	620	600	1590	192	196	65
2	157	2640	4010	571	250	480	587	556	1270	181	154	65
3	155	2010	3500	537	422	458	561	543	1090	167	123	63
4	151	1390	3030	513	5060	440	537	480	942	209	103	60
5	147	1110	2740	485	6440	421	675	432	838	224	90	58
6	144	946	2500	442	3200	405	1220	402	1090	186	82	55
7	142	842	2260	418	2440	387	1320	377	1780	156	80	52
8	140	761	2060	389	2180	370	1370	356	1070	135	121	51
9	137	699	1840	356	1600	360	1230	341	958	118	195	50
10	136	660	1680	344	1230	352	1140	328	1620	105	323	50
11	136	819	2290	335	1040	342	990	424	2650	99	364	53
12	137	1350	6590	327	898	1500	872	493	1720	101	361	56
13	152	6610	4150	319	803	4290	791	531	1170	211	324	54
14	220	10300	2900	312	746	2370	746	495	912	901	261	52
15	242	3640	2340	304	701	1490	698	5170	751	513	195	51
16	228	8410	1980	298	662	1110	658	15100	671	357	169	51
17	226	6120	1730	297	780	929	621	16500	590	276	146	50
18	226	3180	1490	295	1050	1330	586	3510	521	229	133	59
19	299	19100	1270	295	1060	9380	575	2470	463	196	122	101
20	3050	40400	1110	299	935	4620	1320	1950	411	166	118	294
21	2110	8150	1010	297	832	2530	3350	1600	366	142	110	341
22	1260	3760	960	290	763	1860	2720	1350	328	126	97	231
23	954	2560	914	282	703	1470	1820	1190	320	113	90	176
24	797	1970	895	277	659	1250	1350	1110	371	100	89	178
25	693	1590	875	275	627	1090	1120	3100	439	92	77	240
26	619	1670	808	268	598	977	964	3100	339	91	72	374
27	565	6980	757	258	560	895	845	2900	287	139	69	259
28	521	14600	721	256	531	810	756	2500	257	133	69	196
29	495	6510	685	255	---	745	690	4520	235	120	66	161
30	488	4190	648	249	---	701	637	3050	210	157	65	138
31	543	---	618	245	---	660	---	2190	---	272	65	---
TOTAL	15431	164017	62081	10682	37015	44528	31369	77668	25259	6207	4529	3684
MEAN	498	5467	2003	345	1322	1436	1046	2505	842	200	146	123
MAX	3050	40400	6590	594	6440	9380	3350	16500	2650	901	364	374
MIN	136	660	618	245	245	342	537	328	210	91	65	50

CAL YR 1985	TOTAL	859365	MEAN	2354	MAX	42700	MIN	120
WTR YR 1986	TOTAL	482470	MEAN	1322	MAX	40400	MIN	50

ST. FRANCIS RIVER BASIN

07037500 ST. FRANCIS RIVER NEAR PATTERSON, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.42	5.62	10.24	6.46	5.36	6.06	5.99	5.96	7.43	4.64	4.65	3.88
2	4.40	8.98	10.46	6.41	5.35	5.97	5.91	5.83	6.94	4.60	4.46	3.88
3	4.39	7.97	10.09	6.32	5.87	5.89	5.83	5.81	6.69	4.54	4.30	3.87
4	4.38	7.03	9.67	6.26	10.01	5.84	5.77	5.63	6.41	4.64	4.19	3.84
5	4.36	6.53	9.42	6.20	12.64	5.78	6.01	5.47	6.22	4.82	4.10	3.82
6	4.34	6.21	9.18	6.06	9.89	5.74	7.18	5.37	6.07	4.65	4.06	3.80
7	4.33	5.99	8.94	5.99	9.07	5.67	7.31	5.29	8.03	4.51	4.02	3.77
8	4.33	5.80	8.69	5.92	8.92	5.61	7.57	5.21	6.83	4.42	4.10	3.75
9	4.31	5.64	8.45	5.78	8.24	5.59	7.32	5.16	6.46	4.32	4.53	3.74
10	4.30	5.52	8.29	5.76	7.72	5.56	7.19	5.10	7.45	4.25	5.16	3.74
11	4.31	5.68	8.48	5.74	7.39	5.51	6.89	5.28	9.42	4.21	5.22	3.75
12	4.31	6.70	12.76	5.70	7.11	7.17	6.64	5.61	8.01	4.18	5.26	3.80
13	4.31	10.03	10.73	5.68	6.91	11.21	6.44	5.79	7.14	4.34	5.13	3.77
14	4.65	15.87	7.18	5.65	6.76	9.18	6.33	5.65	6.67	6.94	4.89	3.76
15	4.78	9.98	9.04	5.63	6.64	8.10	6.21	9.62	6.33	5.86	4.62	3.74
16	4.72	12.80	8.64	5.60	6.49	7.47	6.11	13.40	6.15	5.34	4.49	3.75
17	4.67	12.42	8.36	5.60	6.74	7.12	6.01	19.27	5.96	5.01	4.37	3.74
18	4.72	9.67	8.08	5.60	7.27	6.87	5.91	10.18	5.76	4.81	4.29	3.74
19	4.69	11.78	7.80	5.60	7.41	14.72	5.88	8.70	5.57	4.67	4.24	3.98
20	9.24	25.31	7.54	5.60	7.15	11.20	6.93	7.82	5.43	4.54	4.21	4.60
21	8.30	13.21	7.38	5.60	6.94	9.18	9.81	7.30	5.28	4.42	4.18	5.22
22	6.84	10.40	7.24	5.58	6.77	8.26	9.45	6.93	5.14	4.34	4.11	4.77
23	6.26	9.30	7.17	5.54	6.62	7.69	8.25	6.65	5.10	4.26	4.05	4.51
24	5.90	8.65	7.13	5.53	6.51	7.34	7.53	6.48	5.15	4.19	4.05	4.45
25	5.64	8.20	7.10	5.51	6.40	7.07	7.13	6.77	5.58	4.14	3.98	4.56
26	5.43	8.10	6.97	5.48	6.33	6.84	6.84	---	5.22	4.09	3.94	5.34
27	5.28	11.65	6.83	5.43	6.23	6.67	6.59	---	5.02	4.29	3.90	4.88
28	5.17	17.03	6.76	5.41	6.14	6.49	6.37	---	4.89	4.33	3.92	4.61
29	5.07	12.41	6.69	5.42	---	6.32	6.20	10.37	4.82	4.27	3.88	4.45
30	5.05	10.68	6.60	5.38	---	6.21	6.06	9.53	4.71	4.34	3.87	4.32
31	5.14	---	6.54	5.36	---	6.10	---	8.35	---	5.03	3.87	---

ST. FRANCIS BASIN

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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 southwest of Wappapello, and at mile 309.

DRAINAGE AREA.--1,310 mi², approximately.

PERIOD OF RECORD.--April 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is at National Geodetic Vertical Datum of 1929. Prior to June 19, 1941, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by earthfill type 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), 2,600 acre-ft; at conservation pool level (gage height, 7.0 ft), 30,900 acre-ft; at spillway crest (gage height, 47.0 ft), 613,000 acre-ft; at maximum pool level (gage height, 62.4 ft), uncontrollable above spillway crest, 1,022,000 acre-ft. Lake is used for flood control, power, and recreational purposes. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records were provided by the U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 729,800 acre-ft, Apr. 16, 1945, gage height, 51.35 ft; minimum, since initial filling to conservation pool level, 23,340 acre-ft, Mar. 1, 2, 3, 1970; minimum gage height, 4.20 ft, Sept. 26, 27, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 310,000 acre-ft, Dec. 3, 4, maximum elevation, 379.37 ft, Dec. 3; minimum, 29,500 acre-ft, Jan. 23, elevation, 354.37 ft.

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66200	63700	305000	168000	32600	33100	36000	49300	137000	62600	64900	63000
2	65800	64800	308000	160000	32400	33000	37100	48200	134000	63500	64100	63100
3	66100	68500	310000	150000	33700	33000	38100	46800	130000	62300	63500	63300
4	66200	69900	310000	139000	34000	32800	39100	45700	126000	62400	62900	63600
5	65900	69200	308000	129000	46800	32100	40200	44500	122000	62800	62900	63800
6	65000	68100	305000	120000	54200	31400	41900	44000	118000	63200	63100	63800
7	64000	67700	302000	112000	54000	31000	44600	44100	115000	63800	63100	64000
8	62900	66700	299000	103000	53600	30600	49300	44200	112000	63700	63700	63900
9	63000	65400	295000	95300	52100	30200	49600	45600	109000	63600	63800	63800
10	63100	64500	291000	87600	49600	29900	48000	46400	108000	63400	64500	63800
11	63200	64300	290000	80400	47600	30100	46400	47500	110000	63100	64700	63700
12	63500	64100	291000	73300	45900	31900	45400	49000	114000	63000	64400	64400
13	63700	65100	296000	66400	44500	35800	45200	50300	113000	64300	63900	64600
14	64400	78200	294000	60100	43400	38600	45700	51700	110000	64400	63800	64700
15	65400	91700	291000	54500	43100	38600	46500	55400	106000	63800	63800	64700
16	65600	94900	287000	49700	42400	38500	45800	76400	102000	62100	64300	64900
17	65600	107000	282000	45400	42000	37400	45200	111000	98000	62400	64500	65000
18	65100	112000	278000	41600	42200	36200	44500	145000	93700	62600	64500	65100
19	65300	112000	271000	38100	43000	43800	44700	151000	89400	62700	63400	65800
20	68200	152000	265000	34600	43200	56600	48100	150000	85700	62800	63400	66100
21	74000	236000	257000	31200	42300	57200	57800	147000	81800	62700	63300	66800
22	74700	245000	248000	29700	41000	53800	66200	143000	78500	62600	63000	67500
23	73500	246000	241000	29500	39500	49800	67300	139000	75000	62700	63100	68000
24	71700	245000	233000	29900	38000	45400	66500	135000	72900	62900	63500	68000
25	69600	243000	226000	30500	36600	41100	64300	131000	70900	63000	63600	66700
26	67900	240000	217000	31200	35400	37100	61700	135000	69600	62900	63600	65600
27	66400	240000	209000	31900	33800	34000	58800	136000	67900	64100	63200	65000
28	64900	263000	200000	31800	33600	33200	55900	136000	66200	64600	63300	65200
29	63900	291000	192000	32400	---	34000	53600	136000	64800	64600	62800	65200
30	63400	299000	184000	32600	---	34600	51000	139000	63400	64400	62800	65200
31	63000	---	176000	33000	---	35000	---	139000	---	64900	62900	---

WTR YR 1986

(†)	359.76	378.75	370.54	355.16	355.27	355.56	358.13	367.43	359.81	359.98	359.75	360.02
(+)	-3400	+236000	-123000	-143000	+600	+1400	+16000	+88000	-756000	+1500	-2000	+2300
MAX	74700	299000	310000	168000	54200	57200	67300	151000	137000	64900	64900	68000
MIN	62900	63700	176000	29500	32400	29900	36000	44000	63400	62100	62800	63000

CAL YR 1985.....-239000

WTR YR 1986.....-1200

(†) Elevation, in feet NGVD, at end of month.

(+) Change in contents, in acre-feet.

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 southeast of Wappapello and 1.25 mi downstream from Wappapello Dam.

DRAINAGE AREA.--1,311 mi².

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 315.15 ft (revised) above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1984 at datum 10.00 ft higher at present site. Prior to Oct. 14, 1940 nonrecording gage at same site.

REMARKS.--No estimated daily discharges. Records good except days with considerable change in discharge, which are fair. Flow completely regulated by Wappapello Lake (station 07029000) 1.25 mi upstream. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers gage-height and satellite telemeters at station.

AVERAGE DISCHARGE.--46 years, 1,587 ft³/s, 1,150,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,300 ft³/s, Apr. 16, 1945, gage height, 25.60 ft, (datum then in use); no flow at times in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1920, 30.7 ft (datum then in use), May 15, 1933, discharge 82,500 ft³/s, determined by U.S. Army Corps of Engineers. Maximum discharge, 85,000 ft³/s, determined by U.S. Army Corps of Engineers, Aug. 1915 (stage unknown).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,410 ft³/s, Jan. 4; minimum, 44 ft³/s, Sept. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	226	1000	1760	5180	610	1020	350	1930	3230	568	386	51
2	216	1150	2410	5350	620	883	337	1590	3210	534	457	51
3	93	1210	2590	6290	1180	862	335	1440	3190	533	431	51
4	191	1500	2860	6390	1740	900	345	1310	3160	102	271	51
5	420	1760	3100	6140	2750	1100	382	1140	3140	67	66	51
6	540	1550	3360	5750	3830	1040	451	853	3120	63	52	50
7	551	1370	3390	5400	4410	884	973	614	3100	121	52	49
8	438	1330	3390	5220	4150	826	2270	331	3080	213	105	49
9	192	1290	3380	5020	4030	817	2970	92	3070	218	203	49
10	168	1210	3360	4680	3820	740	2990	71	2940	216	308	49
11	167	1210	3480	4380	3320	603	2720	68	1860	216	447	49
12	166	1600	4040	4220	2750	1030	2120	66	1820	220	493	48
13	166	1710	4390	4070	2340	2350	1440	65	2610	327	515	47
14	171	2250	4470	3790	2010	3420	1030	77	2880	716	366	46
15	169	3350	4500	3460	1690	3270	1170	147	2920	1280	335	47
16	211	3630	4500	3180	1630	2680	1310	83	2910	987	222	47
17	351	3770	4480	2880	1630	2440	1230	63	2880	305	202	47
18	364	3900	4620	2650	1620	2140	1190	220	2830	222	374	47
19	450	3980	4840	2550	1650	2770	1050	1440	2670	214	456	46
20	650	3860	5040	2450	1850	4560	1340	2950	2420	212	138	46
21	1040	3200	5300	2150	2090	5140	1670	3320	2280	203	209	45
22	1750	3160	5360	1390	2120	5140	2110	3390	2080	164	142	46
23	1870	3430	5350	641	2100	4930	2950	3400	1940	61	57	229
24	1890	3470	5310	177	2010	4600	3100	3390	1650	54	53	641
25	1830	3500	5240	101	1860	4200	3120	3310	1340	83	72	812
26	1470	3720	5250	90	1820	3770	3090	3150	1210	127	197	794
27	1330	3350	5410	155	1680	3040	3060	3130	1180	57	213	504
28	1250	1960	5410	260	1230	1870	2840	3130	1120	87	210	240
29	1050	1620	5370	265	---	941	2420	3160	981	237	147	209
30	932	1550	5320	260	---	795	2240	3220	873	144	55	207
31	917	---	5260	360	---	663	---	3230	---	182	51	---
TOTAL	21229	71590	132540	94899	62540	69424	52603	50380	71694	8733	7285	4698
MEAN	685	2386	4275	3061	2234	2239	1753	1625	2390	282	235	157
MAX	1890	3980	5410	6390	4410	5140	3120	3400	3230	1280	515	812
MIN	93	1000	1760	90	610	603	335	63	873	54	51	45
CAL YR 1985	TOTAL		1220983	MEAN		3345	MAX	9610	MIN		42	
WTR YR 1986	TOTAL		647615	MEAN		1774	MAX	6390	MIN		45	

ST. FRANCIS RIVER BASIN

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07039500 ST. FRANCIS RIVER AT WAPPAPELLO, MO--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.27	10.23	13.29	25.26	8.40	11.21	6.59	15.72	19.80	8.78	6.73	4.04
2	6.52	11.45	16.81	25.11	8.55	10.07	6.50	13.65	19.76	7.26	7.58	4.03
3	4.40	11.62	17.22	27.56	8.63	9.92	6.49	12.99	19.68	9.64	7.64	4.03
4	5.11	12.62	18.20	27.86	13.02	9.90	6.45	12.40	19.60	4.82	6.81	4.05
5	6.63	14.45	19.25	27.62	16.95	11.20	6.86	11.94	19.54	4.32	4.33	4.01
6	8.09	13.61	20.20	26.67	20.86	11.39	6.89	10.36	19.47	4.26	4.05	3.99
7	8.17	12.54	20.34	25.82	23.65	10.19	8.33	9.05	19.40	4.24	4.04	3.98
8	8.18	12.35	20.35	25.39	22.76	9.72	15.16	7.39	19.32	5.73	4.04	3.97
9	5.55	12.33	20.30	25.08	22.41	9.65	18.80	4.53	19.26	5.79	5.66	3.98
10	5.32	11.86	20.27	24.31	22.08	9.65	19.20	4.23	19.23	5.78	5.83	3.99
11	5.30	11.36	20.35	23.39	20.52	8.44	18.65	4.19	15.00	5.78	7.50	3.96
12	5.30	13.53	22.00	22.96	18.51	8.91	16.59	4.14	13.36	5.79	7.60	3.96
13	5.30	13.79	23.33	22.62	16.88	14.51	14.04	4.11	17.37	5.88	8.32	3.94
14	5.34	15.07	23.63	21.81	16.07	20.52	10.72	4.20	18.62	7.62	6.92	3.92
15	5.33	19.99	23.64	20.82	13.99	20.59	10.88	5.26	18.78	12.11	6.75	3.92
16	5.29	21.08	23.64	19.83	13.70	18.04	12.48	4.44	18.75	12.51	5.84	3.93
17	6.69	21.43	23.60	18.90	13.67	17.41	11.88	4.10	18.65	6.55	5.67	3.93
18	6.80	21.92	23.60	17.91	13.65	16.25	11.80	3.99	18.49	5.82	5.64	3.93
19	6.85	22.08	24.43	17.50	13.63	15.87	11.00	9.12	18.28	5.76	8.84	3.93
20	8.24	22.64	24.59	17.19	14.03	23.45	11.42	18.37	17.03	5.75	4.51	3.91
21	9.57	19.88	25.50	16.66	15.64	25.15	14.32	20.08	16.66	5.74	5.71	3.91
22	14.13	19.07	25.66	14.23	15.78	25.25	13.91	20.35	15.69	5.70	5.76	3.98
23	14.75	20.44	25.66	9.78	15.74	24.80	18.78	20.38	15.41	4.23	4.18	3.92
24	14.84	20.64	25.59	5.40	15.65	24.05	19.36	20.36	14.40	4.09	4.08	8.20
25	14.83	20.64	25.40	4.63	14.84	23.09	19.44	20.31	12.76	4.09	4.09	9.70
26	13.21	21.26	25.30	4.48	14.30	21.97	19.37	19.58	11.83	5.52	5.61	9.83
27	12.36	21.87	25.78	4.48	14.86	20.46	19.27	19.47	11.70	4.15	5.77	8.68
28	12.24	15.48	25.80	5.96	12.06	16.14	19.17	19.46	11.63	4.07	5.74	6.01
29	11.17	13.71	25.73	5.98	---	10.53	17.04	19.46	10.69	5.65	5.73	5.72
30	10.35	13.38	25.57	5.97	---	9.54	16.56	19.77	10.54	5.75	4.13	5.70
31	10.23	---	25.47	5.85	---	9.40	---	19.82	---	4.17	4.03	---

LOCATION.--Lat 36°33'20", long 89°40'12", SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.8, T.22 N., R.13 E., New Madrid County, Hydrologic Unit 08020204, on right bank 150 ft upstream from bridge on U.S. Highway 62, 3.7 mi southwest of Lilbourn, and 4.0 mi northwest of Marston.

PERIOD OF RECORD.--October 1945 to current year. Prior to January 1946 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder, nonrecording gage and crest-stage gage. Datum of gage is 263.46 ft above National Geodetic Vertical Datum of 1929 (Missouri State Highway Commission). Prior to Oct. 27, 1967, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--41 years, 332 ft³/s, 19.19 in/yr, 240,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,580 ft³/s, Mar. 29, 1975, gage height, 14.17 ft; maximum gage height, 15.16 ft, Feb. 15, 1950; minimum discharge, 29 ft³/s, Sept. 20, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1945 reached a stage of 15.6 ft, from floodmark, discharge, 3,200 ft^3/s .

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,520 ft³/s, May 15, gage height, 14.53 ft; minimum daily, 66 ft³/s, Sept. 30.

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	616	615	225	141	213	202	182	329	213	105	91
2	75	327	585	220	632	211	198	176	381	254	100	90
3	75	206	493	221	2250	209	192	169	346	234	99	89
4	76	168	435	213	1820	202	191	169	314	207	96	101
5	76	155	404	203	1240	202	206	168	312	196	94	91
6	76	153	376	199	783	202	209	167	443	188	94	86
7	76	154	360	195	667	194	238	165	1810	190	102	80
8	75	150	345	184	480	187	550	158	1380	192	102	79
9	75	149	329	182	409	190	261	157	1050	188	102	79
10	75	148	314	182	371	199	221	212	2130	178	128	77
11	75	150	490	179	347	188	216	187	1570	171	139	79
12	76	154	704	173	316	1010	210	180	898	169	109	81
13	78	171	572	168	295	878	204	166	649	177	104	76
14	92	173	456	164	304	473	200	1070	542	176	98	74
15	88	170	406	159	309	537	202	5420	492	193	95	74
16	81	400	379	153	487	423	196	5480	453	147	122	75
17	80	296	364	151	760	329	193	5280	416	140	135	76
18	80	253	345	161	468	297	186	5230	388	135	122	85
19	86	231	328	214	366	304	189	4790	369	134	102	87
20	1380	283	322	190	319	273	205	2920	346	130	97	85
21	788	329	308	175	293	257	234	1010	326	122	97	75
22	216	287	304	167	278	248	236	610	307	119	95	74
23	133	256	302	158	265	245	219	516	290	116	93	74
24	118	236	289	157	256	234	210	613	297	115	95	73
25	108	229	265	159	245	227	208	1100	273	115	100	73
26	103	237	261	155	242	227	200	615	257	117	109	71
27	101	1330	267	134	236	221	191	470	250	226	99	69
28	101	1950	252	156	220	215	201	420	244	155	95	69
29	104	1150	244	159	---	212	188	621	234	120	91	68
30	180	708	237	147	---	210	182	423	218	109	93	66
31	544	---	236	141	---	204	---	355	---	114	91	---
TOTAL	5367	11219	11587	5444	14799	9221	6538	39199	17314	5040	3203	2367
MEAN	173	374	374	176	529	297	218	1264	577	163	103	78.9
MAX	1380	1950	704	225	2250	1010	550	5480	2130	254	139	101
MIN	75	148	236	134	141	187	182	157	218	109	91	66
CAL	YR 1985	TOTAL	164374	MEAN	450	MAX	4270	MIN	75			
WTR	YR 1986	TOTAL	131298	MEAN	360	MAX	5480	MIN	66			

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 downstream from Little River ditch 39, and 2.0 mi west of Morehouse.

DRAINAGE AREA.--450 mi².

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 above National Geodetic Vertical Datum of 1929. Prior to Nov. 17, 1949, June 11, 1951, to Feb. 22, 1962, nonrecording gage at same datum. Nov. 17, 1949 to June 10, 1951 nonrecording gage at site 50 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Dec. 3-16, and Jan. 28 to Mar. 4. Records good except for estimated daily discharges, 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 downstream, and is independent of the Ditch for which records are published as Little River Ditch 1 near Kennett.

AVERAGE DISCHARGE.--41 years, 539 ft³/s, 16.27 in/yr, 390,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft³/s, Mar. 31, 1985, gage height, 18.42 ft; maximum gage height, 19.81 ft, Mar. 11, 1964; minimum, 21 ft³/s, Sept. 18, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1945 reached a stage of 19.85 ft, from floodmark, discharge, 5,830 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,970 ft³/s, May 16, gage height, 16.43 ft; minimum, 87 ft³/s, Aug. 2, 4, 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	101	620	1180	220	155	240	224	234	415	140	96	103
2	105	408	1390	221	750	225	217	220	415	189	92	105
3	103	260	1060	219	1400	215	217	215	359	167	92	106
4	107	205	900	213	1300	210	213	210	300	157	91	107
5	102	185	800	205	1200	205	534	214	293	151	91	98
6	100	177	600	206	800	186	566	207	463	136	96	101
7	101	166	500	197	600	176	490	188	986	131	97	97
8	104	160	450	185	500	172	560	180	684	130	106	98
9	101	162	400	194	400	185	547	216	749	130	145	98
10	108	158	380	194	350	188	452	186	1510	127	138	98
11	102	172	600	192	300	173	354	211	881	119	157	103
12	104	210	900	190	290	2320	301	197	533	124	125	100
13	103	260	750	184	280	2450	268	185	429	141	123	95
14	109	293	600	186	280	3550	258	448	370	128	113	94
15	110	260	550	182	300	1760	244	5720	337	135	105	93
16	104	628	500	187	500	943	229	8350	311	130	270	95
17	101	556	440	192	800	633	221	6470	287	126	295	93
18	104	372	374	196	700	518	211	4180	271	123	200	102
19	108	464	344	215	550	638	236	2590	258	121	151	108
20	109	1680	333	208	480	716	735	1580	243	121	128	105
21	104	1070	308	200	420	617	1640	1100	229	117	117	100
22	102	581	308	187	370	492	1180	852	207	108	109	99
23	115	462	296	177	340	400	823	455	195	103	105	101
24	153	390	287	180	320	337	549	387	219	101	113	103
25	116	354	255	183	290	316	395	826	182	103	119	105
26	115	857	272	180	275	295	321	886	167	111	104	101
27	105	4070	258	170	260	276	298	642	160	113	100	99
28	103	4670	244	165	250	261	275	443	149	109	100	97
29	107	2320	240	165	---	261	249	745	145	101	102	98
30	150	1380	236	160	---	241	240	595	139	114	102	100
31	264	---	231	155	---	231	---	478	---	100	103	---
TOTAL	3520	23550	15926	5908	14460	19430	13047	39410	11886	3906	3885	3002
MEAN	114	785	514	191	516	627	435	1271	396	126	125	100
MAX	264	4670	1390	221	1400	3550	1640	8350	1510	189	295	108
MIN	100	158	231	155	155	172	211	180	139	100	91	93
CAL YR 1985	TOTAL		308243	MEAN	845	MAX	10800	MIN	94			
WTR YR 1986	TOTAL		157930	MEAN	433	MAX	8350	MIN	91			

ST. FRANCIS RIVER BASIN

07046001 LITTLE RIVER DITCHES NEAR KENNETT, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 36°14'11", long 89°58'06", in NW¼ sec.3, T.18 N., R.10 E., Dunklin County, at bridges on State Highway 84, 4 mi 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 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT										
23...	1015	2840	210	7.20	19.0	5.2	54	27	1400	86
NOV										
21...	1000	2260	206	7.70	9.0	9.6	81	46	K1500	--
DEC										
18...	0805	1180	312	8.20	3.5	12.0	97	15	210	--
JAN										
23...	0750	568	332	7.90	5.5	11.6	89	32	K30	150
FEB										
12...	1220	1180	298	7.80	2.5	14.2	101	16	K28	--
MAR										
04...	1615	682	360	8.20	10.0	13.8	119	14	K4	--
APR										
08...	0810	4980	186	7.90	19.0	8.9	94	90	2300	79
MAY										
13...	0830	1060	258	8.20	24.0	7.8	91	43	480	--
JUN										
10...	1240	10400	100	7.20	24.5	6.1	72	<10	1500	--
JUL										
15...	1155	402	358	8.00	29.0	7.9	100	37	150	160
AUG										
12...	1030	374	354	8.10	24.5	7.6	89	27	K36	--
SEP										
16...	0855	141	420	7.70	22.0	8.2	91	11	60	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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										
23...	7	24	6.3	4.4	5.3	79	9.6	14	6.9	0.10
NOV										
21...	--	--	--	--	--	96	3.8	--	--	--
DEC										
18...	--	--	--	--	--	159	2.0	--	--	--
JAN										
23...	15	41	11	11	3.1	131	3.2	18	11	0.20
FEB										
12...	--	--	--	--	--	118	3.7	--	--	--
MAR										
04...	--	--	--	--	--	155	1.9	--	--	--
APR										
08...	14	21	6.4	6.3	2.8	64	1.6	14	10	0.20
MAY										
13...	--	--	--	--	--	106	1.2	--	--	--
JUN										
10...	--	--	--	--	--	37	5.0	--	--	--
JUL										
15...	10	44	11	13	2.9	141	2.8	23	15	0.20
AUG										
12...	--	--	--	--	--	145	2.2	--	--	--
SEP										
16...	--	--	--	--	--	171	6.8	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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07046001 LITTLE RIVER DITCHES NEAR KENNETT, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 23...	127	40	<0.100	0.090	0.300	2	2	4	2	2200
NOV 21...	--	206	0.400	0.190	0.420	--	--	--	--	--
DEC 18...	--	59	0.300	0.100	0.160	--	--	--	--	--
JAN 23...	200	41	0.300	0.090	0.160	1	<1	3	2	2500
FEB 12...	--	42	0.400	0.160	0.200	--	--	--	--	--
MAR 04...	--	16	<0.100	0.050	0.080	--	--	--	--	--
APR 08...	185	440	1.40	0.310	0.670	<1	<1	29	5	31000
MAY 13...	--	273	1.30	0.230	0.320	--	--	--	--	--
JUN 10...	--	152	0.800	0.260	0.530	--	--	--	--	--
JUL 15...	207	67	0.200	0.020	0.240	<1	<1	6	2	3000
AUG 12...	--	39	<0.100	0.020	0.180	--	--	--	--	--
SEP 16...	--	32	<0.100	0.020	0.160	--	--	--	--	--

[illegible]

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 downstream from bridge on county road, 1.6 mi downstream from County Line Damsite, 1 mi downstream from Davis Creek and 4 mi south of Strafford.

DRAINAGE AREA.--165 mi².

PERIOD OF RECORD.--October 1973 to September 1986 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 1,207 ft above National Geodetic Vertical Datum of 1929 (from U.S. Army Corps of Engineers river profile survey).

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--13 years, 170 ft³/s, 13.99 in/yr, 123,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,900 ft³/s, Sept. 27, 1977, gage height, 18.90 ft; no flow several days in 1984, as a result of pumping upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 18	1500	*4,950	*11.78	Apr. 8	0500	3,380	9.84
Dec. 1	0615	4,820	11.62	Sept. 30	1145	3,060	9.43

Minimum discharge, 3.2 ft³/s, Sept. 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	21	2700	74	37	55	47	74	62	26	7.6	4.4
2	10	23	721	69	37	54	45	77	241	31	11	4.4
3	10	23	482	64	38	52	53	70	208	28	8.8	4.4
4	10	22	372	63	46	51	216	64	112	22	8.1	4.4
5	9.7	21	287	61	53	49	312	62	286	19	7.8	4.3
6	9.7	19	225	59	58	48	223	59	278	17	7.8	4.1
7	9.8	19	185	58	76	46	227	58	437	16	7.5	4.0
8	9.7	19	158	56	81	44	1820	55	325	16	26	3.8
9	9.7	18	403	54	78	43	613	56	272	16	22	3.8
10	9.3	18	1240	54	69	43	434	56	137	15	19	3.5
11	9.3	18	1750	53	64	43	313	88	89	14	18	6.1
12	10	24	807	53	62	228	234	86	66	13	16	10
13	14	432	559	52	59	308	185	73	57	309	14	10
14	20	224	428	51	58	224	157	303	51	58	13	8.3
15	21	1010	343	50	57	166	138	839	46	41	11	7.9
16	20	628	287	49	62	130	123	290	40	30	11	8.1
17	18	349	251	49	153	108	112	183	36	24	11	11
18	16	2670	219	48	170	92	99	153	33	20	9.8	15
19	16	2170	188	48	149	95	89	124	30	17	8.8	16
20	17	980	167	47	127	82	83	102	28	15	8.0	14
21	18	543	148	46	106	71	79	83	25	14	7.3	14
22	18	399	135	44	87	64	72	71	24	12	6.2	12
23	17	293	164	42	74	62	67	99	23	11	5.7	11
24	18	221	180	42	65	59	64	100	22	10	5.7	10
25	17	175	159	41	62	57	62	89	21	8.7	5.7	9.1
26	16	1400	139	40	60	55	61	83	19	7.8	5.8	8.6
27	16	822	126	38	58	55	60	75	18	7.8	5.6	10
28	15	680	114	37	57	53	65	71	17	7.8	5.6	14
29	14	470	101	37	---	52	65	94	17	7.6	5.2	13
30	14	410	90	37	---	51	63	93	16	7.8	4.9	1090
31	16	---	83	37	---	49	---	70	---	7.6	4.6	---
TOTAL	438.2	14121	13211	1553	2103	2589	6181	3800	3036	849.1	308.5	1339.2
MEAN	14.1	471	426	50.1	75.1	83.5	206	123	101	27.4	9.95	44.6
MAX	21	2670	2700	74	170	308	1820	839	437	309	26	1090
MIN	9.3	18	83	37	37	43	45	55	16	7.6	4.6	3.5
CAL YR 1985		TOTAL	109827.9	MEAN	301	MAX	7220	MIN	9.2			
WTR YR 1986		TOTAL	49529.0	MEAN	136	MAX	2700	MIN	3.5			

WHITE RIVER BASIN

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07050700 JAMES RIVER NEAR SPRINGFIELD, MO

LOCATION.--Lat 37°09'00", long 93°12'12", in SW¼SE¼SW¼ sec.2, T.28 N., R.21 W., Greene County, Hydrologic Unit 11010002, on right bank on county road at Kinser bridge, 1.1 mi downstream from Pearson Creek, and 2.5 mi southeast of Springfield.

DRAINAGE AREA.--246 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 1,143.27 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Dec. 19, 1955, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flows are affected by pumping for Blackman Water Treatment Plant 1.0 mi upstream. Several observations of water temperature and specific conductance were made during the year. Springfield City Utilities gage-height telemeter at station.

AVERAGE DISCHARGE.--31 years, 225 ft³/s, 12.42 in/yr, 163,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,800 ft³/s, Dec. 17, 1957, gage height, 18.20 ft; minimum, 0.1 ft³/s, Sept. 16, 24, 25, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1909 reached a stage of about 22 ft, from information by local resident, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 18	1930	6,090	13.36	Sept. 30	1515	4,370	12.04
Dec. 1	1130	*6,390	*13.48				

Minimum discharge, 7.6 ft³/s, Sept. 7-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	45	3640	155	54	101	89	96	88	33	13	13
2	20	48	1260	142	53	96	87	103	108	108	44	11
3	19	48	800	131	58	91	100	94	369	68	29	10
4	18	45	620	125	69	87	242	88	162	54	22	10
5	17	40	522	116	82	83	455	82	292	44	19	9.4
6	16	38	451	106	96	79	397	78	402	38	18	8.8
7	16	35	395	99	131	75	346	73	498	34	18	7.9
8	16	32	346	95	153	72	2020	70	405	30	21	7.6
9	15	30	498	85	150	71	849	68	460	28	59	7.7
10	15	29	1740	91	139	71	553	69	305	26	48	7.6
11	16	28	2610	96	128	71	433	97	229	25	40	23
12	19	34	1470	93	106	262	349	120	169	25	35	24
13	23	493	943	89	91	463	288	104	124	348	30	21
14	38	400	687	87	90	388	240	92	105	178	26	19
15	45	1270	558	83	94	323	193	1060	88	95	23	21
16	41	1110	477	81	88	268	160	432	68	68	23	25
17	36	615	434	79	189	220	142	296	69	53	21	36
18	35	3120	385	77	269	207	124	247	69	41	19	38
19	37	2870	348	75	248	218	121	194	62	34	17	33
20	37	1670	319	73	218	184	118	132	57	29	16	29
21	38	897	289	71	184	162	112	113	51	25	14	25
22	39	656	270	68	164	148	104	105	48	22	13	22
23	36	526	287	65	147	143	96	145	48	21	12	20
24	34	447	312	64	128	137	91	163	46	20	14	18
25	31	381	297	62	117	129	87	145	42	17	19	16
26	29	1760	265	60	107	121	82	133	38	16	20	16
27	27	1350	240	56	104	110	79	116	37	16	16	21
28	27	1050	216	56	109	108	88	105	38	15	17	21
29	27	724	200	56	---	103	92	105	35	14	14	35
30	29	593	177	54	---	99	89	125	33	13	12	1840
31	35	---	171	54	---	93	---	102	---	13	11	---
TOTAL	852	20384	21227	2644	3566	4783	8226	4952	4545	1551	703	2396.0
MEAN	27.5	679	685	85.3	127	154	274	160	152	50.0	22.7	79.9
MAX	45	3120	3640	155	269	463	2020	1060	498	348	59	1840
MIN	15	28	171	54	53	71	79	68	33	13	11	7.6
CAL YR 1985		TOTAL	161315	MEAN	442	MAX	10900	MIN	15			
WTR YR 1986		TOTAL	75829.0	MEAN	208	MAX	3640	MIN	7.6			

WHITE RIVER BASIN

07051600 JAMES RIVER NEAR WILSONS CREEK, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°04'35", long 93°22'15", in SW¼NW¼ sec.5, T.27 N., R.22 W., Christian County, Hydrologic Unit 11010002, at Nelson Mill Bridge on county road, 2.5 mi southeast of Wilsons Creek, Mo., 2.0 mi upstream from Wilson Creek.

PERIOD OF RECORD.--August 1967 to September 1982, November 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 09...	0800	22	405	7.60	16.0	8.2	83	<10	30	200
NOV 15...	1215	1100	300	7.60	14.0	5.8	56	27	6600	--
DEC 05...	1000	620	300	7.90	7.5	11.6	96	<10	540	--
JAN 08...	1245	141	340	8.00	5.0	14.0	107	10	K3	180
FEB 11...	1230	155	304	8.30	3.0	12.2	90	11	K4	--
MAR 20...	1245	248	359	7.50	10.0	11.8	103	37	36	--
APR 08...	1510	3550	278	7.70	15.5	9.7	97	150	K16000	140
MAY 13...	1105	145	352	7.80	22.0	6.4	74	<10	470	--
JUN 03...	1040	443	332	8.10	22.0	6.7	77	<10	1000	--
JUL 10...	1250	25	388	7.90	22.5	8.1	94	<10	34	180
AUG 05...	1300	30	400	7.40	21.5	7.6	86	18	K250	--
SEP 18...	1015	80	435	7.90	21.5	6.5	73	12	900	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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 09...	27	69	6.0	6.0	2.8	167	8.3	23	12	<0.10
NOV 15...	--	--	--	--	--	132	7.1	--	--	--
DEC 05...	--	--	--	--	--	129	3.2	--	--	--
JAN 08...	18	61	6.6	4.5	1.7	159	3.1	11	9.0	<0.10
FEB 11...	--	--	--	--	--	141	1.4	--	--	--
MAR 20...	--	--	--	--	--	156	9.9	--	--	--
APR 08...	10	40	8.8	3.8	2.2	126	4.9	10	8.3	<0.10
MAY 13...	--	--	--	--	--	154	4.8	--	--	--
JUN 03...	--	--	--	--	--	153	2.4	--	--	--
JUL 10...	48	61	7.6	7.3	3.5	131	3.3	49	15	<0.10
AUG 05...	--	--	--	--	--	157	12	--	--	--
SEP 18...	--	--	--	--	--	134	3.3	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

[illegible][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 upstream from Turkey Hollow, 2.0 mi southeast of Boaz.

DRAINAGE AREA.--462 mi².

PERIOD OF RECORD.--August 1967 to September 1982, November 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT										
09...	1200	40	700	7.90	15.0	7.8	77	17	K190	240
NOV										
15...	1115	8600	388	7.50	14.0	6.8	66	19	K17000	--
DEC										
05...	1145	1050	365	7.80	8.5	10.3	87	<10	420	--
JAN										
08...	1045	235	430	8.30	3.0	15.5	113	15	K4	190
FEB										
11...	1030	245	385	8.30	3.5	12.4	92	19	K10	--
MAR										
20...	1450	450	325	8.20	10.0	13.4	117	--	K9	--
APR										
08...	1615	3300	320	7.70	17.0	8.4	87	46	K32000	150
MAY										
13...	1210	205	369	8.00	21.0	6.8	76	<10	230	--
JUN										
03...	0915	200	404	8.10	21.0	6.2	70	<10	820	--
JUL										
10...	1045	80	618	7.80	27.0	5.6	70	<10	80	230
AUG										
05...	1115	120	525	7.70	23.0	6.2	72	28	200	--
SEP										
18...	0920	180	380	7.90	20.0	7.1	78	22	K15000	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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										
09...	68	85	7.3	47	5.6	172	4.2	66	60	0.40
NOV										
15...	--	--	--	--	--	155	9.9	--	--	--
DEC										
05...	--	--	--	--	--	153	4.8	--	--	--
JAN										
08...	31	65	6.0	17	2.5	156	1.5	15	25	0.20
FEB										
11...	--	--	--	--	--	164	1.6	--	--	--
MAR										
20...	--	--	--	--	--	156	2.0	--	--	--
APR										
08...	13	48	8.1	5.1	1.9	136	5.4	25	8.8	<0.10
MAY										
13...	--	--	--	--	--	125	2.5	--	--	--
JUN										
03...	--	--	--	--	--	157	2.4	--	--	--
JUL										
10...	78	78	7.5	35	3.5	144	4.6	60	52	0.30
AUG										
05...	--	--	--	--	--	145	5.8	--	--	--
SEP										
18...	--	--	--	--	--	116	2.9	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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07052250 JAMES RIVER NEAR BOAZ, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 09...	410	10	3.70	0.060	2.10	2	<1	6	2	230
NOV 15...	--	19	1.70	0.210	0.300	--	--	--	--	--
DEC 05...	--	2	2.30	0.070	0.160	--	--	--	--	--
JAN 08...	253	1	2.70	0.020	0.500	<1	<1	3	1	<10
FEB 11...	--	5	2.10	0.330	0.570	--	--	--	--	--
MAR 20...	--	1	2.00	0.030	0.320	--	--	--	--	--
APR 08...	189	370	1.00	0.070	0.190	<1	<1	19	2	5500
MAY 13...	--	27	2.10	0.050	0.550	--	--	--	--	--
JUN 03...	--	30	2.10	0.030	0.650	--	--	--	--	--
JUL 10...	352	22	4.70	0.090	1.40	3	<1	5	4	260
AUG 05...	--	19	1.80	0.060	0.880	--	--	--	--	--
SEP 18...	--	65	1.60	0.020	0.770	--	--	--	--	--

[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 upstream from Railey Creek, and 42.3 mi above mouth.

DRAINAGE AREA.--987 mi².

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 above National Geodetic Vertical Datum of 1929. Prior to Dec. 11, 1927, nonrecording gage at site 500 ft downstream at datum 1.48 ft 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 higher.

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--65 years, 958 ft³/s, 13.18 in/yr, 694,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,700 ft³/s, May 20, 1943, gage height, 29.82 ft, present datum; minimum, 10 ft³/s, Sept. 20, 1954

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 19	0830	*18,100	*14.60	No other peak greater than base discharge.			

Minimum discharge, 103 ft³/s, Sept. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	210	306	5120	1090	367	561	543	743	442	259	129	131
2	204	332	7720	1040	470	541	520	710	443	275	398	124
3	191	312	3700	987	637	515	529	690	429	309	684	123
4	182	293	2820	940	645	493	682	669	577	293	400	125
5	174	275	2370	893	641	475	1120	650	785	260	285	121
6	167	260	2080	853	721	462	1410	632	1940	237	238	116
7	160	249	1850	823	939	448	1350	612	1520	219	211	114
8	153	236	1670	793	942	434	2010	595	2040	217	209	110
9	154	225	1560	744	916	421	3290	631	1770	207	283	106
10	159	222	2700	744	870	418	2400	807	1600	197	273	108
11	153	212	5670	705	811	410	2010	934	1200	195	253	114
12	158	464	7020	693	757	787	1740	1190	954	211	227	221
13	177	1740	4320	671	715	1200	1540	978	775	223	205	196
14	535	2110	3220	661	682	1370	1430	817	658	341	190	158
15	760	3230	2730	634	656	1270	1310	825	576	420	182	152
16	581	5080	2460	630	638	1130	1200	1340	510	313	182	176
17	476	3060	2290	636	653	1020	1120	981	463	263	183	218
18	410	5830	2130	620	724	976	1050	844	420	227	168	385
19	464	15300	1960	600	859	982	990	743	389	204	154	322
20	462	9780	1840	572	870	924	962	669	361	190	148	262
21	434	4840	1720	564	833	852	928	598	336	170	141	190
22	396	3320	1630	543	784	803	883	522	314	164	136	178
23	370	2640	1560	510	733	755	843	493	394	168	133	163
24	337	2250	1520	495	694	721	815	632	494	161	132	153
25	301	1970	1490	476	657	689	777	780	372	152	233	157
26	276	2260	1440	455	629	663	752	750	331	146	181	165
27	251	3860	1370	435	604	650	732	666	307	141	159	151
28	232	3100	1310	426	577	614	764	600	310	160	159	164
29	228	2820	1240	421	---	590	761	548	275	144	172	173
30	236	2380	1190	403	---	566	747	494	267	137	151	3380
31	283	---	1140	382	---	547	---	470	---	131	138	---
TOTAL	9274	78956	80840	20439	20024	22287	35208	22613	21252	6734	6737	8256
MEAN	299	2632	2608	659	715	719	1174	729	708	217	217	275
MAX	760	15300	7720	1090	942	1370	3290	1340	2040	420	684	3380
MIN	153	212	1140	382	367	410	520	470	267	131	129	106
CAL YR 1985	TOTAL		672233	MEAN	1842	MAX	36100	MIN	138			
WTR YR 1986	TOTAL		332620	MEAN	911	MAX	15300	MIN	106			

WHITE RIVER BASIN

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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 upstream from Fall Creek, and 6.1 mi southwest of Branson.

DRAINAGE AREA.--4,020 mi².

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 U.S. Army Corps of Engineers). Prior to July 18, 1958, non-recording gage at same site and datum.

REMARKS.--Lake is formed by 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 and capacity 1,520,500 acre-ft began Nov. 24, 1958, and was reached Dec. 19, 1959. Capacity is 3,567,500 acre-ft at top of spillway gates, elevation 933 ft. Capacity is 3,462,000 acre-ft at top of flood control pool, elevation 931 ft. Capacity between elevations 915 ft and 931 ft is reserved for flood control, 760,000 acre-ft. The capacity at the lowest outlet, elevation 721.96 ft., is 3,530 acre-ft. Lake is used for flood control, power, and recreational purposes.

COOPERATION.--Records were provided by the U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents 3,542,000 acre-ft, May 10, 1961, elevation, 932.52 ft; minimum, since initial filling to bottom of power pool level, 1,536,000 acre-ft, Feb. 8, 1965, elevation, 881.54 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,158,000 acre-ft, Dec. 2, elevation, 924.96 ft; minimum contents, 2,258,000 acre-ft, Sept. 28, elevation, 903.97 ft.

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2675000	2665000	3146000	2805000	2652000	2631000	2573000	2760000	2663000	2689000	2494000	2322000
2	2671000	2664000	3158000	2796000	2660000	2635000	2572000	2755000	2663000	2687000	2491000	2322000
3	2668000	2664000	3157000	2782000	2665000	2628000	2564000	2752000	2666000	2684000	2487000	2320000
4	2666000	2665000	3151000	2773000	2670000	2628000	2564000	2756000	2663000	2673000	2486000	2317000
5	2662000	2663000	3128000	2761000	2670000	2624000	2582000	2746000	2667000	2665000	2485000	2323000
6	2662000	2663000	3105000	2751000	2676000	2614000	2599000	2737000	2676000	2665000	2480000	2325000
7	2662000	2663000	3079000	2738000	2688000	2609000	2617000	2728000	2690000	2664000	2472000	2324000
8	2657000	2660000	3050000	2725000	2695000	2607000	2674000	2722000	2704000	2657000	2455000	2323000
9	2656000	2660000	3033000	2717000	2701000	2609000	2702000	2719000	2721000	2646000	2437000	2322000
10	2655000	2659000	3049000	2708000	2697000	2610000	2714000	2717000	2731000	2641000	2434000	2318000
11	2652000	2658000	3072000	2708000	2691000	2614000	2725000	2719000	2742000	2641000	2417000	2317000
12	2649000	2665000	3082000	2708000	2682000	2624000	2737000	2712000	2746000	2641000	2403000	2317000
13	2645000	2674000	3080000	2698000	2671000	2628000	2746000	2707000	2742000	2643000	2390000	2317000
14	2643000	2685000	3073000	2684000	2671000	2627000	2759000	2702000	2745000	2637000	2372000	2317000
15	2642000	2708000	3064000	2675000	2674000	2622000	2769000	2696000	2748000	2628000	2357000	2318000
16	2641000	2733000	3049000	2672000	2679000	2618000	2778000	2687000	2742000	2617000	2349000	2321000
17	2640000	2750000	3030000	2668000	2683000	2612000	2782000	2687000	2745000	2610000	2344000	2317000
18	2643000	2820000	3009000	2668000	2689000	2611000	2780000	2691000	2746000	2604000	2339000	2312000
19	2646000	2988000	2993000	2667000	2685000	2603000	2779000	2682000	2740000	2598000	2334000	2312000
20	2648000	3058000	2974000	2666000	2678000	2600000	2783000	2677000	2734000	2598000	2331000	2303000
21	2648000	3097000	2955000	2665000	2676000	2589000	2792000	2662000	2734000	2590000	2332000	2297000
22	2655000	3109000	2937000	2662000	2669000	2584000	2792000	2651000	2734000	2584000	2331000	2291000
23	2659000	3115000	2917000	2658000	2668000	2587000	2788000	2650000	2729000	2576000	2331000	2284000
24	2662000	3116000	2899000	2662000	2658000	2584000	2785000	2653000	2726000	2569000	2332000	2276000
25	2663000	3109000	2880000	2667000	2650000	2579000	2783000	2660000	2724000	2557000	2329000	2269000
26	2663000	3099000	2863000	2668000	2650000	2575000	2777000	2665000	2720000	2552000	2325000	2264000
27	2662000	3098000	2854000	2659000	2640000	2569000	2778000	2670000	2709000	2543000	2326000	2261000
28	2663000	3111000	2842000	2659000	2633000	2571000	2774000	2674000	2708000	2531000	2325000	2258000
29	2665000	3118000	2834000	2657000	---	2575000	2768000	2668000	2701000	2520000	2324000	2260000
30	2664000	3124000	2826000	2655000	---	2578000	2764000	2667000	2693000	2509000	2323000	2292000
31	2664000	---	2815000	2651000	---	2573000	---	2660000	---	2505000	2322000	---

WTR YR 1986

(†)	914.11	924.26	917.58	913.81	913.37	911.95	916.44	914.03	914.80	910.29	905.67	904.88
(‡)	-16000	+460000	-309000	-164000	-18000	-60000	+191000	-104000	+33000	-188000	-183000	-30000
MAX	2675000	3124000	3158000	2805000	2701000	2635000	2792000	2760000	2748000	2689000	2494000	2325000
MIN	2640000	2658000	2815000	2651000	2633000	2569000	2564000	2650000	2663000	2505000	2322000	2258000

CAL YR 1985.....-428000

WTR YR 1986.....-388000

(†) Elevation, in feet NGVD, at end of month.

(‡) Change in contents, in acre-feet.

WHITE RIVER BASIN

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 downstream from Table Rock Dam, 2.1 mi upstream from Fall Creek, 5 mi southwest of Branson, 7.4 mi upstream from Missouri Pacific bridge, and at mile 527.8.

DRAINAGE AREA.--4,022 mi².

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 above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). July 19, 1909 to Dec. 31, 1910, nonrecording gage at site 7.4 mi downstream at different datum. Oct. 1, 1951 to Mar. 6, 1952, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Table Rock Lake (station 07053400) since Sept. 9, 1956.

COOPERATION.--Records were provided by the U.S. Army Corps of Engineers.

AVERAGE DISCHARGE.--35 years, 3,660 ft³/s, 2,652,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 89,100 ft³/s, May 16, 1956, gage height, 36.9 ft; minimum, prior to building dam, 24 ft³/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, from floodmark, discharge, 203,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 18,700 ft³/s, Dec. 17, 18; minimum daily, 40 ft³/s, many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2800	780	11700	9600	40	3330	1870	8700	210	2790	5160	190
2	3140	1050	16200	9520	40	160	4380	8720	2560	1410	1540	190
3	3470	990	17300	9620	2290	5700	5880	4130	2310	1640	560	1030
4	1840	1490	17500	9550	880	4190	7570	230	5620	5870	180	4330
5	1900	1050	17500	9560	2720	5680	40	7700	2160	4320	180	1970
6	980	1050	17500	9560	2630	9000	40	8610	850	350	2260	140
7	3040	1040	17500	10200	40	6390	5960	8300	150	1200	4190	330
8	4600	960	17400	9740	40	1780	6860	8270	130	5380	8400	140
9	2690	990	16800	6590	40	40	8300	7500	780	5260	9010	150
10	3280	990	11900	6550	6810	1970	7160	3250	5570	2810	1730	2360
11	3500	740	14300	780	7370	3120	7770	690	1750	2190	8430	1570
12	3240	1020	16900	830	6950	3650	7240	8080	2460	510	6240	120
13	3400	1020	17100	6910	8380	4990	7510	5420	4120	220	6470	150
14	4080	860	17500	8570	4180	6130	7380	5630	620	3360	9030	160
15	3890	800	17500	6440	530	6230	7690	6390	170	7720	8100	2030
16	2070	360	18100	3180	40	5450	7180	7870	4470	6070	4290	650
17	2070	350	18700	2830	2090	6160	7810	3170	520	4160	2690	2960
18	1500	920	18700	1380	970	7650	7970	170	1190	5020	3080	4370
19	1820	480	17200	1320	6770	6090	8590	6950	3850	3350	2370	3250
20	2030	7040	16500	2280	8290	5150	8380	4600	6490	190	1770	5400
21	1920	9980	15500	2770	5090	7870	8230	8900	2930	4640	180	4940
22	300	10000	16500	3320	6110	4920	8720	6500	440	5550	650	5170
23	440	8330	15300	6740	4590	830	9110	3020	4700	5700	180	5520
24	1440	8810	14500	2530	9350	3460	9250	140	2940	5820	190	4920
25	1920	11900	14500	40	8590	4500	7920	240	2260	8620	1510	6150
26	990	14900	14500	500	4380	4400	6840	140	5780	2280	2400	4530
27	1000	12800	9480	7530	8620	4690	5520	140	8740	4650	200	2800
28	1140	10600	9500	5460	8860	750	9110	140	1540	9050	140	1870
29	1050	11700	9510	3920	---	40	9220	5430	3930	9200	150	1980
30	1050	15100	9070	3150	---	40	8880	4180	4320	7980	200	4230
31	1100	---	9490	3950	---	3950	---	4900	---	8560	190	---
TOTAL	67690	138100	471650	164920	116690	128310	208380	148110	83560	135870	91670	73600
MEAN	2184	4603	15210	5320	4168	4139	6946	4778	2785	4383	2957	2453
MAX	4600	15100	18700	10200	9350	9000	9250	8900	8740	9200	9030	6150
MIN	300	350	9070	40	40	40	40	140	130	190	140	120
CAL YR 1985	TOTAL		2806451	MEAN	7689	MAX	23500	MIN	40			
WTR YR 1986	TOTAL		1828550	MEAN	5010	MAX	18700	MIN	40			

WHITE RIVER BASIN

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07053600 LAKE TANEYCOMO AT THE SCHOOL OF THE OZARKS, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 36°36'33", long 93°14'04", in sec.4, T.22 N., R.21 W., Taney County, Hydrologic Unit 11010003, on the right bank in the School of the Ozarks water intake pump house, and 4.75 miles below Table Rock Dam.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: May 1984 to current year.

DISSOLVED OXYGEN: May 1984 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1984.

REMARKS.--The number of missing days of dissolved-oxygen record exceeds 20 percent of the year, primarily because recorded data deviated from field measurements slightly more than the criteria for adjustment.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	13.0	11.0	12.0	12.0	11.5	11.5	---	---	---	8.5	7.0	8.0
2	12.5	11.0	11.5	12.5	11.5	11.5	---	---	---	8.5	8.0	8.0
3	12.5	11.0	12.0	12.0	11.5	11.5	---	---	---	8.5	7.0	7.5
4	13.0	11.5	12.0	13.0	11.0	12.0	---	---	---	8.0	7.0	7.5
5	13.0	11.5	12.0	12.5	11.5	12.0	---	---	---	8.5	6.5	7.5
6	13.5	11.5	12.0	12.0	11.5	12.0	---	---	---	8.0	7.5	8.0
7	12.5	11.5	12.0	12.5	11.5	11.5	---	---	---	7.5	7.0	7.5
8	13.5	11.5	12.0	12.5	11.0	12.0	---	---	---	7.5	6.0	7.5
9	13.0	12.0	12.5	13.0	12.0	12.5	---	---	---	---	---	---
10	12.0	12.0	12.0	12.5	12.0	12.5	12.5	12.0	12.5	---	---	---
11	12.5	12.0	12.0	12.0	11.5	11.5	12.5	12.0	12.0	8.0	6.5	7.0
12	12.5	12.0	12.0	12.5	12.0	12.0	12.0	12.0	12.0	7.0	7.0	7.0
13	12.0	12.0	12.0	13.0	12.0	12.5	12.0	11.5	11.5	---	---	---
14	12.5	12.0	12.0	12.5	12.0	12.5	11.5	11.5	11.5	---	---	---
15	13.0	11.5	12.0	13.0	12.0	12.5	11.5	11.0	11.5	---	---	---
16	13.0	12.0	12.5	13.0	12.0	12.5	11.5	11.0	11.0	---	---	---
17	13.0	11.5	12.5	12.5	11.5	12.0	11.0	11.0	11.0	---	---	---
18	13.5	12.0	12.5	13.5	12.0	13.0	11.0	10.5	10.5	---	---	---
19	12.5	12.0	12.5	14.5	13.0	14.0	10.5	10.0	10.5	---	---	---
20	13.0	12.0	12.5	13.5	11.0	12.5	10.5	10.0	10.0	---	---	---
21	13.0	12.0	12.5	12.5	12.5	12.5	10.0	9.5	9.5	---	---	---
22	17.0	12.0	13.5	13.0	12.5	12.5	9.5	8.5	9.0	---	---	---
23	---	---	---	13.0	13.0	13.0	9.5	8.5	9.0	---	---	---
24	---	---	---	13.0	13.0	13.0	9.0	8.5	9.0	---	---	---
25	13.0	10.0	12.0	13.0	13.0	13.0	9.0	8.5	8.5	---	---	---
26	13.0	11.5	12.0	13.5	13.0	13.0	9.0	8.0	8.5	---	---	---
27	12.5	12.0	12.5	13.5	13.0	13.0	8.5	8.0	8.5	---	---	---
28	12.5	12.0	12.0	13.0	13.0	13.0	8.5	7.5	8.0	---	---	---
29	12.5	12.0	12.0	13.0	13.0	13.0	8.5	7.0	8.0	7.5	6.5	7.0
30	12.0	11.5	12.0	13.5	13.0	13.0	---	---	---	8.0	6.0	7.0
31	12.0	11.5	12.0	---	---	---	8.0	7.0	7.5	7.5	7.0	7.0
MONTH	---	---	---	14.5	11.0	12.5	---	---	---	---	---	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	7.5	7.0	7.5	7.5	6.0	7.0	8.5	7.5	7.5	8.0	7.5	7.5
2	8.0	7.5	7.5	7.5	6.5	7.0	7.5	7.0	7.5	8.0	7.0	7.5
3	9.0	7.0	8.0	7.5	6.5	7.0	8.0	7.5	7.5	8.0	7.0	7.5
4	8.5	7.5	8.0	8.0	6.0	7.0	8.0	7.0	7.5	10.5	7.0	8.5
5	9.0	7.0	8.0	8.0	6.0	7.0	10.0	7.5	9.5	10.5	7.5	8.0
6	7.0	7.0	7.0	7.5	6.5	7.0	12.5	10.0	12.0	8.0	7.5	7.5
7	7.0	6.5	7.0	7.5	6.5	7.0	12.0	7.0	8.0	8.0	7.5	7.5
8	7.0	6.5	6.5	8.0	6.5	7.5	8.0	6.0	6.5	8.5	7.5	7.5
9	6.5	5.5	6.0	10.0	8.0	8.5	7.0	6.0	6.5	8.0	7.5	8.0
10	7.0	5.0	6.0	11.0	7.5	9.0	7.0	6.0	6.5	8.0	7.5	8.0
11	7.0	5.5	6.5	8.0	7.0	7.5	7.5	6.5	6.5	11.0	7.5	9.0
12	7.0	6.0	6.5	7.5	7.0	7.0	7.5	6.5	7.0	9.0	7.5	8.0
13	6.5	6.0	6.5	7.5	6.5	7.0	7.5	6.5	7.0	8.5	7.5	8.0
14	6.5	6.0	6.5	7.5	6.5	6.5	8.0	7.0	7.5	8.5	7.5	8.0
15	6.5	5.5	6.0	7.5	6.5	7.0	8.0	7.0	7.0	8.5	8.0	8.0
16	7.5	6.0	6.5	8.0	6.5	7.0	7.5	6.5	7.0	8.5	7.5	8.0
17	8.5	7.0	7.5	7.5	6.5	6.5	7.0	6.5	7.0	8.5	8.0	8.0
18	7.5	6.5	7.0	7.0	6.5	7.0	7.0	6.5	7.0	10.0	8.0	9.0
19	7.0	6.0	6.5	7.5	6.5	7.0	7.5	7.0	7.0	9.5	8.0	8.5
20	6.5	6.5	6.5	7.5	6.5	7.0	7.5	7.0	7.0	8.5	8.0	8.0
21	7.0	6.0	6.5	7.5	6.5	7.0	7.5	7.0	7.0	8.5	8.0	8.0
22	7.0	6.0	6.5	8.0	6.0	7.0	8.0	6.5	7.0	8.5	8.0	8.0
23	7.5	6.0	6.5	8.5	6.5	7.0	7.5	6.5	7.0	8.5	8.0	8.0
24	7.0	6.0	6.5	9.0	7.0	8.5	8.0	7.0	7.0	10.0	8.5	9.5
25	7.0	6.5	6.5	8.5	6.5	7.5	8.0	7.0	7.5	11.0	10.0	10.5
26	7.5	6.5	7.0	8.0	7.0	7.5	8.0	7.0	7.5	13.0	11.0	12.0
27	7.0	6.5	7.0	8.0	6.5	7.5	7.5	7.0	7.0	13.0	12.0	12.5
28	7.5	6.5	7.0	9.5	7.0	8.0	8.0	7.0	7.5	15.5	12.5	13.5
29	---	---	---	10.5	9.0	10.0	8.0	7.0	7.5	14.0	8.0	10.5
30	---	---	---	12.5	9.5	11.0	7.5	7.0	7.5	9.5	8.0	8.5
31	---	---	---	12.0	7.0	9.5	---	---	---	9.0	8.0	8.5
MONTH	9.0	5.0	7.0	12.5	6.0	7.5	12.5	6.0	7.5	15.5	7.0	8.5
	JUNE			JULY			AUGUST			SEPTEMBER		
1	9.5	8.0	9.0	12.0	9.0	10.0	12.0	10.5	11.0	19.0	16.5	17.5
2	10.5	8.5	9.5	12.5	9.0	10.0	14.5	10.5	11.5	18.5	16.5	17.0
3	9.0	8.5	8.5	10.0	9.0	9.5	15.5	11.0	12.5	18.0	13.5	15.5
4	9.5	8.0	8.5	11.0	9.0	9.5	16.5	12.5	13.5	15.5	13.0	13.5
5	9.5	8.5	9.0	12.0	9.5	10.5	16.0	13.0	14.5	15.0	13.0	13.5
6	11.0	9.0	10.0	16.0	9.5	12.0	16.5	11.0	14.5	16.5	14.0	15.0
7	14.0	9.5	11.0	12.0	9.5	10.0	12.5	11.0	11.5	17.0	16.0	16.5
8	16.5	12.5	14.0	12.0	9.5	10.0	11.5	11.0	11.5	17.0	15.5	16.5
9	17.0	10.0	14.0	11.5	9.5	10.0	11.5	11.0	11.5	17.5	15.0	15.5
10	11.5	9.5	10.5	11.5	9.5	10.0	13.5	11.5	12.5	17.0	13.0	15.0
11	11.5	9.5	10.5	13.0	9.5	10.0	13.0	11.5	12.5	14.5	13.0	13.5
12	11.5	10.5	11.0	12.5	9.5	10.5	12.5	11.5	12.0	15.0	13.0	14.0
13	12.5	10.0	10.5	14.5	12.0	13.0	12.5	12.0	12.0	17.0	14.5	15.5
14	14.0	10.5	11.5	15.0	9.5	12.5	13.0	12.0	12.5	18.5	15.5	16.5
15	16.0	12.0	13.5	10.5	9.5	9.5	13.0	12.5	12.5	17.0	12.5	15.0
16	15.5	10.5	12.5	10.0	9.5	9.5	15.0	12.5	13.0	14.0	12.5	13.0
17	16.5	11.5	13.5	11.5	9.5	9.5	16.0	12.5	13.5	14.0	12.5	13.0
18	12.0	11.0	11.5	11.0	9.5	9.5	14.0	12.5	13.0	13.0	12.5	12.5
19	11.5	11.0	11.0	13.0	9.5	10.0	---	---	---	15.0	12.5	13.0
20	12.0	10.5	11.0	13.0	9.5	11.0	---	---	---	13.5	12.5	12.5
21	15.0	10.5	12.0	15.5	10.5	12.5	---	---	---	13.0	12.5	12.5
22	15.0	10.5	11.0	11.5	10.5	10.5	17.5	14.5	15.5	13.0	12.5	12.5
23	12.5	10.0	10.5	11.5	10.5	11.0	17.5	14.5	15.5	13.5	12.5	12.5
24	12.5	10.0	10.5	---	---	---	19.0	15.5	17.5	13.5	12.5	13.0
25	10.5	9.5	10.0	10.5	10.0	10.0	19.5	13.5	16.5	13.5	12.5	12.5
26	10.0	9.5	10.0	12.0	10.0	11.0	15.0	13.5	13.5	13.5	12.5	13.0
27	12.5	9.5	10.5	14.5	10.0	11.5	14.5	13.5	13.5	15.0	12.5	13.0
28	14.0	9.0	10.5	11.0	10.0	10.5	16.0	13.5	14.5	14.5	12.5	13.0
29	10.5	9.0	9.5	11.0	10.0	10.5	17.5	15.0	16.0	13.5	12.5	13.0
30	10.0	9.0	9.5	11.0	10.0	10.5	18.5	16.0	17.0	14.0	12.5	13.0
31	---	---	---	11.5	10.5	10.5	18.0	17.0	17.5	---	---	---
MONTH	17.0	8.0	11.0	---	---	---	---	---	---	19.0	12.5	14.0
YEAR	19.5	5.0	10.5									

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OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.1	4.9	6.0	5.1	4.6	4.8	---	---	---	---	---	---
2	8.1	5.6	6.3	6.5	4.6	5.2	---	---	---	---	---	---
3	6.8	5.1	6.0	6.3	5.2	5.7	---	---	---	---	---	---
4	9.4	4.9	6.3	6.6	5.0	5.9	---	---	---	---	---	---
5	---	---	---	6.4	4.7	5.4	---	---	---	---	---	---
6	---	---	---	6.0	5.1	5.6	---	---	---	---	---	---
7	---	---	---	5.8	5.2	5.5	---	---	---	---	---	---
8	---	---	---	5.9	4.8	5.4	---	---	---	---	---	---
9	---	---	---	6.1	5.0	5.5	---	---	---	---	---	---
10	5.4	3.5	4.5	5.7	4.8	5.2	7.5	7.0	7.4	---	---	---
11	5.4	2.8	4.4	5.5	4.4	4.7	8.0	7.5	7.7	---	---	---
12	5.5	3.3	4.3	5.5	4.9	5.2	8.2	7.7	8.0	---	---	---
13	4.9	3.6	4.3	5.5	4.3	4.8	8.7	8.2	8.5	---	---	---
14	5.1	3.2	4.3	5.2	4.4	4.8	8.8	8.6	8.7	---	---	---
15	5.3	3.6	4.3	6.3	4.4	5.2	8.7	8.6	8.7	---	---	---
16	6.0	4.9	5.6	6.4	5.5	5.8	9.0	8.7	8.8	---	---	---
17	6.9	5.6	6.3	7.1	5.2	6.3	9.2	8.9	9.0	---	---	---
18	6.9	4.8	5.7	6.5	5.1	5.6	9.3	8.6	8.9	---	---	---
19	6.3	4.8	5.5	7.4	5.3	6.7	9.0	8.8	8.9	---	---	---
20	6.4	5.4	5.9	---	---	---	9.1	8.7	8.9	---	---	---
21	6.6	5.0	5.7	---	---	---	9.2	9.0	9.1	---	---	---
22	17.0	12.0	13.5	---	---	---	9.7	9.2	9.4	---	---	---
23	---	---	---	---	---	---	9.8	9.5	9.6	---	---	---
24	---	---	---	---	---	---	10.1	9.5	9.7	---	---	---
25	---	---	---	---	---	---	9.9	9.6	9.7	---	---	---
26	---	---	---	---	---	---	9.9	9.7	9.8	---	---	---
27	---	---	---	---	---	---	10.2	9.7	9.9	---	---	---
28	---	---	---	---	---	---	10.3	9.7	9.9	---	---	---
29	---	---	---	---	---	---	10.5	9.8	10.0	11.6	10.7	11.2
30	5.7	4.6	5.0	---	---	---	---	---	---	11.5	10.7	11.1
31	5.4	4.8	5.0	---	---	---	---	---	---	11.2	10.6	10.9
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	11.0	10.7	10.8	11.3	10.1	10.7	---	---	---	10.1	7.7	8.7
2	10.8	10.7	10.8	11.5	10.0	10.6	---	---	---	10.6	7.7	8.9
3	11.3	10.5	10.8	---	---	---	---	---	---	10.3	8.0	9.2
4	11.3	10.8	11.0	---	---	---	---	---	---	10.0	8.6	9.2
5	11.1	10.6	10.9	---	---	---	---	---	---	11.7	8.5	8.9
6	11.3	10.6	10.8	---	---	---	---	---	---	9.0	8.4	8.6
7	11.2	10.7	11.0	---	---	---	---	---	---	9.5	7.8	8.6
8	11.5	11.1	11.3	---	---	---	---	---	---	9.3	8.0	8.6
9	11.8	11.2	11.5	---	---	---	---	---	---	9.5	7.7	8.7
10	11.8	10.7	11.1	---	---	---	10.7	10.0	10.3	10.1	7.6	8.8
11	11.7	10.6	11.0	---	---	---	10.1	9.5	9.8	12.0	8.8	9.9
12	11.6	10.6	11.0	---	---	---	10.0	8.6	9.4	9.9	8.2	9.0
13	11.5	10.7	11.0	10.6	8.9	9.4	9.9	8.4	9.0	9.5	7.9	8.7
14	11.7	10.5	10.9	10.1	8.8	9.3	9.6	8.5	8.9	9.5	7.9	8.7
15	11.8	11.1	11.4	10.5	8.9	9.5	10.5	8.1	8.9	9.6	8.1	8.9
16	12.0	11.3	11.5	10.9	8.9	9.6	10.4	7.7	8.7	9.8	7.9	8.8
17	11.7	10.9	11.2	9.8	8.8	9.3	9.6	8.3	9.0	9.9	7.9	8.9
18	12.0	10.7	11.1	9.4	8.4	8.9	9.4	7.9	8.7	10.6	8.3	9.7
19	11.0	10.5	10.7	10.2	8.8	9.3	9.3	8.0	8.7	10.7	8.3	9.3
20	11.2	10.4	10.7	10.9	9.0	9.6	9.7	8.3	8.8	10.2	8.0	9.1
21	11.7	10.7	11.2	11.5	9.0	9.9	9.4	8.0	8.7	---	---	---
22	11.4	10.5	10.8	12.2	9.5	10.2	10.7	8.2	9.1	---	---	---
23	11.5	10.5	10.9	12.4	9.4	10.4	10.1	8.3	9.0	---	---	---
24	10.9	10.4	10.5	---	---	---	9.8	8.3	8.8	---	---	---
25	10.9	10.2	10.5	---	---	---	9.6	8.5	8.9	---	---	---
26	11.5	10.0	10.5	---	---	---	9.7	8.4	8.8	---	---	---
27	10.9	10.1	10.4	---	---	---	9.5	8.2	8.7	---	---	---
28	11.7	10.3	10.7	---	---	---	9.7	8.2	8.9	12.6	10.5	11.5
29	---	---	---	---	---	---	10.6	8.2	9.0	11.6	7.2	9.3
30	---	---	---	---	---	---	9.5	8.1	8.7	9.7	7.4	8.1
31	---	---	---	---	---	---	---	---	---	9.1	7.2	8.1
MONTH	12.0	10.0	10.9	---	---	---	---	---	---	---	---	---

WHITE RIVER BASIN

07053600 LAKE TANAYCOMO AT THE SCHOOL OF THE OZARKS, MO--Continued
OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	JULY			AUGUST			SEPTEMBER		
							MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	10.4	7.3	8.3	7.8	4.4	5.4	8.9	7.2	8.0			
2	---	---	---	11.5	6.8	7.7	7.7	4.5	5.7	8.5	7.4	7.9			
3	---	---	---	8.5	6.4	7.3	10.6	5.4	7.0	7.9	5.1	6.6			
4	10.2	8.3	9.2	8.5	6.4	7.0	10.7	6.5	8.8	6.2	2.6	4.4			
5	10.7	8.5	9.5	9.9	6.4	7.4	10.5	6.2	8.1	5.3	2.3	3.9			
6	11.5	10.1	10.7	11.2	7.6	10.0	11.0	4.5	8.2	6.7	4.3	5.4			
7	11.5	9.6	10.5	9.3	7.1	7.7	7.8	4.2	5.9	7.8	5.2	6.8			
8	11.7	9.7	10.5	9.9	6.0	7.0	7.1	3.8	4.9	8.8	7.4	8.0			
9	12.5	9.4	11.2	9.2	5.9	6.7	5.8	4.2	4.6	8.0	6.4	7.2			
10	9.8	8.7	9.2	11.0	6.7	8.4	8.3	5.1	6.8	8.3	3.9	6.3			
11	11.9	8.6	10.3	11.8	8.5	9.2	7.9	3.8	5.6	6.0	3.8	4.9			
12	11.4	9.9	10.6	10.9	8.3	9.6	5.9	3.5	4.2	6.6	5.2	5.7			
13	11.6	8.4	9.6	11.6	9.8	10.8	6.7	3.8	4.5	7.7	5.5	6.4			
14	---	---	---	12.8	7.9	11.0	5.8	3.5	4.0	8.9	6.4	7.8			
15	---	---	---	8.8	7.0	7.6	5.9	3.4	4.0	8.0	4.5	6.5			
16	---	---	---	9.4	6.3	7.3	8.2	3.3	4.4	6.3	4.2	5.1			
17	---	---	---	10.0	6.7	7.4	7.5	3.3	5.7	6.6	4.2	5.4			
18	---	---	---	9.4	6.5	7.3	7.2	4.4	5.5	5.5	4.1	4.5			
19	---	---	---	10.1	5.9	7.0	8.0	3.8	5.3	7.0	3.7	4.4			
20	---	---	---	8.9	6.9	7.8	8.1	3.2	4.7	5.2	3.9	4.4			
21	---	---	---	11.3	7.7	9.0	5.4	3.9	4.6	5.4	3.7	4.3			
22	---	---	---	9.9	6.6	7.5	8.0	5.0	6.1	5.0	3.8	4.3			
23	12.3	8.5	9.6	8.7	5.4	6.3	7.0	5.0	6.0	4.9	3.6	4.3			
24	12.2	8.6	9.4	---	---	---	8.5	5.7	7.5	5.2	3.7	4.4			
25	10.0	7.6	8.6	6.4	4.6	5.0	8.3	4.2	6.9	5.3	3.9	4.7			
26	9.8	7.2	8.1	7.6	4.3	5.9	6.4	3.4	4.2	5.4	3.9	4.7			
27	10.9	6.9	8.0	9.9	4.8	7.0	5.0	3.5	4.2	7.0	4.3	5.0			
28	10.7	7.2	8.0	7.0	4.5	5.4	6.5	4.3	5.2	6.7	4.0	5.0			
29	9.9	6.7	7.8	8.6	4.6	5.7	7.9	5.9	6.9	6.3	4.4	5.2			
30	8.8	7.3	7.9	8.1	4.9	5.9	9.3	7.4	8.4	5.9	4.2	5.2			
31	---	---	---	7.5	5.0	5.8	9.0	7.6	8.4	---	---	---			
MONTH	---	---	---	---	---	---	11.0	3.2	5.9	8.9	2.3	5.6			

WHITE RIVER BASIN

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07053700 LAKE TANEYCOMO AT BRANSON, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 36°38'09", long 93°12'52", in SE¼NW¼ sec.4, T.22 N., R.21 W., Taney County, Hydrologic Unit 11010003, 1000 ft 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 1985 TO SEPTEMBER 1986

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)
OCT										
09...	1400	208	7.40	12.0	4.4	40	<10	K260	98	13
NOV										
15...	0740	211	7.20	13.0	5.6	52	12	1100	--	--
DEC										
06...	0730	212	7.50	12.0	8.0	72	<10	31	--	--
JAN										
08...	0730	218	8.00	7.0	10.6	84	<10	K10	110	6
FEB										
11...	0730	205	8.20	5.0	12.0	92	16	K5	--	--
MAR										
21...	0730	218	7.90	6.0	10.2	79	42	21	--	--
APR										
09...	0800	240	7.60	5.5	10.7	83	17	58	110	6
MAY										
13...	1400	240	7.80	8.5	11.1	94	<10	K4	--	--
JUN										
02...	1520	212	8.20	10.0	11.4	101	<10	130	--	--
JUL										
10...	0745	226	7.30	10.5	7.6	67	<10	140	110	11
AUG										
04...	1740	218	7.50	13.5	7.0	66	15	49	--	--
SEP										
18...	0745	210	7.00	11.5	5.5	50	12	100	--	--

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)	ALKA- LINITY WH WAT TOTAL 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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
OCT										
09...	32	4.3	3.2	1.6	85	6.6	9.2	4.3	<0.10	112
NOV										
15...	--	--	--	--	100	12	--	--	--	--
DEC										
06...	--	--	--	--	105	6.6	--	--	--	--
JAN										
08...	35	5.5	3.1	1.8	102	2.0	9.6	5.6	<0.10	121
FEB										
11...	--	--	--	--	99	1.3	--	--	--	--
MAR										
21...	--	--	--	--	103	2.5	--	--	--	--
APR										
09...	35	5.9	3.0	1.8	103	5.1	11	4.7	<0.10	135
MAY										
13...	--	--	--	--	104	3.3	--	--	--	--
JUN										
02...	--	--	--	--	102	1.3	--	--	--	--
JUL										
10...	34	5.3	2.9	1.7	93	9.3	7.8	4.7	<0.10	134
AUG										
04...	--	--	--	--	97	6.1	--	--	--	--
SEP										
18...	--	--	--	--	95	21	--	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

WHITE RIVER BASIN

07053700 LAKE TANEYCOMO AT BRANSON, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 09...	--	0.600	0.050	0.030	1	2	4	1	210
NOV 15...	1	0.500	0.090	0.020	--	--	--	--	--
DEC 06...	1	0.200	0.070	0.020	--	--	--	--	--
JAN 08...	1	0.400	0.010	0.010	<1	<1	6	2	70
FEB 11...	1	0.500	0.020	0.020	--	--	--	--	--
MAR 21...	1	0.600	<0.010	0.020	--	--	--	--	--
APR 09...	6	1.30	0.010	0.030	<1	<1	4	3	<10
MAY 13...	1	0.700	0.010	0.050	--	--	--	--	--
JUN 02...	57	0.700	0.020	0.020	--	--	--	--	--
JUL 10...	9	0.700	0.020	0.010	<1	<1	3	1	<10
AUG 04...	4	0.700	0.030	0.020	--	--	--	--	--
SEP 18...	4	0.600	0.030	0.030	--	--	--	--	--

[illegible]

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 downstream from Spring Creek, and 3.5 mi northeast of Tecumseh.

DRAINAGE AREA.--561 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 584.67 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to May 12, 1945, nonrecording gage at same site and datum 0.22 ft lower.

REMARKS.--Estimated daily discharges: Oct. 1, 24-27, April 21, 22, 28-30, and May 31 to June 1. Water discharge records good except estimated discharges, which are fair. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--42 years, 735 ft³/s, 17.79 in/yr, 532,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 133,000 ft³/s, Nov. 19, 1985, gage height, 28.10 ft, on basis of slope-area measurement of peak flow; minimum, 187 ft³/s, Sept. 14-18, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 19	1045	*133,000	*28.10	No other peak greater than base discharge.			

Minimum discharge, 338 ft³/s, Sept. 14, 26, 27, and 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	445	591	1640	716	488	718	623	912	930	687	430	362
2	446	611	1840	702	580	709	623	883	894	676	471	362
3	445	561	1570	688	1120	700	630	849	1190	665	459	359
4	445	517	1420	677	1340	686	666	833	1060	647	441	367
5	445	493	1310	659	1350	677	1370	828	966	632	429	367
6	445	483	1210	650	1280	671	1580	825	998	617	430	358
7	441	474	1140	638	1380	660	1340	812	1560	604	433	352
8	439	463	1090	617	1360	650	2540	802	1510	593	432	348
9	442	457	1050	603	1230	650	2390	797	1810	584	427	347
10	448	459	1040	604	1130	657	1760	806	1830	580	423	346
11	452	454	1220	602	1060	655	1490	1010	1660	577	413	356
12	469	475	1830	598	983	696	1320	1080	1400	577	406	356
13	557	584	1660	592	925	736	1190	1010	1200	622	403	349
14	601	711	1430	587	921	760	1140	938	1060	600	398	343
15	593	760	1260	578	900	745	1080	942	979	571	408	357
16	535	1180	1160	572	880	726	1000	919	914	548	417	358
17	495	1110	1080	572	911	710	973	905	856	532	411	362
18	488	1250	1020	572	961	718	945	888	809	520	398	364
19	497	45100	947	568	952	723	927	867	778	510	390	361
20	565	6430	923	558	918	699	954	836	756	502	385	352
21	577	3420	891	552	874	670	1000	813	735	492	380	347
22	545	2530	868	543	834	657	1000	804	718	484	376	345
23	518	2020	872	523	811	656	1020	817	2230	473	375	344
24	500	1710	864	513	798	653	1020	800	1380	470	375	344
25	485	1480	830	513	776	650	1000	802	1040	458	373	343
26	470	1340	803	510	770	650	992	808	886	467	370	340
27	460	1700	798	502	767	641	973	792	804	476	377	341
28	456	1950	770	500	743	635	960	803	761	494	379	344
29	455	1710	753	500	---	633	940	837	729	463	373	342
30	451	1520	740	492	---	631	925	1000	704	449	367	358
31	498	---	733	488	---	627	---	960	---	436	363	---
TOTAL	15108	82543	34762	17989	27042	21049	34371	26978	33147	17006	12512	10574
MEAN	487	2751	1121	580	966	679	1146	870	1105	549	404	352
MAX	601	45100	1840	716	1380	760	2540	1080	2230	687	471	367
MIN	439	454	733	488	488	627	623	792	704	436	363	340

CAL YR 1985	TOTAL	557501	MEAN	1527	MAX	45100	MIN	439
WTR YR 1986	TOTAL	333081	MEAN	913	MAX	45100	MIN	340

WHITE RIVER BASIN

07057500 NORTH FORK RIVER NEAR TECUMSEH, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1969 to June 1972, October 1978 to September 1979, November 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT										
22...	1320	539	370	8.20	16.5	10.2	103	<10	64	210
NOV										
20...	1220	5790	221	7.40	11.0	9.8	86	11	2200	--
DEC										
19...	1500	945	361	8.20	6.0	14.2	111	--	45	--
JAN										
23...	0830	532	356	8.10	7.5	12.8	103	16	K5	200
FEB										
11...	1100	1060	298	7.60	6.5	12.3	98	<10	62	--
MAR										
06...	0810	670	336	8.10	9.5	10.5	91	<10	K7	--
APR										
09...	0745	2530	236	8.20	13.0	10.3	96	23	3200	130
MAY										
14...	1020	945	344	8.40	17.0	9.8	101	<10	88	--
JUN										
09...	1300	1750	284	8.00	17.5	9.4	98	<10	1000	--
JUL										
16...	1050	545	368	8.10	20.0	9.4	102	--	K16	210
AUG										
11...	1120	415	392	7.90	19.5	9.0	97	<10	26	--
SEP										
17...	0940	364	388	7.90	17.0	8.8	90	120	100	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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										
22...	6	43	24	1.8	1.4	197	2.4	4.7	2.5	<0.10
NOV										
20...	--	--	--	--	--	109	8.7	--	--	--
DEC										
19...	--	--	--	--	--	157	2.0	--	--	--
JAN										
23...	9	41	24	1.6	1.2	187	3.0	4.9	2.9	<0.10
FEB										
11...	--	--	--	--	--	167	8.2	--	--	--
MAR										
06...	--	--	--	--	--	187	2.9	--	--	--
APR										
09...	0	27	15	1.3	1.5	127	1.6	9.8	2.2	<0.10
MAY										
14...	--	--	--	--	--	190	1.1	--	--	--
JUN										
09...	--	--	--	--	--	152	3.0	--	--	--
JUL										
16...	7	43	24	1.7	2.9	199	3.1	3.3	2.6	<0.10
AUG										
11...	--	--	--	--	--	207	5.2	--	--	--
SEP										
17...	--	--	--	--	--	211	5.1	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

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WATER QUALITY DATA. WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 22...	206	5	0.500	0.030	<0.010	1	<1	1	2	90
NOV 20...	--	44	0.500	0.030	0.050	--	--	--	--	--
DEC 19...	--	1	0.800	0.020	<0.010	--	--	--	--	--
JAN 23...	190	1	0.700	0.010	<0.010	<1	<1	1	<1	60
FEB 11...	--	9	0.700	0.010	<0.010	--	--	--	--	--
MAR 06...	--	1	0.700	0.010	0.020	--	--	--	--	--
APR 09...	144	39	0.500	0.040	0.040	<1	<1	5	1	500
MAY 14...	--	1	0.500	0.020	<0.010	--	--	--	--	--
JUN 09...	--	25	0.400	0.030	0.030	--	--	--	--	--
JUL 16...	201	3	0.600	0.030	0.010	<1	<1	3	1	110
AUG 11...	--	1	0.500	0.030	<0.010	--	--	--	--	--
SEP 17...	--	2	0.500	0.020	0.010	--	--	--	--	--

[illegible]

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, 49, and 72 at Lesterville, and 0.8 mi upstream from Black River.

DRAINAGE AREA.--94.5 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 655.34 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature and specific conductance were made during the year. Low flow regulated by Union Electric Company Taux Sauk pumped-storage power plant lower reservoir, 4 mi upstream, since Feb. 19, 1963, capacity 6,350 acre-ft.

AVERAGE DISCHARGE.--26 years, 120 ft³/s, 86,940 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,800 ft³/s, Nov. 19, 1985, gage height, 12.53 ft, on basis of contracted-opening and flow-over-road measurement of peak flow; no flow at times during 1963, 1964, 1971, 1983, and 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1935 reached a stage of about 13.8 ft from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 35,800 ft³/s, Nov. 19, gage height, 12.53 ft; minimum, 0.44 ft³/s, Aug. 30, 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	45	459	51	37	85	42	67	115	24	4.3	.62
2	72	68	406	55	28	37	39	65	186	7.6	4.0	.67
3	30	64	262	55	62	20	39	44	59	5.4	3.3	.75
4	7.2	27	199	47	340	4.0	49	25	47	4.9	1.2	.66
5	4.0	13	159	44	356	11	116	11	55	4.8	.81	4.9
6	3.2	18	174	21	206	57	109	32	74	4.7	.71	2.5
7	2.8	22	126	15	313	31	123	32	31	4.4	.65	.97
8	3.4	22	81	31	219	27	194	30	10	1.8	.57	.75
9	4.0	22	66	34	157	21	168	33	43	1.2	3.9	.58
10	4.2	26	124	37	129	14	94	36	185	.87	11	4.2
11	4.6	29	724	37	96	12	110	86	135	.83	15	1.8
12	4.9	34	844	37	104	209	81	113	83	37	2.4	1.4
13	5.4	1680	324	24	81	268	85	68	45	71	1.7	.95
14	9.7	607	141	12	73	164	90	76	50	41	1.9	.82
15	12	551	135	30	94	105	64	1200	72	22	14	.77
16	14	1720	116	31	75	93	44	3330	91	22	15	1.1
17	13	942	120	35	156	89	54	2580	16	24	10	1.2
18	13	742	81	37	131	185	58	533	8.7	28	1.9	91
19	26	13200	80	15	138	569	53	26	32	26	1.1	122
20	27	3210	78	25	121	254	56	27	32	23	1.0	9.4
21	12	2090	62	30	100	173	446	43	31	9.5	.94	5.0
22	5.7	1600	51	30	65	134	449	60	24	7.0	.98	4.0
23	11	620	46	33	78	100	219	115	15	3.9	.96	3.6
24	14	224	47	33	54	84	153	93	17	4.1	.84	14
25	14	128	47	35	67	79	160	185	23	4.3	.69	34
26	11	747	155	19	54	66	70	212	19	18	.61	34
27	9.4	2010	248	8.4	39	65	76	85	8.8	3.0	.63	33
28	9.2	2230	58	9.6	77	65	83	106	4.9	1.5	.57	33
29	5.8	1630	55	29	---	53	62	83	3.6	4.5	.48	33
30	18	1060	54	28	---	40	65	85	16	4.2	.46	33
31	28	---	43	15	---	57	---	122	---	4.7	.52	---
TOTAL	429.5	35381	5565	943.0	3450	3171.0	3451	9603	1532.0	419.20	102.12	473.64
MEAN	13.9	1179	180	30.4	123	102	115	310	51.1	13.5	3.29	15.8
MAX	72	13200	844	55	356	569	449	3330	186	71	15	122
MIN	2.8	13	43	8.4	28	4.0	39	11	3.6	.83	.46	.58
CAL YR 1985	TOTAL		122383.8	MEAN		335	MAX	13200	MIN		1.9	
WTR YR 1986	TOTAL		64520.46	MEAN		177	MAX	13200	MIN		.46	

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 downstream from Mayberry Branch, 7 mi southwest of Annapolis, 11 mi downstream from East Fork, and at mile 278.5.

DRAINAGE AREA.--484 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 569.72 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Aug. 21, 1942, at site 415 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Oct. 1-15, April 12, 13, and Aug. 10-17. Records good except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. Small regulation from upstream reservoir since Feb. 1963. U.S. Army Corps of Engineers gage-height and satellite telemeters at station.

AVERAGE DISCHARGE.--47 years, 593 ft³/s, 16.64 in/yr, 429,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 98,500 ft³/s, Nov. 19, 1985, gage height, 25.81 ft; minimum, 65 ft³/s, Aug. 16, 17, 18, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 7,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 19	1145	*98,500	*25.81	Nov. 27	2230	9,390	9.95

Minimum discharge, 132 ft³/s, Sept. 9, 10, 11, 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	240	510	1880	471	270	477	342	434	414	208	184	146
2	300	753	1950	478	289	374	320	393	512	214	170	143
3	250	653	1480	444	340	346	314	381	383	215	160	139
4	230	525	1230	454	671	306	321	328	300	206	149	139
5	215	415	1090	423	930	292	432	286	319	196	143	139
6	210	360	970	394	868	338	504	286	408	187	145	142
7	205	344	910	353	1040	308	578	284	502	181	176	137
8	200	323	800	354	1110	298	874	271	384	174	187	136
9	195	306	717	346	943	282	983	266	546	167	182	134
10	190	300	768	345	835	278	829	275	1100	161	200	132
11	190	343	1590	344	730	271	750	402	1030	160	250	137
12	185	348	3040	343	698	502	663	551	757	193	300	149
13	200	2120	1910	334	613	851	623	499	581	545	270	144
14	300	2200	1350	307	601	766	603	481	479	639	250	137
15	270	1260	1110	314	570	652	563	1920	449	442	300	132
16	227	3390	976	319	535	616	481	4750	456	343	350	133
17	219	2400	915	321	610	569	446	3680	360	290	325	138
18	211	1910	813	331	720	695	427	1920	286	261	290	258
19	300	44600	754	323	712	1250	417	942	276	239	258	696
20	334	11800	714	311	691	928	472	742	269	220	226	440
21	299	4710	659	316	627	739	813	645	256	197	201	310
22	264	3260	625	312	603	663	1050	568	243	178	182	260
23	246	2190	603	304	549	596	833	575	239	166	170	235
24	243	1450	603	302	524	532	730	543	269	159	163	236
25	236	1200	596	301	501	518	666	576	275	154	157	269
26	230	1920	591	289	470	461	603	684	256	160	154	257
27	222	6400	766	266	424	437	542	617	230	165	155	239
28	218	6420	581	254	415	416	522	566	214	216	166	228
29	223	3610	540	268	---	393	491	553	200	307	165	218
30	258	2540	519	276	---	352	452	496	198	241	157	207
31	309	---	489	264	---	343	---	543	---	205	148	---
TOTAL	7419	108560	31539	10461	17889	15849	17644	25457	12191	7389	6333	6210
MEAN	239	3619	1017	337	639	511	588	821	406	238	204	207
MAX	334	44600	3040	478	1110	1250	1050	4750	1100	639	350	696
MIN	185	300	489	254	270	271	314	266	198	154	143	132
CAL YR 1985	TOTAL		510869	MEAN	1400	MAX	44600	MIN	185			
WTR YR 1986	TOTAL		266941	MEAN	731	MAX	44600	MIN	132			

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 upstream from Brewer Bay, 4.5 mi west of Piedmont, and at mile 257.4.

DRAINAGE AREA.--898 mi².

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 U.S. Army Corps of Engineers).

REMARKS.--Lake is formed by earthfill type dam. Storage began June 3, 1948; conservation pool level reached July 4, 1948. Capacity at crest of spillway 413,700 acre-ft at elevation 567 ft, of which 391,800 acre-ft is available for flood-control storage, and 21,920 acre-ft is permanent storage which under normal operating conditions will be maintained for purposes of conservation and recreation at elevation 494 ft. Lake used for flood control and recreational purposes.

COOPERATION.--Records were provided by the U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 399,400 acre-ft, May 28, 1957, elevation, 565.59 ft; minimum, since initial filling to conservation pool level, 15,800 acre-ft, Jan. 20, 23, 1972, elevation, 490.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 242,000 acre-ft, Dec. 4, elevation, 547.39 ft; minimum, 21,500 acre-ft, Mar. 7, elevation, 493.77 ft.

RESERVOIR STORAGE (AC-FT), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28000	23500	239000	137000	22100	21900	22100	29500	35900	28200	27600	26800
2	27900	25100	241000	131000	22500	22000	22100	29300	34000	28100	27400	26700
3	27900	25600	242000	126000	22700	22000	22000	29100	31900	28000	27100	26700
4	27900	25300	242000	120000	23300	21900	22200	29000	29700	27700	26900	26600
5	27600	24900	242000	114000	24700	21700	22500	28700	29000	27400	27000	26600
6	27200	24300	238000	109000	25400	21600	23100	28700	28800	27500	27200	26600
7	26200	23500	234000	103000	25600	21500	26500	28700	28900	27900	27500	26700
8	24900	22700	230000	97300	26200	21600	31700	28700	29300	28300	27400	26700
9	23600	21900	225000	91000	25900	21600	33700	28600	30800	28600	27200	26700
10	22600	21600	221000	85400	25100	21600	33700	28700	34100	28800	27000	26700
11	21800	21800	219000	79500	23900	21800	33300	29000	35900	28700	27000	26800
12	21700	22300	220000	73600	23000	22400	32700	29400	35900	28600	27200	26700
13	21900	24500	218000	67500	22300	23700	31700	30000	35200	29200	27200	26500
14	22300	29800	214000	61600	22400	24700	30600	30600	35300	30100	26900	26500
15	22400	31700	211000	55700	22700	24800	29800	37200	34700	30300	26800	26500
16	22400	37400	206000	50100	22600	24600	28800	45400	33400	30300	26800	26400
17	22200	42100	202000	44600	22400	24300	28400	51100	31800	30200	26800	26400
18	22000	44500	197000	39400	22500	25200	28500	52500	30200	30000	26900	26500
19	23500	147000	192000	34200	22600	29000	28800	51200	29000	29800	26800	27000
20	24800	178000	187000	29100	22600	30500	29400	49200	28600	29600	26700	27000
21	25100	188000	184000	25200	22500	29600	30100	46900	28500	29600	26700	26900
22	24700	193000	184000	23100	22300	28000	30200	44500	28500	29500	26700	26500
23	24000	195000	184000	22200	22100	26200	29300	43000	28700	29600	26700	26200
24	23300	196000	181000	21900	21800	24300	29100	42800	28800	29700	26700	25800
25	22700	197000	175000	21800	21800	22900	29200	42700	28900	29700	26700	25600
26	22200	198000	170000	21800	21800	22200	29100	42300	29000	29800	26600	25400
27	22100	210000	165000	21800	21700	21900	29300	41000	28700	30000	26700	25100
28	22100	224000	159000	21900	21700	21900	29500	39500	28300	30100	26800	24800
29	22100	231000	154000	21900	---	22000	29600	38000	28200	30300	26900	24200
30	22000	236000	148000	22000	---	22100	29600	36600	28200	30100	26900	23600
31	22500	---	143000	22100	---	22100	---	36800	---	28700	26900	---

WTR YR 1986

(+)	494.36	546.46	531.19	494.08	493.88	494.12	498.40	501.94	497.61	497.90	496.91	495.02
(-)	-5900	+213500	-93000	-120900	-400	+400	+7500	+7200	-8600	+500	-1800	-3300
MAX	28000	236000	242000	137000	26200	30500	33700	52500	35900	30300	27600	27000
MIN	21700	21600	143000	21800	21700	21500	22000	28600	28200	27400	26600	23600

CAL YR 1985.....-88000

WTR YR 1986.....-4800

(+) Elevation, in feet NGVD, at end of month.

(-) Change in contents, in acre-feet.

WHITE RIVER BASIN

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07062500 BLACK RIVER AT LEEPER, MO

LOCATION.--Lat 37°03'32", long 90°41'12", in NE¼SE¼NE¼ sec.35, T.28 N., R.3 E., Wayne County, Hydrologic Unit 11010007, on downstream side of center pier of bridge on State Highway 49, 1 mi south of Leeper, 4 mi downstream from McKenzie Creek, 8 mi downstream from Clearwater Dam, and at mile 249.

DRAINAGE AREA.--987 mi².

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 416.54 ft above 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 downstream from Highway 34 at datum 3.85 ft lower. From Apr. 7, 1942 to Jan. 28, 1981, records were obtained from water-stage recorder attached to downstream pier on Highway 34 bridge.

REMARKS.--Estimated daily discharges: Nov. 30 to Dec. 11. Records good except for estimated daily discharges, which are fair. Flow regulated by Clearwater Lake (station 07062000) 8 mi upstream since June 3, 1948. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--65 years, 979 ft³/s, 709,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 78,400 ft³/s, May 14, 1933, gage height, 20.01 ft, site and datum then in use, from rating curve extended above 55,000 ft³/s; minimum, 62 ft³/s, Sept. 22-25, 1966, at site and datum then in use, result of closure of Clearwater Dam: minimum, prior to regulation, 133 ft³/s, Aug. 11, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1904 reached a stage of about 22.3 ft, at site and datum of gage operated from Apr. 7, 1942 to Jan. 28, 1981, from floodmarks, discharge, 125,000 ft³/s, from rating curve extended above 55,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,960 ft³/s, Dec. 17, gage height, 7.01 ft; minimum, 245 ft³/s, July 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	709	826	950	3890	493	804	734	942	1070	483	1070	378
2	594	813	1200	3850	506	783	728	930	1890	479	553	377
3	506	962	1400	3830	575	692	723	889	1890	476	451	374
4	490	1230	1500	3890	651	673	724	808	1870	548	441	375
5	530	1220	2300	3840	847	670	705	777	1470	553	405	369
6	631	1200	3000	3800	1030	669	695	762	870	465	285	320
7	736	1190	3600	3770	910	641	1320	670	836	290	274	311
8	1060	1170	3600	3760	1130	588	1510	661	835	264	315	309
9	1070	1150	3600	3820	1440	582	1240	659	641	255	493	315
10	1010	1030	3300	3860	1440	583	1980	653	795	249	517	339
11	837	747	3300	3820	1670	561	1970	663	957	308	516	343
12	656	592	3370	3840	1830	665	1940	655	1410	523	455	351
13	419	882	3760	3830	1810	620	1920	646	1670	473	457	395
14	455	1080	3910	3800	1700	670	1900	684	1080	330	515	386
15	473	1240	3880	3720	1440	949	1790	1350	1030	521	507	325
16	540	1620	3880	3700	1070	1110	1640	982	1600	539	454	368
17	564	1610	3940	3640	808	1090	1470	2210	1610	541	448	372
18	567	1660	3910	3520	908	1190	926	2600	1590	545	458	380
19	543	1860	3880	3390	1090	747	906	2580	1410	541	500	431
20	622	817	3840	3240	1090	783	1120	2550	980	500	490	605
21	721	676	3610	2970	1090	1790	1100	2550	683	434	431	617
22	912	1080	959	1980	1080	2130	1600	2530	634	411	390	618
23	1020	1550	1020	1190	1070	2110	2050	2050	560	348	388	619
24	1020	1580	1700	820	1060	2070	1760	1300	552	342	386	605
25	976	1620	3810	629	1050	1900	1270	1260	536	339	386	559
26	839	1760	3880	585	1050	1470	1230	1320	532	340	384	553
27	733	1460	3860	536	932	1140	1100	1890	562	350	387	552
28	553	704	3830	507	821	903	910	1930	661	349	364	550
29	651	586	3800	498	---	760	884	1910	606	361	288	628
30	699	850	3820	494	---	747	895	1880	491	470	362	794
31	654	---	3930	493	---	738	---	1090	---	812	376	---
TOTAL	21790	34765	96339	85512	30591	30828	38740	42381	31321	13439	13746	13518
MEAN	703	1159	3108	2758	1093	994	1291	1367	1044	434	443	451
MAX	1070	1860	3940	3890	1830	2130	2050	2600	1890	812	1070	794
MIN	419	586	950	493	493	561	695	646	491	249	274	309
CAL YR 1985	TOTAL		812951	MEAN	2227	MAX	4010	MIN	419			
WTR YR 1986	TOTAL		452970	MEAN	1241	MAX	3940	MIN	249			

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 upstream from bridge on U.S. Highway 60, 4.8 mi downstream from Indian Creek, and at mile 211.2.

DRAINAGE AREA.--1,245 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1936 to September 1937, October 1939 to current year. Gage-height records collected at site 1,800 ft downstream September 1923 to July 1935, and since July 1935 at site 1,500 ft downstream are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 317.48 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1940, nonrecording gage at site 1,500 ft downstream at datum 2.00 ft higher; Oct. 1, 1940, to June 7, 1955, at site 1,500 ft downstream at present datum. Prior to July 12, 1985 at datum .10 lower.

REMARKS.--Estimated daily discharges: Jan. 6-20. Water discharge records good except for estimated daily discharges, which are fair. Considerable regulation by Clearwater Lake (station 07062000) 46 mi upstream since, June 3, 1948. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--48 years, 1,329 ft³/s, 962,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,600 ft³/s, Dec. 4, 1982, computed from slope-area measurement, gage height, 21.68 ft; minimum, 180 ft³/s, Sept. 25, 26, 1966, closure of Clearwater Dam for repairs; minimum prior to regulation, 236 ft³/s, Aug. 12, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1904 reached a maximum discharge of 100,000 ft³/s, and flood on Mar. 12, 1935, reached a stage of 21.1 ft, present datum (affected by levees constructed since 1904).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,010 ft³/s, April 8, gage height, 14.73 ft; minimum, 420 ft³/s, July 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1420	956	1630	3860	740	1120	1070	1260	1400	713	912	497
2	980	1310	1720	3850	755	1060	1050	1250	1480	790	1080	501
3	818	1260	1720	3830	1020	1040	1030	1230	1970	695	772	503
4	710	1250	1820	3820	1540	1020	1020	1180	2020	678	653	511
5	666	1390	1870	3830	2540	1000	1160	1100	2020	723	627	504
6	676	1390	2140	3850	2010	1000	1270	1070	1630	726	590	495
7	750	1370	2920	3850	1960	989	2050	1030	1220	652	483	450
8	835	1340	3530	3900	2030	955	5370	956	1160	508	450	435
9	1060	1310	3640	3850	1950	900	4800	926	2160	461	469	431
10	1110	1300	3660	3800	2040	893	3050	913	3210	439	661	432
11	1080	1250	4030	3850	2160	882	2760	961	3170	428	681	455
12	963	1140	3860	3900	2130	1630	2560	940	2080	484	676	467
13	815	1020	3860	3900	2020	1830	2420	906	1990	704	629	467
14	631	1210	3950	3850	1820	1370	2330	949	1990	660	614	505
15	611	1360	3970	3850	1510	1260	2270	2590	1520	541	662	508
16	595	1600	3960	3800	1270	1400	2110	4520	1480	679	689	455
17	644	1860	3970	3750	1410	1480	1960	2720	1770	713	635	480
18	670	1900	3980	3700	1550	1590	1730	2860	1780	721	609	493
19	681	1970	3940	3600	1510	2970	1430	3040	1750	721	614	509
20	810	2520	3910	3400	1470	1980	2750	2970	1580	721	651	545
21	1110	1960	3880	3120	1450	1620	3760	2890	1260	689	640	686
22	1000	1370	3500	2850	1420	2190	2820	2860	1030	624	586	718
23	1090	1510	1800	2080	1410	2440	2510	2770	936	597	543	730
24	1160	1790	1600	1500	1390	2430	2600	2330	861	542	536	740
25	1150	1800	2230	1180	1350	2380	2230	1750	809	521	528	725
26	1110	1850	3490	1010	1250	2170	1800	1620	777	521	526	688
27	1010	2800	3750	921	1190	1810	1680	1660	756	581	523	682
28	912	3550	3800	863	1170	1500	1510	2030	781	552	525	679
29	771	2180	3800	806	---	1280	1330	2140	856	529	503	676
30	822	1490	3790	778	---	1140	1270	2090	802	533	439	744
31	894	---	3810	755	---	1100	---	1990	---	630	477	---
TOTAL	27554	49006	99530	91903	44065	46429	65700	57501	46248	19076	18983	16711
MEAN	889	1634	3211	2965	1574	1498	2190	1855	1542	615	612	557
MAX	1420	3550	4030	3900	2540	2970	5370	4520	3210	790	1080	744
MIN	595	956	1600	755	740	882	1020	906	756	428	439	431
CAL YR 1985		TOTAL	986050	MEAN	2702	MAX	15400	MIN	595			
WTR YR 1986		TOTAL	582706	MEAN	1596	MAX	5370	MIN	428			

WHITE RIVER BASIN

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07063000 BLACK RIVER AT POPLAR BLUFF, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT										
24...	0930	1160	221	8.30	18.5	8.5	89	18	42	120
NOV										
22...	0930	1320	155	8.00	10.5	9.8	85	16	K180	--
DEC										
17...	1245	3960	105	7.70	7.0	12.1	96	15	K90	--
JAN										
21...	1400	3130	215	7.80	7.0	9.0	73	11	K6	95
FEB										
12...	1450	2120	204	7.90	6.0	13.4	104	16	K9	--
MAR										
03...	1400	1030	214	7.80	9.0	12.9	109	<10	34	--
APR										
07...	1455	2050	144	8.20	17.0	10.8	110	30	1100	77
MAY										
12...	1550	932	206	8.20	21.0	7.9	87	13	56	--
JUN										
10...	1545	3630	96	7.70	22.0	8.0	90	<10	1700	--
JUL										
14...	1715	606	224	7.90	27.5	8.1	101	15	92	130
AUG										
12...	1455	675	258	7.50	25.5	7.8	93	<10	110	--
SEP										
15...	1450	512	376	7.90	22.0	8.7	98	<10	38	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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										
24...	12	25	14	2.0	1.2	108	1.1	8.7	2.2	<0.10
NOV										
22...	--	--	--	--	--	79	1.9	--	--	--
DEC										
17...	--	--	--	--	--	55	2.3	--	--	--
JAN										
21...	3	20	11	1.6	1.1	87	2.8	11	3.2	<0.10
FEB										
12...	--	--	--	--	--	101	2.5	--	--	--
MAR										
03...	--	--	--	--	--	102	3.4	--	--	--
APR										
07...	2	16	8.9	1.9	1.3	70	0.9	9.9	2.2	<0.10
MAY										
12...	--	--	--	--	--	106	1.3	--	--	--
JUN										
10...	--	--	--	--	--	49	1.9	--	--	--
JUL										
14...	6	26	15	2.0	1.1	116	3.0	6.6	2.5	<0.10
AUG										
12...	--	--	--	--	--	122	8.1	--	--	--
SEP										
15...	--	--	--	--	--	129	3.1	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07063000 BLACK RIVER AT POPLAR BLUFF, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 24...	133	19	0.200	0.020	0.010	<1	2	4	2	470
NOV 22...	--	13	0.300	0.050	0.030	--	--	--	--	--
DEC 17...	--	40	0.200	0.070	0.040	--	--	--	--	--
JAN 21...	113	14	0.300	0.010	0.020	<1	<1	2	1	640
FEB 12...	--	16	0.300	0.030	0.020	--	--	--	--	--
MAR 03...	--	8	0.300	<0.010	0.020	--	--	--	--	--
APR 07...	93	103	0.200	0.040	0.100	1	<1	7	5	2000
MAY 12...	--	11	0.300	0.030	0.020	--	--	--	--	--
JUN 10...	--	84	0.200	0.060	0.080	--	--	--	--	--
JUL 14...	127	31	0.300	0.020	0.030	<1	<1	3	2	630
AUG 12...	--	31	0.200	0.030	0.030	--	--	--	--	--
SEP 15...	--	14	0.200	0.020	0.030	--	--	--	--	--

[illegible]

WHITE RIVER BASIN

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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 upstream from bridge on State Highway 19, at Eminence, 1.5 mi downstream from Mahans Creek, and 8.0 mi upstream from mouth.

DRAINAGE AREA.--398 mi².

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 above National Geodetic Vertical Datum of 1929. Prior to Jan. 27, 1934, nonrecording gage at site 1,350 ft upstream at datum 2.11 ft higher. Jan. 27, 1934 to Jan. 10, 1935, nonrecording gage at site 75 ft downstream at datum 0.04 ft lower. Jan. 11, 1935 to July 9, 1964, nonrecording gage at site 50 ft downstream at present datum.

REMARKS.--Estimated daily discharges: July 1, 10, July 15 to Aug. 7, and Aug. 17 to Sept. 21. Records fair. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--65 years, 455 ft³/s, 15.52 in/yr, 329,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,800 ft³/s, Nov. 19, 1985, gage height, 17.58 ft, present site and datum; minimum, 64 ft³/s, Aug. 28, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in 1895 and March 1904 reached a stage of about 25 ft, present site and datum, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 19	1130	*55,800	*17.58	June 10	1345	4,720	6.33
Apr. 8	1500	6,250	7.34				

Minimum discharge recorded, 160 ft³/s, Sept. 29, but may have been less during period of missing record Aug. 1 to Sept. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	207	406	1370	453	250	362	354	258	345	272	195	173
2	206	454	1650	438	380	345	359	252	290	293	193	172
3	204	379	1300	439	1010	340	370	235	253	286	190	172
4	205	311	1100	429	1430	329	423	225	255	277	188	171
5	204	275	933	414	1350	314	1570	219	237	274	186	170
6	202	255	789	400	1250	306	1840	216	239	269	186	170
7	201	242	670	389	1560	297	1480	215	704	264	184	168
8	203	234	578	378	1320	296	3880	207	1150	264	186	168
9	204	224	521	356	1070	299	2770	203	1760	260	187	167
10	204	219	506	357	924	310	1860	210	3610	260	199	166
11	204	216	741	358	817	317	1400	245	2820	258	186	167
12	204	225	1750	350	722	514	1110	391	2040	281	182	183
13	256	265	1430	342	645	578	886	345	1520	286	180	175
14	303	434	1160	336	629	548	751	693	1150	269	182	170
15	256	450	988	328	604	488	714	632	943	260	207	165
16	255	672	881	321	595	442	635	488	758	250	259	180
17	239	729	811	314	730	410	553	467	600	240	230	188
18	231	899	741	314	927	435	497	420	513	230	210	210
19	227	23900	672	314	856	469	452	365	445	225	200	203
20	243	5220	648	305	753	429	498	317	412	222	195	195
21	238	2660	614	300	658	391	599	303	386	220	195	190
22	236	1960	590	292	589	374	702	284	367	216	186	186
23	233	1520	588	281	543	367	607	275	402	212	180	185
24	228	1240	595	275	512	364	526	296	410	210	180	191
25	221	1070	583	271	469	359	471	298	348	208	178	179
26	214	1050	546	268	448	353	412	366	319	222	175	174
27	211	1500	544	264	437	348	359	354	309	230	190	176
28	208	2140	512	261	397	345	335	335	295	220	185	174
29	222	1700	497	264	---	348	301	834	287	210	180	175
30	219	1350	501	260	---	358	272	578	282	205	180	185
31	300	---	473	251	---	360	---	402	---	200	175	---
TOTAL	6988	52199	25282	10322	21875	11795	26986	10928	23449	7593	5929	5348
MEAN	225	1740	816	333	781	380	900	353	782	245	191	178
MAX	303	23900	1750	453	1560	578	3880	834	3610	293	259	210
MIN	201	216	473	251	250	296	272	203	237	200	175	165

CAL YR 1985	TOTAL	354722	MEAN	972	MAX	24100	MIN	201
WTR YR 1986	TOTAL	208694	MEAN	572	MAX	23900	MIN	165

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 downstream from Pike Creek, 4.7 mi upstream from Big Creek, and at mile 90.4.

DRAINAGE AREA.--1,667 mi².

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 above National Geodetic Vertical Datum of 1929. Prior to Sept. 1, 1926, nonrecording gage at site 100 ft 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 and datum 3.00 ft higher, set to read same as gage 100 ft downstream.

REMARKS.--Estimated daily discharges: June 6 to July 6. Records fair. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--74 years, 1,920 ft³/s, 15.64 in/yr, 1,391,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 125,000 ft³/s, Aug. 21, 1915, gage height, 25.9 ft, present datum, minimum, 473 ft³/s, Oct. 7, 8, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1904, reached a stage of 29.0 ft, present datum, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 14,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 20	0445	*86,200	*26.53	No other peak greater than base discharge.			

Minimum discharge, 1,050 ft³/s, Oct. 7 and 9-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1090	2430	5890	2430	1600	2060	1850	2320	2910	1800	1440	1240
2	1080	2350	6270	2370	1700	2010	1830	2240	2630	1800	1440	1240
3	1080	1950	5670	2320	3180	1980	1840	2170	2380	1800	1420	1240
4	1080	1630	5020	2270	3650	1940	1880	2120	2260	1750	1390	1240
5	1070	1460	4580	2220	3770	1910	2670	2080	2210	1750	1370	1230
6	1060	1370	4170	2180	3670	1890	3930	2060	2300	1740	1380	1210
7	1060	1320	3800	2140	4240	1860	5360	2020	2500	1740	1420	1190
8	1060	1260	3520	2080	4130	1830	11000	1980	4500	1700	1420	1180
9	1060	1210	3270	2040	3680	1820	10900	1940	7000	1700	1410	1180
10	1060	1210	3120	2020	3310	1830	7010	1950	9400	1700	1440	1180
11	1060	1230	3550	2010	3050	1830	5570	2670	8000	1670	1530	1190
12	1070	1270	5680	1990	2810	2460	4830	2830	6200	1850	1470	1230
13	1080	1600	5820	1950	2610	2740	4300	2670	4500	1880	1390	1210
14	1420	1990	5090	1930	2550	2610	3970	2920	3900	1770	1360	1180
15	1340	2230	4560	1900	2470	2430	3670	4030	3500	1710	1350	1170
16	1200	3360	4210	1870	2390	2280	3430	4170	3300	1660	1420	1180
17	1150	3750	3950	1850	2690	2180	3200	3980	3100	1620	1450	1200
18	1120	3670	3720	1840	3070	2640	3030	3780	2900	1600	1400	1310
19	1490	26400	3480	1840	3150	3430	2920	3440	2700	1570	1350	1600
20	1370	59600	3330	1820	2980	2810	2990	3120	2600	1550	1330	1420
21	1300	12100	3190	1810	2770	2480	3330	2810	2500	1530	1300	1300
22	1230	8210	3080	1780	2600	2300	3310	2600	2350	1500	1290	1250
23	1190	6720	3050	1750	2450	2220	3210	2470	2300	1490	1280	1230
24	1170	5730	3020	1720	2360	2160	3030	2400	2300	1470	1360	1280
25	1130	5060	2940	1720	2270	2090	2880	2590	2200	1460	1290	1270
26	1100	4680	2840	1700	2210	2040	2750	3020	2100	1480	1320	1230
27	1080	6950	2790	1660	2190	2010	2620	3010	2000	1690	1310	1210
28	1070	9370	2720	1660	2130	1950	2570	2780	1950	1770	1350	1230
29	1110	7770	2630	1660	---	1930	2460	3840	1900	1600	1300	1190
30	1180	6310	2560	1650	---	1900	2350	3760	1850	1530	1260	1200
31	1320	---	2500	1620	---	1880	---	3260	---	1480	1250	---
TOTAL	35880	194190	120020	59800	79680	67500	114690	87030	100240	51360	42490	37210
MEAN	1157	6473	3872	1929	2846	2177	3823	2807	3341	1657	1371	1240
MAX	1490	59600	6270	2430	4240	3430	11000	4170	9400	1880	1530	1600
MIN	1060	1210	2500	1620	1600	1820	1830	1940	1850	1460	1250	1170
CAL YR 1985	TOTAL		1597210	MEAN		4376	MAX		61200	MIN		1060
WTR YR 1986	TOTAL		990090	MEAN		2713	MAX		59600	MIN		1060

WHITE RIVER BASIN

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07067500 BIG SPRING NEAR VAN BUREN, MO

LOCATION.--Lat 36°57'05", long 90°59'36", in SW¼NE¼ sec. 6, T.26 N., R.1 E., Carter County, Hydrologic Unit 11010008, on right bank 400 feet downstream from spring outlet, 0.4 mi upstream from Current River, and 3.5 mi southeast of Van Buren.

PERIOD OF RECORD.--October 1921 to current year. Prior to Oct. 1, 1923, published as "near Chicopee". Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1311: 1922-23, 1928(M), 1929.

GAGE.--Nonrecording gage. Datum of gage is 429.08 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 19, 1971, nonrecording gage; prior to Oct. 1, 1934 at datum 1.0 ft higher. Water-stage recorder Feb. 19, 1971 to March 15, 1978, at present datum.

REMARKS.--Estimated daily discharges: Nov. 17 to Dec. 8, Dec. 11-17, Feb. 7-9, Apr. 5-23, May 14-19, May 30, 31, and June 8-17. Records good except periods of estimated discharge due to backwater from Current River, which are poor. Several observations of water temperature and specific conductance were made during the year.

AVERAGE DISCHARGE.--65 years, 442 ft³/s, 320,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,000 ft³/s, estimated, Dec. 3, 1982, Feb. 24, 1985, and Nov. 21, 1985, during period of backwater from Current River; minimum, 236 ft³/s, Oct. 6, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,000 ft³/s, Nov. 21; minimum daily, 373 ft³/s, Oct. 1-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	373	432	1050	467	401	464	546	448	452	587	499	445
2	373	448	960	461	416	458	546	435	445	594	499	445
3	373	445	880	458	587	457	539	416	442	587	486	445
4	373	439	800	455	672	455	539	416	445	576	489	439
5	373	442	750	452	680	455	620	416	445	563	489	432
6	373	429	700	448	680	455	720	423	452	556	486	435
7	373	432	670	442	700	452	840	420	458	560	486	429
8	373	426	610	439	740	452	940	420	520	556	483	429
9	373	429	573	439	690	448	1100	416	700	556	483	429
10	373	423	542	435	668	448	950	423	900	556	483	429
11	373	426	600	435	612	448	850	442	1000	552	480	423
12	382	420	700	432	590	448	750	455	1050	556	474	423
13	385	423	900	429	576	470	680	455	980	556	474	423
14	388	435	780	426	552	489	630	470	900	542	474	416
15	391	439	740	426	552	506	600	500	860	539	467	416
16	395	470	700	423	566	526	570	600	820	536	467	416
17	398	500	650	420	573	526	546	570	790	533	467	416
18	401	520	604	420	570	566	520	550	760	529	464	410
19	404	600	552	420	570	619	540	535	727	526	458	410
20	407	1000	542	420	556	687	560	519	707	526	458	410
21	410	2000	533	420	539	656	580	493	684	516	458	404
22	407	1700	519	413	526	626	585	480	684	516	458	407
23	410	1500	515	416	519	612	570	474	668	509	452	407
24	407	1300	512	416	509	605	536	455	645	509	452	401
25	410	1200	508	413	503	590	523	467	634	509	452	401
26	410	1150	506	410	489	576	509	474	626	509	452	401
27	413	1100	500	407	467	563	489	455	612	516	452	395
28	407	1050	492	404	467	556	483	450	605	513	448	395
29	410	1300	485	404	---	559	476	460	594	506	445	395
30	423	1200	474	404	---	552	454	457	594	499	445	388
31	432	---	474	401	---	552	---	450	---	499	445	---
TOTAL	12193	23078	19821	13255	15970	16276	18791	14444	20199	16687	14525	12514
MEAN	393	769	639	428	570	525	626	466	673	538	469	417
MAX	432	2000	1050	467	740	687	1100	600	1050	594	499	445
MIN	373	420	474	401	401	448	454	416	442	499	445	388
CAL YR 1985		TOTAL	221189	MEAN	606	MAX	2000	MIN	373			
WTR YR 1986		TOTAL	197753	MEAN	542	MAX	2000	MIN	373			

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 upstream from U.S. Highway 160, 1 mi west of Doniphan, 2.5 mi upstream from Briar Creek, and at mile 51.3.

DRAINAGE AREA.--2,038 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1918 to current year. Prior to July 1921 monthly discharge only, published in WSP 1311.

REVISED REOCRDS.--WSP 877: 1937-38(M). WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 321.21 ft above National Geodetic Vertical Datum of 1929. July 1936 to Sept. 30, 1971, datum was 1.00 ft higher. Prior to July 3, 1936, nonrecording gages at several sites 0.5 mi downstream at various datum.

REMARKS.--Estimated daily discharges: Dec. 28, 31, Jan. 4, 5, and May 14-21. Water discharge records good. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--68 years, 2,774 ft³/s, 18.48 in/yr, 2,010,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 122,000 ft³/s, December 3, 1982, gage height, 25.49 ft, present site and datum, from contracted opening measurement; minimum, 852 ft³/s, Oct. 8-19, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1904 reached a stage of 25.9 ft, from floodmarks, present site and datum, discharge, 130,000 ft³/s, from rating curve extended above 60,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 14,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 20	2215	*85,900	*21.88	No other peak greater than base discharge.			

Minimum discharge, 1,490 ft³/s, Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1830	2940	6390	2770	1750	2550	2460	3100	3460	2480	1850	1590
2	1810	3730	6350	2710	1830	2480	2420	3020	3230	2480	1840	1590
3	1800	3330	6250	2650	2720	2440	2390	2910	3050	2460	1800	1610
4	1780	2940	5610	2600	4280	2400	2400	2830	2870	2420	1780	1600
5	1760	2620	5160	2550	4590	2370	3030	2760	2810	2350	1750	1580
6	1750	2420	4790	2500	4300	2330	4270	2710	3040	2280	1740	1560
7	1750	2300	4460	2440	4520	2290	5310	2660	3060	2230	1770	1540
8	1740	2210	4200	2380	4740	2250	9410	2600	4960	2190	1870	1520
9	1740	2120	3980	2320	4340	2220	12200	2550	10100	2160	1830	1510
10	1740	2070	3810	2250	3900	2230	9080	2510	10800	2120	1860	1510
11	1770	2090	3930	2230	3570	2230	6870	2810	9080	2120	1870	1520
12	1770	2120	4730	2210	3320	3080	5930	3270	6920	2180	1920	1550
13	1800	2200	5950	2180	3120	3570	5270	3270	5830	2420	1840	1550
14	1810	2610	5430	2180	3030	3440	4850	3500	5090	2290	1770	1520
15	1810	3020	4860	2180	2980	3260	4500	4000	4550	2200	1790	1500
16	1810	3400	4480	2120	2890	3070	4200	4700	4170	2130	1930	1510
17	1800	4270	4200	2070	2950	2910	3950	4500	3860	2080	1890	1520
18	1770	4210	3970	2050	3230	2910	3740	4250	3620	2040	1870	1560
19	1970	6100	3770	2050	3470	4370	3740	4200	3440	2000	1800	1750
20	2830	46600	3590	2030	3410	4150	4770	4000	3290	1960	1800	1880
21	2420	48500	3470	2010	3250	3640	5090	3750	3170	1930	1720	1690
22	2230	10400	3360	1980	3090	3340	4700	3540	3050	1900	1680	1610
23	2120	7690	3280	1940	2960	3160	4420	3360	3010	1880	1650	1560
24	2050	6540	3240	1900	2860	3030	4140	3200	3020	1860	1710	1550
25	1990	5770	3190	1880	2780	2920	3920	3190	2920	1840	1750	1590
26	1930	5260	3150	1850	2710	2820	3720	3330	2790	1830	1660	1560
27	1880	7070	3090	1810	2650	2750	3550	3540	2700	1930	1670	1520
28	1850	9410	3000	1790	2620	2660	3400	3420	2630	2160	1690	1510
29	1860	9090	2950	1790	---	2590	3310	3450	2570	2090	1670	1510
30	1930	7250	2880	1780	---	2540	3190	4160	2510	1970	1630	1500
31	2130	---	2820	1760	---	2500	---	3810	---	1890	1600	---
TOTAL	59230	220280	130340	66960	91860	88500	140230	104900	125600	65870	55000	47070
MEAN	1911	7343	4205	2160	3281	2855	4674	3384	4187	2125	1774	1569
MAX	2830	48500	6390	2770	4740	4370	12200	4700	10800	2480	1930	1880
MIN	1740	2070	2820	1760	1750	2220	2390	2510	2510	1830	1600	1500
CAL YR 1985		TOTAL	1935890	MEAN	5304	MAX	64400	MIN	1740			
WTR YR 1986		TOTAL	1195840	MEAN	3276	MAX	48500	MIN	1500			

WHITE RIVER BASIN

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07068000 CURRENT RIVER AT DONIPHAN, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1969 to July 1975, October 1979 to September 1980, October 1981 to September 1982, October 1983 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: March 1965 to September 1975.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 27.0°C several days during summer months in 1967, 1968, 1969; minimum, 2.5°C, Jan. 9, 10, 1970.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 23...	1200	2110	320	8.30	16.5	9.0	91	14	34	180
NOV 21...	0730	61200	125	7.20	12.0	8.6	76	47	3000	--
DEC 18...	1650	3920	254	7.90	7.0	11.8	94	110	K4	--
JAN 22...	1235	1980	304	8.20	8.5	12.4	102	26	K1	170
FEB 11...	1515	3540	276	7.90	6.5	12.1	96	19	K1	--
MAR 05...	1150	2360	286	7.70	10.0	11.4	100	<10	K4	--
APR 08...	1340	9450	216	7.80	16.0	9.0	90	47	1100	120
MAY 13...	1640	3250	276	8.80	20.5	9.4	103	19	23	--
JUN 10...	0700	10600	158	7.50	20.0	7.0	76	28	2700	--
JUL 15...	1710	2170	322	8.00	25.5	8.7	104	15	K3	170
AUG 11...	1535	1890	322	8.20	24.5	8.8	104	<10	K4	--
SEP 16...	1415	1510	336	7.90	20.0	9.6	103	<10	K7	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LITY WH WAT TOTAL 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 23...	18	37	21	1.9	0.90	162	1.6	3.9	2.4	<0.10
NOV 21...	--	--	--	--	--	63	7.5	--	--	--
DEC 18...	--	--	--	--	--	131	3.3	--	--	--
JAN 22...	4	35	20	1.8	0.80	164	2.0	4.5	2.3	<0.10
FEB 11...	--	--	--	--	--	150	3.7	--	--	--
MAR 05...	--	--	--	--	--	150	6.1	--	--	--
APR 08...	5	24	14	1.4	1.3	113	3.5	11	1.7	<0.10
MAY 13...	--	--	--	--	--	157	0.4	--	--	--
JUN 10...	--	--	--	--	--	84	5.2	--	--	--
JUL 15...	6	35	20	1.8	1.0	164	3.2	2.7	2.2	<0.10
AUG 11...	--	--	--	--	--	172	2.1	--	--	--
SEP 16...	--	--	--	--	--	179	4.5	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07068000 CURRENT RIVER AT DONIPHAN, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 23...	182	5	0.200	0.020	<0.010	<1	<1	4	2	160
NOV 21...	--	136	0.200	0.140	0.130	--	--	--	--	--
DEC 18...	--	2	0.400	0.020*	<0.010	--	--	--	--	--
JAN 22...	157	1	0.300	0.010	0.010	<1	<1	1	4	80
FEB 11...	--	5	0.300	0.020	<0.010	--	--	--	--	--
MAR 05...	--	1	0.300	0.020	0.020	--	--	--	--	--
APR 08...	129	288	0.300	0.040	0.080	<1	<1	10	8	2200
MAY 13...	--	1	0.200	0.010	<0.010	--	--	--	--	--
JUN 10...	--	169	0.200	0.060	0.100	--	--	--	--	--
JUL 15...	164	7	0.300	0.020	0.010	<1	<1	4	1	140
AUG 11...	--	19	0.200	0.030	0.010	--	--	--	--	--
SEP 16...	--	1	0.200	0.010	<0.010	--	--	--	--	--

[illegible]

07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO

LOCATION.--Lat 36°37'54", long 90°34'31", in NE¼SE¼NE¼ sec.24, T.23 N., R.4 E., Butler County, Hydrologic Unit 11010008, on left bank 200 ft east of river and just north of a gravel road, 5 mi below Beaverdam Creek and 3.1 mi southeast of Fairdealing.

DRAINAGE AREA.--194 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1980 to September 1986 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 295.18 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Water discharge records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,200 ft³/s, Dec. 3, 1982, gage height, 21.01 ft; minimum, 24 ft³/s, Sept. 7, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 28	1030	3,100	15.36	May 15	2300	*3,740	*15.99

Minimum discharge, 42 ft³/s, July 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	122	526	91	74	120	124	134	94	60	57	52
2	49	206	539	89	79	116	120	125	89	57	57	52
3	49	209	379	88	374	113	119	115	85	53	55	53
4	49	150	297	87	968	110	115	109	84	46	53	53
5	49	117	250	85	1730	107	190	104	90	50	55	54
6	49	98	215	84	828	104	292	98	99	43	55	52
7	49	90	190	84	544	102	597	92	113	44	54	51
8	48	84	174	82	413	100	1730	86	144	46	65	50
9	49	76	160	81	336	99	1300	82	1050	45	71	49
10	48	74	147	81	288	100	566	80	2210	43	64	50
11	51	78	443	81	256	100	372	97	2230	44	62	49
12	56	122	616	81	228	736	287	95	835	47	58	50
13	56	126	429	80	205	1140	237	86	365	51	56	50
14	59	118	321	80	210	800	213	306	253	52	55	51
15	81	121	252	79	246	395	199	3220	208	50	54	50
16	78	189	219	79	242	289	176	2970	178	48	62	49
17	65	235	198	79	282	240	160	1280	154	44	68	50
18	61	206	181	79	309	353	148	586	134	43	65	50
19	60	208	163	79	278	886	177	363	115	45	61	52
20	60	340	150	79	242	565	1470	260	101	44	59	51
21	93	288	139	78	213	355	2590	208	93	44	57	51
22	103	223	131	77	190	278	1530	179	87	43	55	50
23	109	180	128	76	173	241	608	167	82	45	54	50
24	83	153	124	76	160	217	378	159	78	54	55	51
25	77	136	113	77	149	198	288	151	75	58	57	50
26	73	131	105	76	140	181	236	147	73	73	56	50
27	69	1130	102	74	134	171	201	137	72	82	52	49
28	66	2790	100	74	126	160	177	127	71	108	51	48
29	65	1580	97	74	---	150	158	125	70	67	51	48
30	62	651	94	74	---	142	143	113	67	61	51	48
31	71	---	92	75	---	133	---	102	---	57	53	---
TOTAL	1987	10231	7074	2479	9417	8801	14901	11903	9399	1647	1778	1513
MEAN	64.1	341	228	80.0	336	284	497	384	313	53.1	57.4	50.4
MAX	109	2790	616	91	1730	1140	2590	3220	2230	108	71	54
MIN	48	74	92	74	74	99	115	80	67	43	51	48
CAL YR 1985	TOTAL	103141	MEAN	283	MAX	8520	MIN	44				
WTR YR 1986	TOTAL	81130	MEAN	222	MAX	3220	MIN	43				

WHITE RIVER BASIN

07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1980 to September 1986 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: May 1981 to September 1986 (discontinued).

SUSPENDED-SEDIMENT DISCHARGE: July 1980 to September 1986 (discontinued).

INSTRUMENTATION.--Water temperature recorder since May 1981.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 31.0°C, several days in July, 1980; minimum, 0.0°C on many days.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 643 mg/L, Aug. 16, 1982; minimum daily mean, 1 mg/L on many days.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 11,100 tons, Dec. 2, 1982; minimum daily, 0.12 tons, Dec. 19, 1982.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 30.0°C July 17, 18, 19, 20, 31; minimum, 0.5°C, Dec. 26, Jan. 9.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 318 mg/L, May 15; minimum daily mean, 1 mg/L on many days.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 2,760 tons, May 15; minimum daily, 0.13 tons, Jan. 11, 12, 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOC- CI, FECAL, KF AGAR (COLS./ 100 ML) (31673)	ALKA- LINITY WH WAT TOTAL FIELD CACO3 (MG/L AS 00410)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
NOV												
21...	1230	291	130	7.30	10.5	12	9.2	80	2100	760	65	17
JAN												
21...	1630	78	250	8.10	8.0	1.9	11.6	96	20	K11	--	1
MAR												
05...	0735	107	192	7.60	8.0	2.8	10.4	86	K16	84	101	4
MAY												
13...	1140	87	194	8.20	21.5	15	6.9	77	130	96	--	25
JUL												
15...	0815	50	262	7.80	27.0	4.0	5.7	70	K52	110	140	9
SEP												
15...	1655	49	322	7.90	21.0	2.8	6.2	68	76	78	--	12

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	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)
NOV											
21...	--	<0.010	0.200	0.040	0.16	0.20	0.40	1.8	0.030	0.09	0.020
JAN											
21...	--	<0.010	<0.100	0.010	0.19	0.20	--	--	0.010	--	0.010
MAR											
05...	--	<0.010	<0.100	0.020	--	<0.10	--	--	0.020	--	<0.010
MAY											
13...	--	<0.010	0.100	0.060	0.34	0.40	0.50	2.2	0.040	--	0.020
JUL											
15...	0.080	0.020	0.100	0.300	0.40	0.70	0.80	3.5	0.030	--	0.010
SEP											
15...	--	<0.010	<0.100	0.030	0.37	0.40	--	--	0.030	--	<0.010

K--Results based on colony count outside the acceptable range (non-ideal colony count).

WHITE RIVER BASIN

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07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	15.5	14.5	15.0	13.5	13.0	13.5	10.5	9.5	10.5	4.0	3.0	3.5
2	14.5	14.0	14.0	13.0	12.0	12.5	9.5	6.0	7.5	4.0	2.5	3.5
3	14.5	12.5	13.5	12.0	11.0	11.5	6.5	5.0	5.5	4.5	3.0	3.5
4	14.5	13.0	14.0	11.0	10.5	11.0	5.5	5.0	5.5	5.0	3.5	4.5
5	14.5	13.0	14.0	11.0	10.0	10.5	6.5	5.5	6.0	4.5	3.0	4.0
6	14.0	12.5	13.5	11.0	9.5	10.0	6.0	5.0	5.5	4.0	3.0	3.5
7	14.0	12.0	13.0	11.0	10.0	10.5	5.5	5.0	5.0	3.5	2.5	3.0
8	14.5	13.0	14.0	11.0	10.0	10.5	6.5	5.5	6.0	2.5	1.5	2.0
9	15.5	14.5	15.0	11.5	10.5	11.0	7.0	6.0	6.5	2.0	.5	1.5
10	17.0	15.0	16.0	14.0	11.5	13.0	8.5	7.0	7.5	2.5	1.0	1.5
11	17.5	17.0	17.0	14.0	13.5	13.5	10.0	8.5	9.5	3.0	1.5	2.5
12	18.5	17.0	18.0	15.0	13.0	14.0	9.0	7.5	8.0	3.5	2.5	3.0
13	19.5	18.0	19.0	15.5	14.5	15.0	7.5	5.5	6.5	4.0	3.0	3.5
14	20.0	19.0	19.5	16.0	15.5	16.0	5.5	3.0	4.0	4.5	3.0	4.0
15	19.5	18.5	19.0	15.5	15.5	15.5	3.5	2.5	3.0	4.0	3.0	4.0
16	18.5	17.5	18.0	15.0	14.0	14.5	3.5	2.5	3.0	5.5	3.0	4.0
17	17.5	16.5	17.0	14.0	13.0	13.0	4.0	3.0	3.5	7.0	5.5	6.0
18	17.5	17.0	17.5	14.5	13.0	13.5	4.0	3.0	3.5	8.0	7.0	7.5
19	18.5	17.5	18.5	16.0	14.5	15.5	3.5	1.5	2.5	8.0	7.5	7.5
20	19.5	18.5	19.0	15.5	11.5	14.0	2.0	1.0	1.5	7.5	6.5	7.0
21	19.5	19.0	19.0	11.0	9.5	10.5	2.0	1.0	1.5	8.0	6.5	7.5
22	19.0	18.0	18.5	9.5	9.0	9.5	3.0	1.5	2.5	8.0	7.0	7.5
23	18.5	18.0	18.0	9.0	9.0	9.0	4.5	3.0	3.5	7.5	6.5	6.5
24	19.5	18.5	19.0	9.0	8.5	9.0	5.5	3.5	4.5	6.5	5.5	6.0
25	19.0	18.0	18.5	9.0	8.5	9.0	3.5	1.5	2.5	6.0	5.5	6.0
26	18.0	16.5	17.0	11.0	9.5	10.5	1.5	.5	1.0	6.0	4.5	6.0
27	16.5	15.5	16.0	11.0	9.5	10.0	2.5	1.0	2.0	4.5	2.5	3.0
28	16.0	15.0	15.5	9.5	9.0	9.0	3.0	1.5	2.5	2.5	2.0	2.5
29	15.0	14.5	15.0	9.0	8.5	9.0	3.0	2.0	2.5	3.5	2.5	3.0
30	14.5	14.0	14.5	10.0	9.0	9.5	3.0	1.5	2.5	3.5	3.0	3.5
31	14.0	13.5	13.5	---	---	---	4.0	3.0	3.5	5.0	3.5	4.0
MONTH	20.0	12.0	16.5	16.0	8.5	12.0	10.5	.5	4.5	8.0	.5	4.5
FEBRUARY			MARCH			APRIL			MAY			
1	7.0	5.0	6.0	8.5	7.0	7.5	19.0	16.0	17.5	20.5	19.0	20.0
2	9.5	7.0	8.0	8.5	6.5	7.5	18.5	17.5	18.0	20.0	18.5	19.0
3	10.5	9.0	10.0	9.5	7.5	8.5	18.0	17.5	17.5	18.5	17.0	18.0
4	11.0	10.5	11.0	10.0	8.5	9.0	19.0	16.0	17.5	18.0	16.0	17.0
5	11.0	11.0	11.0	9.0	8.0	8.5	16.0	14.5	15.0	18.5	16.0	17.5
6	11.0	9.0	10.0	10.0	8.0	9.5	16.5	15.0	15.5	21.0	18.0	19.5
7	9.0	8.0	8.5	10.0	8.5	9.5	17.5	16.5	17.0	22.5	20.0	21.0
8	8.0	7.0	7.5	9.5	7.5	8.5	---	---	---	23.5	21.0	22.0
9	7.0	6.0	6.5	11.0	8.5	9.5	---	---	---	23.5	21.5	22.5
10	6.0	3.0	4.5	13.0	10.5	12.0	---	---	---	23.0	21.5	22.5
11	3.0	2.0	2.5	13.5	11.0	12.5	---	---	---	22.5	21.0	21.5
12	2.5	2.0	2.5	12.0	10.0	11.0	---	---	---	22.5	20.5	21.5
13	2.5	2.0	2.0	12.0	11.0	11.0	---	---	---	23.0	21.0	22.0
14	2.5	2.0	2.5	11.0	10.5	11.0	---	---	---	22.0	16.0	20.5
15	3.0	2.0	2.5	11.0	10.0	10.5	---	---	---	20.0	17.5	19.0
16	5.0	3.0	3.5	11.0	10.5	11.0	---	---	---	21.0	19.0	20.0
17	8.5	5.0	7.0	12.0	11.0	11.5	15.0	14.0	14.5	21.0	20.5	20.5
18	10.0	8.5	9.0	13.5	11.5	12.0	15.0	14.5	14.5	20.5	19.0	19.5
19	11.0	10.0	10.5	11.5	10.5	11.0	16.0	14.5	15.0	19.0	18.0	18.5
20	11.0	10.0	10.5	10.0	9.0	9.5	15.5	13.5	14.5	18.5	18.0	18.0
21	10.5	9.0	9.5	9.0	8.5	8.5	14.0	12.5	13.5	18.0	17.5	17.5
22	9.0	8.0	8.5	8.5	8.0	8.5	14.0	12.5	13.5	17.5	17.0	17.0
23	9.0	8.0	8.5	11.0	8.5	10.0	14.0	13.0	13.5	17.0	16.5	17.0
24	9.0	8.0	8.5	12.5	11.0	12.0	15.5	14.0	14.5	18.0	17.0	17.5
25	9.0	8.0	8.5	14.5	12.5	14.0	18.0	15.5	17.0	18.0	17.5	17.5
26	10.0	8.0	9.0	14.5	13.5	14.0	19.0	17.5	18.5	18.5	17.5	18.0
27	10.0	9.0	10.0	14.5	12.0	13.5	20.0	18.5	19.0	19.5	17.5	19.0
28	9.0	8.0	8.5	15.5	13.5	14.5	20.0	19.0	19.5	20.5	19.0	20.0
29	---	---	---	17.0	14.5	16.0	19.5	18.0	19.0	21.5	20.0	20.5
30	---	---	---	18.0	15.5	17.0	20.0	18.5	19.0	22.5	20.5	21.5
31	---	---	---	17.5	16.0	17.0	---	---	---	23.0	21.0	22.0
MONTH	11.0	2.0	7.5	18.0	6.5	11.0	---	---	---	23.5	16.0	19.5

WHITE RIVER BASIN

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07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	50	13	1.7	122	18	6.0	526	14	20
2	49	12	1.6	206	20	11	539	17	25
3	49	12	1.6	209	22	13	379	9	9.3
4	49	11	1.5	150	15	5.9	297	6	5.0
5	49	10	1.4	117	11	3.4	250	5	3.4
6	49	10	1.4	98	10	2.5	215	7	3.9
7	49	10	1.4	90	11	2.6	190	4	2.3
8	48	13	1.6	84	11	2.4	174	6	2.9
9	49	12	1.5	76	9	1.8	160	6	2.6
10	48	10	1.2	74	9	1.8	147	9	3.5
11	51	14	1.9	78	15	3.1	443	118	155
12	56	24	3.6	122	16	5.1	616	22	36
13	56	23	3.5	126	21	7.1	429	16	19
14	59	16	2.5	118	12	3.9	321	6	5.2
15	81	13	2.7	121	13	4.4	252	5	3.3
16	78	24	5.1	189	16	8.1	219	5	2.8
17	65	13	2.2	235	16	10	198	3	1.8
18	61	27	4.5	206	15	8.2	181	3	1.6
19	60	19	3.1	208	19	11	163	3	1.4
20	60	14	2.3	340	44	40	150	4	1.7
21	93	19	4.8	288	20	16	139	1	.49
22	103	21	5.9	223	12	7.1	131	2	.73
23	109	19	5.6	180	10	4.9	128	2	.83
24	83	19	4.2	153	7	2.9	124	2	.69
25	77	17	3.6	136	7	2.6	113	2	.63
26	73	20	3.9	131	12	4.3	105	2	.59
27	69	16	3.0	1130	184	665	102	2	.63
28	66	12	2.1	2790	146	1100	100	3	.77
29	65	13	2.2	1580	35	148	97	5	1.3
30	62	13	2.1	651	18	32	94	4	1.1
31	71	14	2.7	---	---	---	92	7	1.8
TOTAL	1987	---	86.4	10231	---	2134.1	7074	---	315.26
JANUARY			FEBRUARY			MARCH			
1	91	3	.65	74	4	.71	120	9	2.9
2	89	1	.27	79	11	2.3	116	7	2.0
3	88	2	.37	374	47	47	113	12	3.7
4	87	2	.42	968	59	168	110	16	4.8
5	85	3	.67	1730	50	236	107	8	2.3
6	84	2	.56	828	14	32	104	7	1.9
7	84	2	.46	544	11	16	102	6	1.6
8	82	2	.38	413	10	11	100	7	1.9
9	81	1	.30	336	8	7.7	99	14	3.8
10	81	1	.15	288	7	5.7	100	11	2.9
11	81	1	.13	256	4	2.5	100	14	3.8
12	81	1	.13	228	3	1.9	736	206	488
13	80	1	.13	205	4	2.0	1140	104	319
14	80	1	.20	210	5	2.8	800	112	241
15	79	1	.25	246	5	3.2	395	64	68
16	79	3	.73	242	7	4.4	289	35	27
17	79	5	1.0	282	14	11	240	24	15
18	79	2	.47	309	15	13	353	23	22
19	79	3	.62	278	16	12	886	55	133
20	79	3	.74	242	8	5.5	565	37	56
21	78	3	.69	213	8	4.5	355	26	25
22	77	6	1.2	190	7	3.4	278	22	16
23	76	4	.89	173	8	3.9	241	21	13
24	76	1	.17	160	5	2.1	217	22	13
25	77	3	.61	149	8	3.1	198	23	12
26	76	9	1.9	140	14	5.4	181	22	11
27	74	2	.38	134	9	3.2	171	30	14
28	74	2	.42	126	9	3.0	160	26	11
29	74	4	.83	---	---	---	150	18	7.4
30	74	4	.81	---	---	---	142	19	7.2
31	75	3	.57	---	---	---	133	22	7.7
TOTAL	2479	---	17.10	9417	---	613.31	8801	---	1537.9

WHITE RIVER BASIN

07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	124	19	6.5	134	40	15	94	22	5.5
2	120	16	5.1	125	37	12	89	21	5.0
3	119	18	5.8	115	36	11	85	30	6.8
4	115	26	8.2	109	26	7.8	84	34	7.7
5	190	26	13	104	28	7.8	90	40	9.6
6	292	238	210	98	29	7.7	99	29	7.9
7	597	99	159	92	37	9.2	113	29	8.9
8	1730	123	575	86	38	8.8	144	25	9.8
9	1300	44	153	82	37	8.1	1050	89	300
10	566	28	43	80	35	7.5	2210	92	549
11	372	18	18	97	44	11	2230	35	211
12	287	18	14	95	44	11	835	34	76
13	237	31	20	86	30	7.0	365	33	32
14	213	39	23	306	94	165	253	35	24
15	199	28	15	3220	318	2760	208	35	19
16	176	18	8.5	2970	192	1530	178	29	14
17	160	16	6.8	1280	62	213	154	27	11
18	148	27	11	586	41	64	134	26	9.3
19	177	66	32	363	35	34	115	19	5.8
20	1470	258	1020	260	29	21	101	21	5.6
21	2590	116	813	208	24	13	93	23	5.9
22	1530	35	143	179	22	10	87	19	4.4
23	608	27	44	167	19	8.7	82	23	5.2
24	378	26	26	159	23	9.7	78	18	3.9
25	288	26	20	151	26	10	75	18	3.7
26	236	26	16	147	22	8.9	73	19	3.8
27	201	20	11	137	22	8.2	72	19	3.7
28	177	20	9.7	127	26	9.0	71	23	4.5
29	158	22	9.5	125	26	8.9	70	19	3.6
30	143	31	12	113	20	6.1	67	15	2.8
31	---	---	---	102	23	6.3	---	---	---
TOTAL	14901	---	3451.1	11903	---	5009.7	9399	---	1359.4
JULY			AUGUST			SEPTEMBER			
1	60	13	2.2	57	27	4.2	52	12	1.7
2	57	14	2.2	57	19	3.0	52	12	1.7
3	53	10	1.5	55	19	2.9	53	10	1.5
4	46	10	1.3	53	29	4.2	53	6	.80
5	50	13	1.8	55	36	5.3	54	14	2.0
6	43	16	1.9	55	16	2.4	52	15	2.2
7	44	9	1.1	54	15	2.2	51	13	1.8
8	46	10	1.3	65	33	5.8	50	19	2.6
9	45	11	1.4	71	32	6.2	49	11	1.5
10	43	15	1.8	64	35	6.0	50	5	.64
11	44	10	1.2	62	22	3.6	49	9	1.2
12	47	10	1.3	58	15	2.3	50	10	1.4
13	51	13	1.8	56	21	3.2	50	9	1.2
14	52	17	2.3	55	24	3.5	51	11	1.5
15	50	13	1.8	54	19	2.8	50	11	1.5
16	48	9	1.2	62	17	2.8	49	14	1.9
17	44	11	1.3	68	16	3.0	50	12	1.7
18	43	13	1.6	65	16	2.9	50	10	1.3
19	45	10	1.2	61	15	2.5	52	11	1.5
20	44	6	.68	59	16	2.5	51	11	1.5
21	44	6	.69	57	15	2.3	51	11	1.5
22	43	7	.81	55	14	2.0	50	11	1.4
23	45	9	1.1	54	12	1.8	50	11	1.4
24	54	18	2.6	55	14	2.1	51	11	1.5
25	58	26	4.1	57	18	2.8	50	11	1.4
26	73	27	5.4	56	16	2.4	50	11	1.4
27	82	46	10	52	10	1.4	49	11	1.4
28	108	47	14	51	10	1.4	48	11	1.4
29	67	27	4.9	51	16	2.2	48	11	1.4
30	61	27	4.4	51	17	2.4	48	12	1.6
31	57	41	6.3	53	13	1.9	---	---	---
TOTAL	1647	---	85.18	1778	---	94.0	1513	---	45.54
YEAR	81130		14748.99						

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 mi downstream from Cypress Ditch and at the northwest corner of Success.

DRAINAGE AREA.--386 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1986 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 265.89 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges Nov. 20-27, and Dec. 2-5. Water discharge records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 8,630 ft³/s, Dec. 5, 1982, gage height, 25.45 ft; minimum, 11 ft³/s, August 12, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,900 ft³/s, May 19, minimum, 18 ft³/s, July 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	219	1970	164	97	182	205	264	200	100	87	48
2	52	261	1800	159	101	169	196	233	178	89	81	52
3	53	308	1600	155	541	163	188	212	166	78	79	42
4	52	292	1400	149	1020	154	186	196	189	73	72	49
5	51	232	1250	145	1350	149	345	184	316	75	59	58
6	50	188	1060	139	1390	144	470	172	468	76	31	66
7	49	162	791	135	1320	137	698	159	903	79	30	72
8	50	145	603	132	1230	133	1740	153	708	58	67	73
9	49	136	464	128	1140	132	2140	147	955	56	335	64
10	51	131	320	127	977	155	2320	143	1570	52	293	55
11	60	133	681	125	818	158	2150	162	1940	45	239	54
12	58	208	1110	124	639	699	1820	176	2010	49	157	56
13	63	315	1060	120	506	1140	1470	179	1840	51	103	56
14	91	288	929	117	428	1140	1110	177	1630	63	65	56
15	103	256	782	116	586	1120	794	1450	1380	68	50	57
16	114	340	615	112	628	960	608	2020	1070	60	54	55
17	117	404	461	111	612	834	434	2260	736	50	64	56
18	99	385	391	110	569	734	294	2730	512	56	87	60
19	84	378	334	111	509	1080	370	2900	314	50	84	69
20	76	500	299	111	430	1150	1220	2620	212	46	70	64
21	72	550	276	111	349	977	1690	2180	176	45	56	59
22	100	500	263	112	299	977	1760	1700	154	35	53	59
23	121	400	255	107	268	680	1800	1270	143	27	51	58
24	120	300	247	106	250	488	1880	811	128	24	52	57
25	108	260	230	104	236	340	1800	651	113	19	51	56
26	98	240	212	102	219	288	1500	489	105	22	48	54
27	90	800	201	100	204	266	1100	316	100	35	47	53
28	85	1980	192	99	191	252	769	261	125	219	48	52
29	82	2130	186	94	---	243	562	248	124	308	48	51
30	82	2070	179	96	---	226	398	254	116	207	51	49
31	105	---	169	96	---	212	---	230	---	127	48	---
TOTAL	2438	14511	20310	3717	16907	15482	32017	24947	18581	2342	2660	1710
MEAN	78.6	484	655	120	604	499	1067	805	619	75.5	85.8	57.0
MAX	121	2130	1970	164	1390	1150	2320	2900	2010	308	335	73
MIN	49	131	169	94	97	132	186	143	100	19	30	42
CAL YR 1985	TOTAL		234767	MEAN		643	MAX	5390	MIN		21	
WTR YR 1986	TOTAL		155622	MEAN		426	MAX	2900	MIN		19	

WHITE RIVER BASIN

07068600 LITTLE BLACK RIVER AT SUCCESS, AR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1980 to September 1986 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: August 1980 to September 1986 (discontinued).

SUSPENDED-SEDIMENT DISCHARGE: October 1980 to September 1986 (discontinued).

INSTRUMENTATION.--Water temperature recorder since August 1980.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURE: Maximum, 39.5°C on many days in Aug. 1980; minimum, 0.0°C on many days.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,390 mg/L, Jan. 24, 1982; minimum daily mean, <1 on many days.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 13,900 tons, Jan. 24, 1982; minimum daily, 0.16 tons, Jan. 15, 16, 19, 21, 22, 1981.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 32.5°C, July 22; minimum, 0.5°C, Dec. 26, Jan. 10.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 417 mg/L, Nov. 21; minimum daily mean, 2 mg/L, Jan. 11, 16, 28.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 1,460 tons, May 15; minimum daily, 0.57 tons, Jan. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3 (00410)	SOLIDS, RESIDUE DEG. C, SUS- PENDE (MG/L) (00530)
NOV												
21...	1600	550	85	7.20	10.5	230	8.6	74	4100	760	47	270
JAN												
22...	1000	114	248	8.10	6.5	4.0	11.4	88	110	K18	--	1
MAR												
05...	0930	151	218	8.60	8.5	6.6	11.8	99	K44	110	110	13
MAY												
13...	1345	178	224	8.40	22.0	27	6.9	78	140	160	--	63
JUL												
15...	1445	70	276	7.80	28.0	7.5	6.9	86	110	160	132	25
SEP												
16...	1215	55	308	7.80	20.5	4.7	8.2	89	160	200	--	11

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	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)
NOV											
21...	0.040	0.160	0.200	0.340	0.76	1.1	1.3	5.8	0.240	0.74	0.100
JAN											
22...	--	<0.010	<0.100	0.020	0.28	0.30	--	--	0.030	--	0.020
MAR											
05...	--	<0.010	<0.100	0.020	0.08	0.10	--	--	0.050	--	0.020
MAY											
13...	0.190	0.010	0.200	0.070	0.53	0.60	0.80	3.5	0.110	--	0.040
JUL											
15...	0.190	0.010	0.200	0.030	1.2	1.2	1.4	6.2	0.080	--	0.040
SEP											
16...	--	<0.010	<0.100	0.030	0.37	0.40	--	--	0.060	--	0.030

K--Results based on colony count outside the acceptable range (non-ideal colony count).

WHITE RIVER BASIN

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07068600 LITTLE BLACK RIVER AT SUCCESS, AR--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.5	15.0	16.0	13.0	12.0	12.0	8.5	8.0	8.0	3.0	2.0	2.5
2	15.0	13.5	14.5	12.0	11.0	11.5	8.0	4.5	6.0	3.0	2.0	2.5
3	15.0	13.0	14.0	11.0	11.0	11.0	4.5	3.0	3.5	3.0	2.5	3.0
4	15.5	14.0	14.5	11.0	10.5	11.0	3.0	3.0	3.0	3.5	3.0	3.0
5	15.5	14.0	14.5	10.5	10.0	10.0	3.0	3.0	3.0	3.0	2.0	2.5
6	14.5	12.5	13.5	10.5	9.5	10.0	3.0	3.0	3.0	2.5	2.0	2.0
7	14.5	12.5	13.5	10.5	10.0	10.0	3.0	2.5	3.0	2.5	2.0	2.5
8	16.0	14.0	15.0	10.0	9.5	9.5	4.5	3.0	4.0	2.0	1.0	1.5
9	17.0	15.5	16.5	11.0	9.5	10.0	5.0	4.5	4.5	1.5	1.0	1.0
10	18.5	17.0	17.5	12.5	11.0	11.5	6.5	5.5	6.0	1.5	.5	1.0
11	19.0	18.5	18.5	12.5	11.0	12.0	8.0	6.5	7.5	2.0	1.0	1.5
12	19.5	18.5	19.5	13.5	11.0	12.0	8.0	7.0	7.5	3.0	2.0	2.5
13	21.0	19.5	20.5	14.5	13.5	14.0	7.0	4.5	6.0	3.0	2.5	2.5
14	21.0	20.5	21.0	15.0	14.5	14.5	4.5	3.0	3.5	3.0	2.0	2.5
15	21.0	20.0	20.5	15.0	14.5	14.5	3.0	2.5	2.5	3.0	2.5	3.0
16	17.5	16.5	17.0	14.5	13.0	14.0	3.0	2.5	3.0	4.0	2.5	3.0
17	16.5	15.5	16.0	13.0	12.5	13.0	3.0	3.0	3.0	6.0	4.0	5.0
18	17.5	16.5	17.0	14.5	13.0	13.5	3.0	2.5	3.0	6.5	6.0	6.0
19	18.5	17.5	18.0	15.5	14.5	15.0	2.5	1.5	2.0	6.5	6.0	6.0
20	19.5	18.5	19.0	15.0	12.0	13.5	2.0	1.5	1.5	6.0	5.5	6.0
21	19.0	18.5	18.5	12.0	10.0	10.5	1.5	1.0	1.5	7.0	5.5	6.0
22	18.5	17.5	18.0	10.5	9.5	10.0	2.0	1.5	1.5	7.0	6.0	6.5
23	18.0	17.5	17.5	9.5	8.5	9.0	3.0	2.0	2.5	6.0	5.5	5.5
24	19.0	17.5	18.5	8.5	7.5	8.0	3.5	3.0	3.0	5.5	5.5	5.5
25	19.0	17.0	18.0	7.5	7.0	7.5	2.5	1.5	2.0	6.0	5.5	5.5
26	17.0	15.5	16.0	11.0	7.5	9.0	1.0	.5	1.0	6.0	5.0	5.5
27	15.5	15.0	15.5	11.0	9.0	10.0	2.0	1.0	1.5	5.0	2.0	3.0
28	15.5	15.0	15.5	9.0	8.0	8.5	2.5	2.0	2.0	2.5	2.0	2.0
29	15.0	14.5	14.5	8.0	7.5	7.5	2.5	2.0	2.0	3.5	2.5	3.0
30	14.5	13.0	13.5	8.0	7.5	7.5	2.5	1.5	2.0	3.5	3.0	3.5
31	13.0	12.5	13.0	---	---	---	3.0	2.5	3.0	4.5	3.0	3.5
MONTH	21.0	12.5	16.5	15.5	7.0	11.0	8.5	.5	3.5	7.0	.5	3.5
	FEBRUARY			MARCH			APRIL			MAY		
1	6.5	4.5	5.5	8.5	7.5	8.0	17.0	16.5	16.5	20.5	19.5	20.0
2	7.5	6.5	7.0	9.0	7.5	8.0	17.0	16.0	16.5	20.5	19.0	19.5
3	10.0	7.0	9.0	9.5	8.5	9.0	18.0	16.5	17.0	19.5	18.0	18.5
4	11.0	10.0	10.5	10.0	9.0	9.5	18.0	17.5	18.0	18.5	17.5	18.0
5	11.5	11.0	11.0	9.5	8.5	9.0	17.5	16.5	17.0	19.0	17.5	18.5
6	11.5	10.0	11.0	9.5	8.5	9.0	18.5	17.5	18.0	21.0	19.0	20.0
7	10.0	8.5	9.0	9.5	9.0	9.5	19.0	18.5	18.5	21.5	20.5	21.0
8	8.5	7.0	7.5	9.0	8.0	9.0	18.0	17.5	17.5	22.0	21.0	21.5
9	7.0	6.0	6.5	10.5	9.0	9.5	18.0	16.0	17.0	22.5	21.5	22.0
10	5.5	3.0	4.5	12.5	9.5	11.0	17.0	15.5	16.0	22.0	21.5	22.0
11	3.0	2.5	2.5	12.5	11.0	12.0	17.0	16.0	16.5	22.0	21.5	21.5
12	2.5	2.5	2.5	11.0	10.5	11.0	18.0	17.5	17.5	23.0	21.5	22.0
13	2.5	2.0	2.5	11.5	11.0	11.0	19.0	18.0	18.5	23.0	22.0	22.5
14	4.0	2.5	3.5	12.5	11.5	12.0	20.5	19.0	20.0	23.5	22.5	22.5
15	2.5	2.0	2.5	11.5	11.0	11.0	19.5	16.0	18.0	22.0	21.0	21.0
16	3.5	2.5	2.5	11.5	11.0	11.0	16.0	14.5	15.5	24.0	21.5	22.5
17	6.5	3.5	5.0	12.0	11.0	11.5	15.5	14.5	15.0	24.5	23.5	24.0
18	8.0	6.5	7.5	13.0	11.5	12.5	15.5	15.5	15.5	24.0	22.5	23.0
19	9.5	8.0	9.0	12.5	12.0	12.5	16.5	15.0	15.5	22.5	21.5	22.0
20	9.5	8.5	9.0	12.0	10.5	11.0	16.5	15.0	15.5	22.0	21.0	21.5
21	9.0	8.5	9.0	10.5	9.0	10.0	15.0	14.0	14.5	22.0	20.5	21.0
22	8.5	8.0	8.0	9.5	8.5	9.0	15.0	13.0	14.0	21.5	19.5	20.5
23	8.5	8.0	8.0	9.5	8.5	9.0	16.0	14.0	15.0	20.0	18.5	19.0
24	8.5	8.5	8.5	11.0	9.5	10.5	18.0	15.5	16.5	21.0	20.0	20.5
25	9.0	8.0	8.0	12.0	11.0	11.0	20.5	17.5	18.5	21.0	20.5	20.5
26	9.5	8.0	8.5	12.5	12.0	12.0	21.0	19.5	20.5	21.0	20.0	20.5
27	9.5	9.0	9.5	13.5	12.0	12.5	21.0	20.5	21.0	21.0	20.0	20.5
28	9.5	8.0	8.5	14.0	12.5	13.5	21.0	20.0	20.5	21.5	20.5	21.0
29	---	---	---	15.0	13.5	14.0	20.5	19.5	20.0	23.0	21.0	22.0
30	---	---	---	16.5	14.5	15.5	20.5	20.0	20.0	23.5	22.0	23.0
31	---	---	---	17.0	15.5	16.5	---	---	---	24.0	23.0	23.5
MONTH	11.5	2.0	7.0	17.0	7.5	11.0	21.0	13.0	17.5	24.5	17.5	21.0

WHITE RIVER BASIN

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07068600 LITTLE BLACK RIVER AT SUCCESS, AR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	53	24	3.5	219	117	69	1970	50	268
2	52	25	3.5	261	88	62	1800	44	215
3	53	26	3.7	308	71	59	1600	36	156
4	52	23	3.2	292	77	61	1400	38	144
5	51	23	3.2	232	47	30	1250	46	155
6	50	19	2.6	188	39	20	1060	38	108
7	49	20	2.7	162	31	13	791	49	104
8	50	21	2.8	145	23	8.9	603	64	103
9	49	24	3.2	136	33	12	464	63	79
10	51	27	3.7	131	56	20	320	65	56
11	60	48	7.9	133	98	35	661	80	153
12	58	37	5.8	208	106	59	1110	85	254
13	63	33	5.5	315	112	95	1060	46	131
14	91	48	12	288	87	67	929	51	127
15	103	36	9.9	256	59	41	782	45	95
16	114	31	9.7	340	80	74	615	43	71
17	117	41	13	404	81	88	461	31	39
18	99	41	11	385	84	87	391	25	26
19	84	36	8.1	378	74	76	334	16	15
20	76	34	6.9	500	182	532	299	16	13
21	72	40	7.8	550	417	620	276	15	11
22	100	42	11	500	214	289	263	14	9.9
23	121	43	14	400	156	168	255	8	5.5
24	120	59	19	300	83	67	247	9	5.9
25	108	69	20	260	64	45	230	12	7.3
26	98	63	17	240	65	42	212	11	6.1
27	90	46	11	800	147	318	201	6	3.1
28	85	41	9.3	1980	80	430	192	8	4.0
29	82	28	6.2	2130	37	213	186	6	2.9
30	82	29	6.5	2070	38	213	179	4	1.8
31	105	56	16	---	---	---	169	6	2.6
TOTAL	2438	---	259.7	14511	---	3913.9	20310	---	2372.1
JANUARY			FEBRUARY			MARCH			
1	164	6	2.9	97	4	1.1	182	18	8.8
2	159	6	2.4	101	52	23	169	11	5.0
3	155	5	2.3	541	205	300	163	11	4.8
4	149	6	2.5	1020	154	424	154	12	4.9
5	145	5	2.1	1350	190	692	149	17	6.9
6	139	4	1.3	1390	155	581	144	21	8.3
7	135	5	1.9	1320	70	251	137	29	11
8	132	3	1.2	1230	29	98	133	27	9.8
9	128	4	1.5	1140	31	94	132	27	9.7
10	127	3	1.2	977	34	89	155	31	13
11	125	2	.57	818	41	91	158	56	24
12	124	3	1.1	639	50	87	699	258	486
13	120	6	1.9	506	46	62	1140	155	477
14	117	6	1.8	428	29	33	1140	105	324
15	116	6	1.8	586	37	58	1120	79	239
16	112	2	.74	628	46	77	960	70	182
17	111	5	1.5	612	69	115	834	65	147
18	110	6	1.7	569	101	155	734	116	229
19	111	4	1.2	509	80	110	1080	191	557
20	111	4	1.2	430	58	68	1150	122	378
21	111	7	2.1	349	58	55	977	65	173
22	112	7	2.1	299	40	32	977	55	146
23	107	3	.90	268	38	27	680	107	196
24	106	6	1.6	250	23	15	488	81	106
25	104	3	.90	236	17	11	340	72	66
26	102	3	.89	219	16	9.4	288	67	52
27	100	4	1.1	204	18	9.8	266	61	44
28	99	2	.67	191	19	9.7	252	54	36
29	94	3	.86	---	---	---	243	53	35
30	96	3	.88	---	---	---	226	56	34
31	96	5	1.3	---	---	---	212	61	35
TOTAL	3717	---	46.11	16907	---	3578.0	15482	---	4048.2

WHITE RIVER BASIN

07068600 LITTLE BLACK RIVER AT SUCCESS, AR--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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	205	66	37	264	84	60	200	127	69
2	196	107	56	233	98	62	178	138	66
3	188	69	35	212	109	62	166	139	62
4	186	174	87	196	94	50	189	235	120
5	345	266	248	184	84	42	316	159	135
6	470	151	192	172	82	38	468	201	253
7	698	355	669	159	86	37	903	185	450
8	1740	199	935	153	77	32	708	134	255
9	2140	94	542	147	76	30	955	206	531
10	2320	60	376	143	95	37	1570	142	601
11	2150	56	325	162	127	56	1940	140	733
12	1820	51	250	176	79	37	2010	63	344
13	1470	64	254	179	100	48	1840	59	292
14	1110	75	225	177	116	55	1630	65	287
15	794	72	154	1450	373	1460	1380	71	267
16	608	66	108	2020	149	813	1070	79	227
17	434	74	87	2260	144	882	736	96	190
18	294	78	62	2730	151	1110	512	116	161
19	370	138	138	2900	132	1030	314	121	103
20	1220	185	611	2620	122	862	212	117	67
21	1690	95	432	2180	106	624	176	112	53
22	1760	74	350	1700	98	452	154	102	42
23	1800	68	333	1270	104	358	143	94	36
24	1880	62	317	811	195	427	128	101	35
25	1800	62	303	651	115	202	113	95	29
26	1500	56	228	489	112	148	105	81	23
27	1100	56	168	316	199	170	100	72	20
28	769	61	127	261	127	90	125	77	26
29	562	67	102	248	122	81	124	84	28
30	398	75	81	254	122	83	116	76	24
31	---	---	---	230	127	79	---	---	---
TOTAL	32017	---	7832	24947	---	9517	18581	---	5529
JULY			AUGUST			SEPTEMBER			
1	100	72	20	87	37	8.8	48	28	3.6
2	89	60	14	81	36	7.8	52	25	3.5
3	78	61	13	79	34	7.2	42	32	3.7
4	73	72	14	72	33	6.4	49	28	3.6
5	75	62	13	59	32	5.0	58	38	5.9
6	76	58	12	31	21	1.8	66	40	7.1
7	79	49	10	30	25	2.1	72	41	8.0
8	58	42	6.6	67	55	9.9	73	36	7.1
9	56	44	6.7	335	180	163	64	37	6.4
10	52	63	9.0	293	88	70	55	36	5.4
11	45	48	5.9	239	82	53	54	34	5.0
12	49	41	5.4	157	69	29	56	27	4.2
13	51	33	4.5	103	56	16	56	22	3.3
14	63	31	5.4	65	42	7.3	56	25	3.8
15	68	48	8.9	50	45	6.1	57	27	4.2
16	60	57	9.1	54	58	8.4	55	26	3.9
17	50	62	8.4	64	54	9.3	56	24	3.6
18	56	49	7.4	87	40	9.5	60	26	4.3
19	50	51	7.0	84	36	8.1	69	34	6.3
20	46	54	6.6	70	38	7.3	64	29	5.0
21	45	38	4.5	56	50	7.5	59	26	4.2
22	35	42	4.0	53	25	3.6	59	22	3.4
23	27	38	2.7	51	36	5.0	58	24	3.7
24	24	52	3.3	52	29	4.0	57	24	3.6
25	19	46	2.3	51	24	3.3	56	22	3.2
26	22	32	1.9	48	31	4.0	54	23	3.3
27	35	32	3.0	47	29	3.7	53	23	3.2
28	219	124	73	48	39	5.1	52	24	3.3
29	308	134	111	48	43	5.6	51	26	3.6
30	207	91	51	51	40	5.5	49	24	3.2
31	127	50	17	48	31	4.1	---	---	---
TOTAL YEAR	2342 155622	---	460.6 38176.61	2660	---	487.4	1710	---	132.6

WHITE RIVER BASIN

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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 downstream from lower outlet of spring, 1 mi north of Greer, and 1 mi 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 above National Geodetic Vertical Datum of 1929. Aug. 10 to Dec. 31, 1904, nonrecording gage at site 250 ft downstream at different datum. Nov. 17, 1921, to June 25, 1934, nonrecording gage at site 250 ft downstream at datum 0.74 ft lower than present datum.

REMARKS.--No estimated daily discharges. Records good. Occasional runoff from drainage area of 2.97 mi² included in records. U.S. Forest Service maintained gage and supplied discharge measurements through September 30, 1986.

AVERAGE DISCHARGE.--65 years, 339 ft³/s, 245,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,770 ft³/s, Dec. 3, 1982, includes about 930 ft³/s surface runoff, gage height, 2.97 ft, from rating curve extended above 700 ft³/s, maximum excluding surface runoff, 942 ft³/s, Dec. 3, 1982; minimum, 104 ft³/s, Nov. 16-19, 1956, Jan. 18, 19, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 624 ft³/s, Nov. 20, 21, gage height, 1.37 ft; minimum daily, 266 ft³/s, Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	372	377	588	438	381	395	316	386	390	377	333	288
2	368	377	582	438	386	395	312	381	390	377	329	288
3	368	377	577	433	414	390	312	381	395	377	329	285
4	372	372	565	433	453	390	312	377	395	377	325	285
5	372	372	554	428	468	390	419	381	395	372	325	285
6	372	372	542	428	478	390	414	381	400	368	325	281
7	368	368	537	423	494	377	419	377	419	368	325	281
8	368	368	526	423	499	377	499	377	438	363	325	281
9	368	363	515	423	494	368	494	372	473	359	325	277
10	372	368	510	419	489	368	489	372	515	359	321	281
11	372	368	510	419	483	359	478	386	515	355	321	277
12	372	368	515	414	473	372	473	400	499	355	317	277
13	372	368	515	414	463	377	463	400	483	359	317	277
14	372	368	515	409	458	377	453	395	468	359	312	273
15	372	372	510	409	458	368	443	395	453	359	312	273
16	372	395	499	405	453	359	428	395	443	359	312	277
17	372	395	494	400	453	350	419	395	433	355	312	277
18	372	404	494	395	453	355	409	395	428	355	308	281
19	372	565	489	386	443	377	409	400	423	355	308	281
20	372	624	483	386	438	368	419	401	414	350	308	281
21	372	624	478	386	428	359	423	395	409	350	308	277
22	371	618	473	381	419	346	419	405	400	346	304	277
23	363	612	473	381	419	346	419	405	395	346	304	277
24	363	600	468	381	414	341	414	400	395	341	300	277
25	363	588	468	386	409	333	409	390	390	337	300	277
26	363	588	463	386	399	333	404	390	390	337	296	273
27	363	612	458	386	404	333	400	386	386	337	296	269
28	363	612	453	386	399	329	400	381	381	337	296	269
29	363	600	448	386	---	329	390	386	377	333	295	269
30	363	594	448	381	---	329	386	386	372	333	292	266
31	372	---	443	381	---	325	---	390	---	333	288	---
TOTAL	11439	13989	15593	12544	12422	11205	12444	12061	12664	10988	9668	8337
MEAN	369	466	503	405	444	361	415	389	422	354	312	278
MAX	372	624	588	438	499	395	499	405	515	377	333	288
MIN	363	363	443	381	381	325	312	372	372	333	288	266
CAL YR 1985	TOTAL		193318	MEAN	530	MAX	809	MIN	363			
WTR YR 1986	TOTAL		143354	MEAN	393	MAX	624	MIN	266			

WHITE RIVER BASIN

07071500 ELEVEN POINT RIVER NEAR BARDLEY, MO

LOCATION.--Lat 36°38'55", long 91°12'03", in NE¼SE¼ sec.17, T.23 N., R.2 W., Oregon County, Hydrologic Unit 11010011, on downstream side of right pier of main truss of bridge on U.S. Highway 160, 7 mi southwest of Bardley, 7.5 mi upstream from Fredericks Fork, and at mile 53.7.

DRAINAGE AREA.--793 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 827: 1927-28, 1935. WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 410.84 ft above National Geodetic Vertical Datum of 1929. Prior to June 26, 1934, nonrecording gage at site 100 ft upstream at datum 0.06 ft higher. June 26, 1934 to Oct. 19, 1939, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Nov. 27 to Dec. 9, Dec. 21 to Jan. 20, Jan. 23 to Feb. 11, and Feb. 16 to March 4. Water discharge records poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--65 years, 771 ft³/s, 13.20 in/yr, 558,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,800 ft³/s, Dec. 3, 1982, gage height, 21.64 ft; minimum, 152 ft³/s, Jan. 27, 1956 and Jan. 11, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 19.7 ft in August 1915, from floodmarks, discharge, 44,000 ft³/s, from rating curve extended above 25,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 20	0645	*12,700	*12.10	June 10	0430	5,050	7.39
Apr. 8	1415	10,200	10.86				

Minimum discharge, 432 ft³/s, Sept. 28, 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	511	762	1350	700	565	750	789	1080	784	783	606	498
2	507	787	1300	695	800	720	779	1030	802	775	637	497
3	506	700	1250	690	1000	710	776	1000	880	755	630	496
4	505	643	1200	690	1200	710	781	971	951	740	615	497
5	499	607	1150	685	1300	710	2010	961	867	727	614	491
6	496	590	1110	680	1250	708	1640	942	900	712	614	483
7	492	573	1060	675	1600	697	1750	919	1150	699	611	477
8	491	553	1020	675	1400	683	6820	897	1160	687	621	473
9	491	544	992	670	1300	683	3440	876	2580	676	606	472
10	491	539	976	665	1250	688	2310	868	3900	667	614	471
11	493	529	981	660	1200	680	1990	923	2490	662	591	477
12	491	531	1060	660	1150	873	1790	998	1960	681	573	475
13	496	535	1060	655	1090	1030	1650	955	1680	693	567	467
14	537	532	1050	650	1080	963	1580	915	1510	652	562	460
15	514	539	1010	645	1070	913	1470	993	1380	631	566	464
16	495	576	989	640	1030	870	1380	1010	1280	623	582	464
17	485	611	965	635	1000	840	1310	979	1190	618	567	468
18	484	626	938	630	1100	921	1260	956	1110	613	550	474
19	578	2570	898	625	1150	1520	1250	922	1070	610	544	468
20	822	6660	888	620	1000	1270	1730	888	1030	608	539	459
21	698	1890	860	616	986	1120	2000	864	998	605	533	453
22	637	1500	830	610	946	1050	1740	984	965	599	528	453
23	603	1330	800	602	905	1010	1580	1100	935	596	524	452
24	583	1220	780	600	860	967	1470	974	920	596	521	449
25	561	1140	770	595	820	933	1380	916	893	596	520	447
26	546	1100	760	590	800	908	1310	983	870	599	515	441
27	540	1200	750	585	780	879	1240	911	849	610	518	439
28	534	1700	740	580	760	852	1200	851	830	605	518	436
29	540	1500	730	575	---	842	1140	836	811	604	505	434
30	535	1400	715	570	---	826	1100	820	793	604	499	434
31	604	---	702	565	---	805	---	806	---	606	499	---
TOTAL	16765	33987	29684	19733	29392	27131	50665	29128	37538	20232	17489	13969
MEAN	541	1133	958	637	1050	875	1689	940	1251	653	564	466
MAX	822	6660	1350	700	1600	1520	6820	1100	3900	783	637	498
MIN	484	529	702	565	565	680	776	806	784	596	499	434
CAL YR 1985		TOTAL	522830	MEAN	1432	MAX	15400	MIN	484			
WTR YR 1986		TOTAL	325713	MEAN	892	MAX	6820	MIN	434			

WHITE RIVER BASIN

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07071500 ELEVEN POINT RIVER NEAR BARDLEY, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1983 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 23...	0900	604	342	7.90	15.5	8.3	82	14	K18	190
NOV 20...	1700	2980	205	7.50	12.5	9.2	83	28	>6000	--
DEC 19...	1100	906	280	8.00	6.0	12.0	92	<10	21	--
JAN 22...	1515	888	320	8.20	10.0	13.2	113	<10	K3	180
FEB 11...	1330	1200	328	7.80	9.0	12.3	104	20	K6	--
MAR 05...	1400	779	304	7.60	12.5	12.2	113	10	K3	--
APR 08...	1545	9390	114	8.20	16.0	9.7	97	46	K10000	63
MAY 14...	0745	923	298	8.20	17.0	9.0	92	<10	27	--
JUN 09...	1555	3650	248	7.80	18.0	8.7	91	11	K1600	--
JUL 16...	0750	629	316	8.10	19.0	8.4	89	--	59	180
AUG 11...	1405	586	344	7.90	20.0	10.4	112	<10	K5	--
SEP 16...	1525	465	358	8.00	18.0	11.8	122	<10	K6	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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 23...	5	40	23	1.6	1.2	188	4.6	3.4	2.0	<0.10
NOV 20...	--	--	--	--	--	104	6.5	--	--	--
DEC 19...	--	--	--	--	--	150	2.9	--	--	--
JAN 22...	5	37	22	1.6	1.1	172	2.2	4.0	2.2	<0.10
FEB 11...	--	--	--	--	--	156	4.8	--	--	--
MAR 05...	--	--	--	--	--	151	8.2	--	--	--
APR 08...	3	14	6.9	0.80	1.9	60	0.7	11	1.9	<0.10
MAY 14...	--	--	--	--	--	164	2.0	--	--	--
JUN 09...	--	--	--	--	--	132	4.2	--	--	--
JUL 16...	5	37	21	1.6	1.2	174	2.7	1.9	2.2	<0.10
AUG 11...	--	--	--	--	--	183	4.4	--	--	--
SEP 16...	--	--	--	--	--	192	3.7	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07071500 ELEVEN POINT RIVER NEAR BARDLEY, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 23...	218	5	0.600	0.030	<0.010	1	<1	1	1	100
NOV 20...	--	99	0.500	0.090	0.120	--	--	--	--	--
DEC 19...	--	1	0.800	0.030	0.010	--	--	--	--	--
JAN 22...	170	1	0.700	0.010	<0.010	<1	1	1	1	60
FEB 11...	--	11	0.600	0.030	0.010	--	--	--	--	--
MAR 05...	--	5	0.700	0.010	0.020	--	--	--	--	--
APR 08...	95	250	0.300	0.070	0.160	1	<1	11	3	6400
MAY 14...	--	1	0.500	0.010	<0.010	--	--	--	--	--
JUN 09...	--	96	0.500	0.050	0.090	--	--	--	--	--
JUL 16...	173	5	0.500	0.020	0.010	<1	<1	3	1	140
AUG 11...	--	6	0.500	0.030	0.010	--	--	--	--	--
SEP 16...	--	3	0.500	0.010	0.010	--	--	--	--	--

[illegible]

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 downstream from Blackberry Creek, 1.5 mi east of Waco, and 47.6 mi upstream from mouth.

DRAINAGE AREA.--1,164 mi².

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 above National Geodetic Vertical Datum of 1929. Prior to Feb. 23, 1935, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Oct. 1, Oct. 31 to Nov. 2, and Dec. 1-3, 12, 13. Records good except for periods of estimated discharge, which are poor. Low flow slightly regulated by gristmills above station. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--62 years, 876 ft³/s, 10.22 in/yr, 634,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 103,000 ft³/s, May 19, 1943, gage height, 30.94 ft, from floodmark; minimum, 4.2 ft³/s, Aug. 28, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 31,400 ft³/s, Sept. 30, stage rising, peak occurred Oct. 2, 1986. Peak discharges greater than base discharge of 13,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 15	1500	29,700	23.18	Dec. 11	1515	14,800	^a 17.67
Nov. 20	0130	*29,900	*23.22	Sept. 18	0530	13,500	16.91
Dec. 2	--	Unknown	Unknown				

^aMaximum observed

Minimum discharge, 54 ft³/s, Aug. 1, and Sept. 6-8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150	520	6000	823	351	552	360	614	198	155	59	74
2	169	480	12500	793	348	534	365	524	196	160	91	67
3	159	451	5000	769	1070	512	450	430	253	153	79	62
4	150	382	2780	745	4210	490	3670	396	442	152	89	62
5	143	332	2180	718	3320	468	4040	386	1140	141	93	64
6	137	293	1940	689	2420	452	2230	368	2870	127	91	57
7	133	272	1750	667	3320	434	1550	350	1390	123	106	55
8	127	254	1650	637	2450	416	4280	332	774	116	108	55
9	122	239	1660	604	1440	406	4210	323	881	111	103	57
10	122	222	2400	601	1080	398	3540	310	1110	105	100	60
11	129	209	14800	589	909	408	1670	302	1580	113	95	335
12	136	392	6000	576	794	2900	1260	294	944	109	91	2350
13	251	8900	4000	563	722	3040	1120	282	631	113	87	1450
14	298	22300	2760	550	711	1590	1080	294	446	109	82	290
15	314	28800	2060	541	700	962	1020	415	349	101	81	273
16	368	21700	1920	531	1350	799	904	391	301	98	82	298
17	290	14100	1810	520	3370	715	837	633	272	104	83	3860
18	386	10200	1660	512	2600	676	779	858	253	95	79	11400
19	494	22800	1480	509	1490	649	727	579	262	90	68	7140
20	680	26600	1360	502	1130	607	695	410	232	86	68	4800
21	600	17700	1280	487	928	554	667	345	204	83	67	974
22	530	6740	1230	469	814	522	622	306	185	77	62	302
23	462	2800	1280	449	755	498	582	286	629	74	59	214
24	391	2280	1300	432	714	476	553	274	810	72	59	175
25	336	2010	1210	420	673	453	527	258	513	73	65	151
26	294	1900	1050	404	643	442	502	251	286	70	62	207
27	270	2880	1020	388	619	432	491	240	215	66	71	296
28	248	2480	951	375	583	417	500	233	199	61	73	191
29	298	1890	898	370	---	398	478	223	176	61	75	1490
30	494	1660	867	364	---	384	451	213	161	62	72	19700
31	550	---	846	354	---	371	---	208	---	61	74	---
TOTAL	9231	201786	87642	16951	39514	21955	40160	11328	17902	3121	2474	56509
MEAN	298	6726	2827	547	1411	708	1339	365	597	101	79.8	1884
MAX	680	28800	14800	823	4210	3040	4280	858	2870	160	108	19700
MIN	122	209	846	354	348	371	360	208	161	61	59	55
CAL YR 1985		TOTAL	849588	MEAN	2328	MAX	51300	MIN	122			
WTR YR 1986		TOTAL	508573	MEAN	1393	MAX	28800	MIN	55			

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, on downstream side of right pier of bridge on State Highway HH, 1.5 mi downstream from Grove Creek, 3 mi east of Carterville, and 17 mi above mouth.

DRAINAGE AREA.--232 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 913.21 ft above National Geodetic Vertical Datum of 1929 (Missouri State Highway Commission).

REMARKS.--No estimated daily discharges. Water-discharge records good.

AVERAGE DISCHARGE.--24 years, 203 ft³/s, 11.88 in/yr, 147,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,300 ft³/s, July 3, 1976, gage height, 17.68 ft; minimum, 9.4 ft³/s, Aug. 20, 21, 1972.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 2, 1959, reached a stage of 18.57 ft, from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 13	0715	7,040	11.18	Dec. 11	1000	2,540	7.37
Nov. 14	1745	9,990	12.53	Apr. 8	0730	5,200	9.96
Nov. 19	0130	12,300	13.42	Sept. 30	1445	*20,800	*15.57
Dec. 1	0900	6,260	10.71				

Minimum discharge, 29 ft³/s, Sept. 4, 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	120	4370	284	136	185	155	205	92	120	41	35
2	46	116	1070	275	135	182	157	172	91	114	50	35
3	45	112	780	265	140	179	158	165	97	103	47	35
4	43	107	675	256	145	175	944	160	108	96	43	34
5	41	102	608	246	139	174	536	157	98	89	43	35
6	41	99	560	239	155	170	407	153	96	83	43	33
7	39	94	521	230	170	167	382	148	172	79	46	31
8	39	90	486	219	177	164	2670	144	115	75	49	32
9	41	87	460	212	183	162	737	139	283	71	46	32
10	42	85	595	206	185	163	600	137	178	67	45	31
11	48	85	1860	200	184	163	543	141	158	67	43	37
12	49	478	943	195	181	253	486	131	137	66	40	34
13	52	4120	717	189	177	266	443	127	124	64	39	31
14	80	5740	633	184	181	250	428	127	115	62	38	30
15	142	3900	595	180	174	238	389	142	108	58	39	64
16	103	1510	572	177	186	228	366	132	101	56	42	57
17	90	883	544	175	248	219	350	138	99	54	39	128
18	124	4780	515	172	253	217	336	130	95	53	38	114
19	143	6590	489	170	249	210	320	123	91	52	36	93
20	141	2250	468	166	242	198	307	120	85	51	35	70
21	134	1120	446	163	231	190	287	117	82	50	34	59
22	125	911	432	160	222	186	267	114	79	86	34	53
23	119	764	420	156	216	183	251	113	283	72	37	50
24	112	670	403	153	210	178	237	110	132	57	50	46
25	103	613	382	150	203	174	223	108	114	54	49	44
26	98	1220	366	146	200	174	210	105	103	51	44	58
27	93	1090	352	143	196	169	200	102	98	49	48	129
28	89	627	330	142	189	164	193	100	231	46	45	96
29	106	564	317	141	---	162	180	97	199	45	39	118
30	118	616	307	138	---	160	174	95	134	44	37	10000
31	118	---	297	136	---	158	---	93	---	42	36	---
TOTAL	2613	39543	21513	5868	5307	5861	12936	4045	3898	2076	1295	11644
MEAN	84.3	1318	694	189	190	189	431	130	130	67.0	41.8	388
MAX	143	6590	4370	284	253	266	2670	205	283	120	50	10000
MIN	39	85	297	136	135	158	155	93	79	42	34	30
CAL YR 1985		TOTAL	171660	MEAN	470	MAX	9610	MIN	39			
WTR YR 1986		TOTAL	116599	MEAN	319	MAX	10000	MIN	30			

ARKANSAS RIVER BASIN

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07186400 CENTER CREEK NEAR CARTERVILLE, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1962 to September 1975, October 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT 10...	1100	41	388	7.60	17.0	6.4	65	12	80	170
NOV 14...	1000	4910	111	7.00	12.0	4.2	38	47	>3000	--
DEC 04...	1400	667	269	7.60	9.5	9.2	80	<10	270	--
JAN 09...	1115	213	280	7.70	3.5	11.6	85	<10	20	150
FEB 12...	1100	183	308	7.80	2.5	12.0	86	<10	35	--
MAR 19...	1330	209	301	7.80	11.5	11.4	103	20	29	--
APR 09...	1250	711	226	7.50	14.0	9.1	87	30	K2600	100
MAY 14...	1010	124	334	7.90	20.0	5.3	58	<10	110	--
JUN 04...	0725	109	336	8.00	20.5	6.4	72	<10	K280	--
JUL 09...	1030	71	350	7.90	25.5	8.0	97	11	220	160
AUG 06...	1140	44	365	7.80	23.5	8.0	94	<10	56	--
SEP 17...	1020	89	470	7.70	20.0	5.6	61	16	2200	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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 10...	33	62	3.5	13	1.8	134	6.6	21	10	0.20
NOV 14...	--	--	--	--	--	55	13	--	--	--
DEC 04...	--	--	--	--	--	104	5.1	--	--	--
JAN 09...	20	55	2.7	5.5	1.5	120	4.9	10	8.4	0.30
FEB 12...	--	--	--	--	--	123	3.8	--	--	--
MAR 19...	--	--	--	--	--	114	3.7	--	--	--
APR 09...	9	38	2.2	3.7	2.6	89	5.8	11	5.6	0.10
MAY 14...	--	--	--	--	--	132	3.3	--	--	--
JUN 04...	--	--	--	--	--	135	2.6	--	--	--
JUL 09...	25	58	2.9	9.9	1.8	128	3.2	13	9.8	0.20
AUG 06...	--	--	--	--	--	134	4.2	--	--	--
SEP 17...	--	--	--	--	--	110	4.5	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

ARKANSAS RIVER BASIN

07186400 CENTER CREEK NEAR CARTERVILLE, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 10...	231	9	7.40	0.500	0.060	2	<1	4	2	200
NOV 14...	--	100	1.60	0.340	0.310	--	--	--	--	--
DEC 04...	--	10	3.20	0.190	0.070	--	--	--	--	--
JAN 09...	180	1	3.70	0.250	0.040	<1	<1	3	<1	<10
FEB 12...	--	1	4.50	0.830	0.050	--	--	--	--	--
MAR 19...	--	1	3.70	0.290	0.050	--	--	--	--	--
APR 09...	141	46	2.60	0.200	0.150	<1	<1	6	5	750
MAY 14...	--	9	3.80	0.230	0.080	--	--	--	--	--
JUN 04...	--	29	6.50	0.440	0.100	--	--	--	--	--
JUL 09...	204	16	5.70	0.080	0.100	<1	<1	4	<1	200
AUG 06...	--	16	6.20	0.160	0.090	--	--	--	--	--
SEP 17...	--	36	16.0	6.00	0.160	--	--	--	--	--

[illegible]

ARKANSAS RIVER BASIN

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07186480 CENTER CREEK NEAR SMITHFIELD, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 37°09'20", long 94°36'10", NE¼ sec.14, T.28 N., R.34 W., Jasper County, Hydrologic Unit 11070207, at bridge on county road, 1 mi south of Smithfield.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CACO3) (00900)
OCT										
10...	1300	96	460	7.90	15.0	7.0	68	140	K250	210
NOV										
14...	1240	7540	123	7.10	12.5	3.6	33	31	>3000	--
DEC										
04...	1230	990	304	7.60	8.0	11.4	95	22	520	--
JAN										
09...	1315	245	336	8.00	3.0	14.2	103	40	K3	170
FEB										
12...	1220	312	358	7.90	2.5	13.4	96	19	K13	--
MAR										
11...	1220	230	366	8.20	12.0	12.4	113	24	K11	--
APR										
09...	1330	1100	250	7.40	14.0	9.4	90	26	8000	110
MAY										
14...	1100	145	390	8.10	21.5	9.3	105	<10	56	--
JUN										
04...	0830	165	382	8.10	21.0	7.8	88	15	2800	--
JUL										
09...	0815	91	401	7.80	26.5	8.8	108	<10	84	190
AUG										
06...	1340	58	436	8.00	25.5	8.7	105	<10	84	--
SEP										
17...	1115	660	555	7.60	19.5	7.5	81	39	K9400	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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										
10...	75	79	4.0	12	2.1	136	3.4	60	17	0.20
NOV										
14...	--	--	--	--	--	50	9.0	--	--	--
DEC										
04...	--	--	--	--	--	108	5.5	--	--	--
JAN										
09...	41	62	3.0	7.9	1.5	128	2.4	29	8.8	0.20
FEB										
12...	--	--	--	--	--	120	3.0	--	--	--
MAR										
11...	--	--	--	--	--	125	1.6	--	--	--
APR										
09...	21	42	2.3	3.9	2.8	83	7.1	29	5.3	0.20
MAY										
14...	--	--	--	--	--	134	2.1	--	--	--
JUN										
04...	--	--	--	--	--	131	2.0	--	--	--
JUL										
09...	59	71	3.3	8.4	1.9	129	4.1	50	8.8	0.20
AUG										
06...	--	--	--	--	--	129	2.6	--	--	--
SEP										
17...	--	--	--	--	--	92	4.7	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07186480 CENTER CREEK NEAR SMITHFIELD, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 10...	283	11	6.60	0.060	0.090	5	3	4	2	140
NOV 14...	--	38	1.20	0.170	0.220	--	--	--	--	--
DEC 04...	--	4	2.90	0.110	0.080	--	--	--	--	--
JAN 09...	210	2	4.80	0.100	0.050	1	<1	4	1	190
FEB 12...	--	5	3.90	0.380	0.090	--	--	--	--	--
MAR 11...	--	7	3.40	0.020	0.080	--	--	--	--	--
APR 09...	166	1	2.20	0.130	0.200	3	<1	4	2	1700
MAY 14...	--	1	3.70	0.020	0.090	--	--	--	--	--
JUN 04...	--	25	4.00	0.050	0.160	--	--	--	--	--
JUL 09...	240	15	3.80	0.030	0.130	1	<1	3	1	230
AUG 06...	--	5	8.80	0.080	0.100	--	--	--	--	--
SEP 17...	--	260	4.10	0.700	0.190	--	--	--	--	--

[illegible]

ARKANSAS RIVER BASIN

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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 upstream from mouth of Spring Creek, 1,400 ft downstream from bridge on State Highway 86, 0.5 mi south of city limits of Joplin and 13.2 mi above mouth.

DRAINAGE AREA.--427 mi².

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 above National Geodetic Vertical Datum of 1929. Prior to July 21, 1966, water-stage recorder at site 1.8 mi upstream, at datum 15.5 ft higher.

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--45 years, 406 ft³/s, 12.91 in/yr, 294,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,100 ft³/s, May 18, 1943, gage height, 16.8 ft, former site and datum; minimum, 12 ft³/s, Sept. 7, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 14	1600	7,620	11.42	Apr. 8	0600	8,500	12.16
Nov. 19	1615	11,400	14.38	Sept. 30	1330	*12,700	*15.29

Minimum discharge, 90 ft³/s, Sept. 9-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	189	332	4300	814	350	349	272	507	262	261	154	106
2	181	309	3450	772	349	349	272	462	262	248	170	106
3	178	300	2090	764	342	336	286	435	262	236	178	104
4	173	284	1810	731	332	328	1180	420	266	219	149	104
5	173	271	1610	700	328	324	1460	406	290	210	141	102
6	169	260	1450	672	370	317	1080	394	339	207	141	100
7	166	251	1330	663	404	309	1080	392	506	195	149	94
8	159	241	1240	627	420	301	6360	378	518	191	151	92
9	158	227	1170	602	433	298	3580	370	453	182	151	90
10	160	225	1280	602	435	298	1910	363	392	176	151	90
11	167	220	2240	577	438	309	1560	359	365	173	157	90
12	176	873	2270	569	427	389	1340	361	342	173	151	90
13	196	3530	1830	538	414	484	1150	346	316	173	138	90
14	508	4830	1660	524	408	449	1070	338	298	173	131	90
15	1050	4880	1560	512	407	433	975	365	286	170	129	100
16	566	3420	1470	499	398	423	877	377	273	162	129	344
17	411	2080	1400	488	407	398	822	364	271	157	134	363
18	473	4380	1320	482	427	384	769	382	283	154	134	313
19	605	9360	1250	476	433	379	710	353	274	151	129	223
20	599	5790	1190	459	433	366	672	337	249	146	125	181
21	520	2780	1140	449	431	341	630	332	227	144	122	162
22	455	2200	1120	428	418	332	574	324	232	146	118	149
23	417	1880	1080	423	408	328	542	318	312	184	112	138
24	383	1640	1060	413	402	320	515	311	261	176	118	129
25	347	1480	1010	408	384	305	493	304	237	157	120	122
26	312	1900	954	398	379	301	476	294	223	151	125	156
27	299	2410	940	379	374	298	464	284	216	149	118	349
28	277	1700	912	375	357	286	459	279	260	154	120	370
29	285	1500	891	366	---	279	444	277	459	154	118	365
30	330	1460	857	361	---	279	432	269	294	157	112	8140
31	341	---	850	355	---	272	---	268	---	157	108	---
TOTAL	10423	61013	46734	16426	11108	10564	32454	10969	9228	5486	4183	12952
MEAN	336	2034	1508	530	397	341	1082	354	308	177	135	432
MAX	1050	9360	4300	814	438	484	6360	507	518	261	178	8140
MIN	158	220	850	355	328	272	272	268	216	144	108	90
CAL YR 1985	TOTAL		369816	MEAN	1013	MAX	9360	MIN	158			
WTR YR 1986	TOTAL		231540	MEAN	634	MAX	9360	MIN	90			

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 downstream from Blackfoot Branch, 2.8 mi upstream from Buffalo Creek, 3.0 mi southeast of Tiff City, and at mile 15.8.

DRAINAGE AREA.--872 mi².

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 above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Sept. 6, 1960 to Aug. 25, 1961, at site 100 ft downstream.

REMARKS.--Estimated daily discharges: July 7 to Aug. 26, Aug. 28 to Sept. 14. Records fair.

AVERAGE DISCHARGE.--47 years, 797 ft³/s, 12.41 in/yr, 577,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 137,000 ft³/s Apr. 19, 1941, gage height, 28.4 ft, from floodmark, from rating curve extended above 60,000 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 5.1 ft³/s Sept. 5-6, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 16	0800	10,400	12.03	Dec. 1	1900	13,000	13.46
Nov. 19	0300	30,300	20.06	Apr. 8	1530	*58,700	*23.52

Minimum daily discharge, 72 ft³/s Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	169	541	9560	1140	609	1010	817	869	407	463	86	87
2	167	496	6900	1110	614	975	819	905	416	408	84	86
3	161	447	3900	1090	646	947	861	825	449	364	82	84
4	154	405	2930	1060	901	917	4150	764	442	328	81	83
5	151	376	2400	1030	967	890	6210	713	416	299	80	81
6	146	350	2060	1000	1010	873	3690	672	479	277	140	79
7	142	330	1840	980	1480	849	2860	630	1990	260	210	78
8	139	310	1680	950	1860	829	33700	587	1960	240	185	77
9	139	291	1570	922	1840	816	13100	542	1770	225	162	76
10	139	281	2180	904	1740	814	5720	500	1820	215	150	75
11	140	271	6630	885	1640	814	3830	563	1470	200	140	74
12	145	898	7050	868	1530	998	2900	641	1170	190	134	74
13	173	2960	4290	851	1440	1450	2380	559	950	185	127	73
14	303	6710	3160	834	1380	1530	2100	510	792	176	122	72
15	606	7250	2570	816	1340	1470	1880	1000	683	170	118	114
16	566	8450	2240	804	1310	1390	1640	1230	594	160	200	496
17	466	3880	2030	790	1420	1320	1480	1200	524	150	180	1200
18	519	9810	1880	780	1550	1260	1390	1310	466	145	160	916
19	864	23700	1750	765	1550	1230	1280	1200	421	135	148	608
20	1000	12300	1680	750	1490	1170	1230	1040	390	126	140	435
21	863	6120	1600	732	1410	1120	1260	869	362	122	134	375
22	734	4130	1540	722	1330	1080	1270	789	336	117	126	322
23	629	3040	1490	707	1270	1040	1200	706	318	113	119	288
24	551	2410	1440	693	1210	1010	1120	642	306	110	113	258
25	486	2030	1390	681	1170	986	1050	607	287	108	107	235
26	435	2170	1340	651	1120	964	971	590	278	104	103	222
27	398	2290	1310	632	1090	938	912	571	268	99	99	232
28	368	1890	1260	630	1050	913	888	520	286	97	97	255
29	363	1670	1230	611	---	888	837	477	523	94	94	312
30	446	1610	1200	613	---	864	779	441	555	91	91	14000
31	536	---	1170	616	---	839	---	413	---	88	89	---
TOTAL	12098	107416	83270	25617	35967	32194	102324	22885	21128	5859	3901	21367
MEAN	390	3581	2686	826	1285	1039	3411	738	704	189	126	712
MAX	1000	23700	9560	1140	1860	1530	33700	1310	1990	463	210	14000
MIN	139	271	1170	611	609	814	779	413	268	88	80	72

CAL YR 1985	TOTAL	624409	MEAN	1711	MAX	24900	MIN	139
WTR YR 1986	TOTAL	474026	MEAN	1299	MAX	33700	MIN	72

ARKANSAS RIVER BASIN

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07189000 ELK RIVER NEAR TIFF CITY, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1962 to June 1963; November 1965 to July 1975; October 1980 to September 1981; October 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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 (HIGH LEVEL) (MG/L) (00340)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	HARD- NESS (MG/L AS CaCO3) (00900)
OCT										
10...	0800	143	280	7.60	19.0	6.5	69	10	K9	130
NOV										
14...	1500	7140	221	7.50	15.0	3.4	33	20	K4500	--
DEC										
04...	1600	2820	245	7.70	10.0	10.2	89	<10	140	--
JAN										
09...	0840	920	239	8.00	3.0	14.2	102	<10	K9	130
FEB										
12...	0830	1540	240	8.20	3.0	12.8	93	13	26	--
MAR										
19...	1530	1210	242	8.60	12.0	13.8	126	21	K10	--
APR										
09...	1045	20000	198	7.80	12.5	9.8	90	29	K3400	93
MAY										
14...	0830	543	266	8.00	20.0	7.6	83	12	38	--
JUN										
03...	1620	493	254	8.30	22.0	9.7	111	<10	K83	--
JUL										
08...	1500	264	270	8.00	28.5	10.4	133	<10	23	130
AUG										
06...	0845	243	275	7.70	25.0	7.2	86	10	30	--
SEP										
17...	1300	2280	265	8.00	20.5	7.3	80	12	>240	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD 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)	ALKA- LINITY WH WAT TOTAL 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										
10...	7	49	2.8	4.7	2.0	127	6.2	7.1	7.3	<0.10
NOV										
14...	--	--	--	--	--	90	5.5	--	--	--
DEC										
04...	--	--	--	--	--	110	4.2	--	--	--
JAN										
09...	12	47	2.5	3.3	1.5	108	2.3	8.0	5.9	<0.10
FEB										
12...	--	--	--	--	--	107	1.3	--	--	--
MAR										
19...	--	--	--	--	--	114	0.5	--	--	--
APR										
09...	0	34	1.9	2.0	1.9	88	3.1	14	3.0	<0.10
MAY										
14...	--	--	--	--	--	125	2.2	--	--	--
JUN										
03...	--	--	--	--	--	125	1.2	--	--	--
JUL										
08...	5	49	2.6	3.8	2.0	126	2.5	6.7	5.3	<0.10
AUG										
06...	--	--	--	--	--	124	4.9	--	--	--
SEP										
17...	--	--	--	--	--	120	2.4	--	--	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).

07189000 ELK RIVER NEAR TIFF CITY, MO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT 10...	159	5	0.800	0.170	0.040	2	<1	4	1	40
NOV 14...	--	50	1.40	0.070	0.110	--	--	--	--	--
DEC 04...	--	2	1.80	0.020	0.040	--	--	--	--	--
JAN 09...	135	1	1.60	0.030	0.010	<1	<1	2	<1	110
FEB 12...	--	2	1.60	0.030	0.040	--	--	--	--	--
MAR 19...	--	1	1.20	0.020	0.050	--	--	--	--	--
APR 09...	122	1	1.30	0.030	0.100	<1	<1	5	2	2100
MAY 14...	--	7	1.00	0.020	0.050	--	--	--	--	--
JUN 03...	--	8	1.00	0.030	0.060	--	--	--	--	--
JUL 08...	162	12	0.700	0.020	0.050	<1	<1	4	<1	80
AUG 06...	--	4	0.600	0.040	0.620	--	--	--	--	--
SEP 17...	--	31	1.40	0.030	0.190	--	--	--	--	--

[illegible]

DISCHARGE AT PARTIAL-RECORD STATIONS

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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 1986.

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Date	Annual maximum Gage height (feet)	Dis- charge (ft ³ /s)
Kings Lake basin							
05513600	Camp Creek near Elsberry	Lat 39°06'54", long 90°46'26", in SW portion survey 1724, T.50 N., R.2 E., Hydrologic Unit 07110004, Lincoln County, at downstream end of double 12 ft. box culvert (right side of right barrel) on State Highway 79 about one mile upstream from C.B. & Q. railroad crossing and 3.6 mi south of Elsberry, Lincoln County, Missouri.	1.50	1954-86	7-1-86	3.59	400
Platte River (Iowa-Missouri) basin							
06818900	Platte River at Ravenwood	Lat 40°20'42", long 94°41'09", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.14, T.64 N., R.34 W., Hydrologic Unit 10240012 Nodaway County, on downstream side of left pier of U.S. Highway 136 bridge, 0.8 mi west of Ravenwood.	486	1922-71† 1972-86	7-9-86	17.15	10,200
06820300	Big Slough near Wilcox	Lat 40°23'23", long 94°55'32", on south line of SW $\frac{1}{4}$ sec.35, T.65 N., R.36 W., Hydrologic Unit 10240010, Nodaway County, at culvert on U.S. Highway 71, 3 mi southeast of Wilcox.	1.30	1949-86	7-9-86	4.95	650
Shoal Creek basin							
06895000	Crooked River near Richmond	Lat 39°20'00", long 93°58'45", in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.7, T.52 N., R.27 W., Hydrologic Unit 10300101, Ray County, on downstream side of third pier from left end of bridge on State Highway 13, 4.0 mi upstream from West Fork Crooked River, and 24.5 mi upstream from mouth.	159	1948-70† 1971-86	7-9-86	16.33	1,370
Wakenda Creek basin							
06896000	Wakenda Creek at Carrollton	Lat 39°20'48", long 93°29'44", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.5, T.52 N., R.23 W., Hydrologic Unit 10300101, Carroll County, on U.S. Highway 65 bridge in Carrollton.	248	1948-70† 1972-86	+	+	+
Grand River basin							
06897000	East Fork Big Creek near Bethany	Lat 40°17'50", long 94°01'36", in SE $\frac{1}{4}$ sec.34, T.64 N., R.28 W., Hydrologic Unit 10280101, Harrison County on right bank 50 ft downstream from bridge on old U.S. Highway 69, 2 mi north of Bethany and 4 mi upstream from confluence with West Fork.	95	1934-72† 1973-86	5-17-86	13.24	6,730
Chariton River basin							
06904300	Shoal Creek near Hartford	Lat 40°29'00", long 92°46'20", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.35, T.66 N., R.17 W., Hydrologic Unit 10280201, Putnam County, at bridge on U.S. Highway 136, 3 mi northeast of Hartford.	155	1963-86	5-17-86	20.40	4,500
06905000	Chariton River at Elmer	Lat 39°56'58", long 92°39'43", in E $\frac{1}{2}$ sec.3, T. 59 N., R.16 W., Hydrologic Unit 10280202, Macon County, at bridge on County Road J, 0.8 mi southwest of Elmer.	1,660	1921-30† 1961-86	5-18-86	27.53	22,000
06906400	Middle Fork Chariton River at Thomas Hill	Lat 39°30'51", long 92°39'53", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.2, T.54 N., R.16 W., Hydrologic Unit 10280203, Randolph County, at bridge on State Highway 3, 0.5 mi SW of Thomas Hill.	150	1962-86	+	+	+

DISCHARGE AT PARTIAL-RECORD STATIONS

Annual maximum discharge at crest-stage partial-record stations, water year 1986--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Date	Annual maximum Gage height (feet)	Dis- charge (ft ³ /s)
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., Hydrologic Unit 10300103 Cooper County, on downstream side of highway bridge, 0.8 mi east of Clifton City.	598	1922-71† 1972-86	+	+	+
06907700	Blackwater River at Valley City	Lat 38°52'10", long 93°37'15", in SW¼NW¼ sec.13, T.47 N., R.25 W., Hydrologic Unit 10300104, Johnson County, attached to down-stream end of left steel pier of bridge on County highway E, 0.5 mi upstream from Blackjack Creek, 0.5 mi northwest of Valley City, 1.0 mi downstream from Clear Creek, 8 mi northwest of Knobnoster, 9 mi northeast of Warrensburg.	547	1958-73† 1974-86	+	+	+
06908500	Shiloh Branch near Marshall	Lat 39°06'59", long 93°05'48", in NW¼ sec.15 T.50 N., R.20 W., Hydrologic Unit 10300104, Saline County, at culvert on State Highway 41, in front of Shiloh Church, 5.5 mi east of Marshall.	2.87	1952-65† 1966-86	+	+	+
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., Hydrologic Unit 10300102, Howard County, at "Buoy" bridge, 1 mi downstream from Hungry Mother Creek, 7 mi east of Fayette and 15 mi upstream from mouth.	81	1948-60 1962-69† 1979-86	+	+	+
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., Hydrologic Unit 10300102, Cole County, on downstream side of bridge on Tanner Bridge Road, 3 mi south of Jefferson City.	561	1947-74† 1975-86	11-19-85	26.42	18,000
Osage River basin							
06921720	Big Creek at Blairstown	Lat 38°33'17", long 93°57'54", in NE¼SW¼ sec.36, T.44 N., R.28 W., Hydrologic Unit 10290108, Henry County, on downstream side of right bridge pier on County Highway N, 0.3 mi west of Blairstown, 0.8 mi downstream from Bear Creek and 1.5 mi upstream from Brushy Creek.	414	1960-74† 1975-86	11-16-85	24.23	+
06925200	Starks Creek at Preston	Lat 37°56'30", long 93°11'30", in NW¼SW¼ sec.24, T.37 N., R.21 W., Hydrologic Unit 10290107, Hickory County, attached to right downstream wingwall of U.S. Highway 54 bridge, 0.6 mi east of Preston.	4.18	1956-76† 1977-86	+	+	+
06927000	Maries River at Westphalia	Lat 38°25'55", long 91°59'23", in NE¼ sec.35, T.43 N., R.10 W., Hydrologic Unit 10290111, Osage County, at bridge on U.S. Highway 63, 0.8 mi southeast of Westphalia, 1.2 mi downstream from Little Maries Creek, and at mile 9.9.	257	1947-70† 1971-86	+	+	+
Gasconade River basin							
06934000	Gasconade River at Rich Fountain	Lat 38°23'20", long 91°49'15", in SE¼ sec.16, T.42 N., R.8 W., Hydrologic Unit 10290203, Osage County, on downstream side of bridge on State Highway 89, 100 ft downstream from Brush Creek Slough, 800 ft upstream from Swan Creek, and 4 mi east of Rich Fountain, and 53 mi above mouth.	3,180	1921-59† 1959-86	11-21-85	21.78	45,000

DISCHARGE AT PARTIAL-RECORD STATIONS

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Annual maximum discharge at crest-stage partial-record stations, water year 1986--Continued

Station no.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		Dis- charge (ft ³ /s)
					Date	Gage height (feet)	
Meramec River basin							
07011200	Love Creek near Salem	Lat 37°38'10", long 91°33'35", in W½NE¼ sec.23, T.34 N., R.6 W., Hydrologic Unit 07140102, Dent County, at culvert under State Highways 32 and 72, 0.5 mi west of Salem.	0.89	1955-59 1960-63f 1964-86	11-19-85	6.53	300
White River basin							
07066800	Sycamore Creek near Winona	Lat 37°02'49", long 91°19'30", in SW¼SW¼ sec.31, T.28 N., R.3 W., Hydrologic Unit 11010008, Shannon County, on left bank just upstream from culvert under State Highway 19, about 3 mi north of Winona.	0.86	1954-86	11-19-85	3.81	88

+ Not determined.

‡ Operated as continuous-record gaging station.

f Discharge measurements, daily gage-height, and rainfall records available.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

Water-quality partial record stations are 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 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD 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)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3 (00410)
07064400 MONTAUK SPRINGS AT MONTAUK, MO (LAT 37 27 36N LONG 091 40 59W)										
MAY 1986 06...	0915	102	254	7.60	13.5	10.3	100	K3	K12	135
07064440 CURRENT RIVER BELOW MONTAUK STATE PARK (LAT 37 27 01N LONG 091 29 41W)										
MAY 1986 06...	0955	130	262	7.90	14.5	14.8	146	K19	44	146
07064530 WELCH SPRING NEAR AKERS, MO (LAT 37 23 38N LONG 091 34 25W)										
MAY 1986 06...	1145	209	282	7.70	13.5	12.8	123	K7	K15	146
07064555 PULLTITE SPRING NEAR ROUND SPRING, MO (LAT 37 20 03N LONG 091 29 24W)										
MAY 1986 06...	1330	101	310	7.90	13.5	8.6	83	K7	K14	134
07065000 ROUND SPRING AT ROUND SPRING, MO (LAT 37 16 57N LONG 091 24 27W)										
MAY 1986 06...	1445	58	270	7.90	16.0	9.3	94	K5	24	150
07065500 ALLEY SPRING AT ALLEY, MO (LAT 37 09 14N LONG 091 26 29W)										
MAY 1986 07...	1305	139	248	7.90	14.0	11.5	111	K3	K14	132
07066110 JACKS FORK ABOVE TWO RIVERS (LAT 37 10 53N LONG 091 17 36W)										
MAY 1986 07...	1130	300	306	8.40	18.5	13.2	140	K17	23	168
07066510 CURRENT RIVER ABOVE POWDER MILL (LAT 37 10 32N LONG 091 12 48W)										
MAY 1986 07...	0945	1290	290	8.30	18.5	11.7	124	21	K18	161
07066550 BLUE SPRING NEAR EMINENCE, MO. (LAT 37 09 58N LONG 091 09 47W)										
MAY 1986 07...	0830	175	202	7.60	13.0	11.7	110	K2	K3	100
07067500 BIG SPRING NEAR VAN BUREN, MO (LAT 36 57 05N LONG 090 59 36W)										
MAY 1986 08...	0805	670	280	7.50	14.0	11.8	113	K2	K6	152
07067800 CURRENT RIVER BELOW HAWES CAMPGROUND (LAT 36 49 08N LONG 090 56 48W)										
MAY 1986 08...	0955	2900	286	8.20	18.5	10.5	111	K9	26	156

K--Results based on colony count outside the acceptable range (non-ideal colony count).

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

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,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	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)
07064400	MONTAUK SPRINGS AT MONTAUK, MO (LAT 37 27 36N LONG 091 40 59W)									
MAY 1986 06...	<0.010	0.800	0.020	<0.20	--	0.010	<1	4	<1	10
07064440	CURRENT RIVER BELOW MONTAUK STATE PARK (LAT 37 27 01N LONG 091 29 41W)									
MAY 1986 06...	<0.010	0.700	0.050	0.30	1.0	0.020	<1	1	<1	10
07064530	WELCH SPRING NEAR AKERS, MO (LAT 37 23 38N LONG 091 34 25W)									
MAY 1986 06...	<0.010	0.600	<0.010	<0.20	--	0.010	1	<1	<1	<10
07064555	PULLTITE SPRING NEAR ROUND SPRING, MO (LAT 37 20 03N LONG 091 29 24W)									
MAY 1986 06...	<0.010	0.500	<0.010	<0.20	--	0.010	<1	5	<1	10
07065000	ROUND SPRING AT ROUND SPRING, MO (LAT 37 16 57N LONG 091 24 27W)									
MAY 1986 06...	<0.010	0.300	0.020	0.20	0.50	0.010	<1	1	<1	10
07065500	ALLEY SPRING AT ALLEY, MO (LAT 37 09 14N LONG 091 26 29W)									
MAY 1986 07...	<0.010	0.700	0.010	0.20	0.90	0.010	<1	15	<1	<10
07066110	JACKS FORK ABOVE TWO RIVERS (LAT 37 10 53N LONG 091 17 36W)									
MAY 1986 07...	<0.010	0.300	<0.010	<0.20	--	0.010	<1	2	<1	<10
07066510	CURRENT RIVER ABOVE POWDER MILL (LAT 37 10 32N LONG 091 12 48W)									
MAY 1986 07...	<0.010	0.300	0.020	0.20	0.50	<0.010	<1	2	<1	10
07066550	BLUE SPRING NEAR EMINENCE, MO. (LAT 37 09 58N LONG 091 09 47W)									
MAY 1986 07...	<0.010	0.400	<0.010	<0.20	--	<0.010	<1	1	<1	<10
07067500	BIG SPRING NEAR VAN BUREN, MO (LAT 36 57 05N LONG 090 59 36W)									
MAY 1986 08...	<0.010	0.400	<0.010	<0.20	--	0.010	<1	2	<1	<10
07067800	CURRENT RIVER BELOW HAWES CAMPGROUND (LAT 36 49 08N LONG 090 56 48W)									
MAY 1986 08...	<0.010	0.200	0.010	0.20	0.40	<0.010	<1	1	<1	10

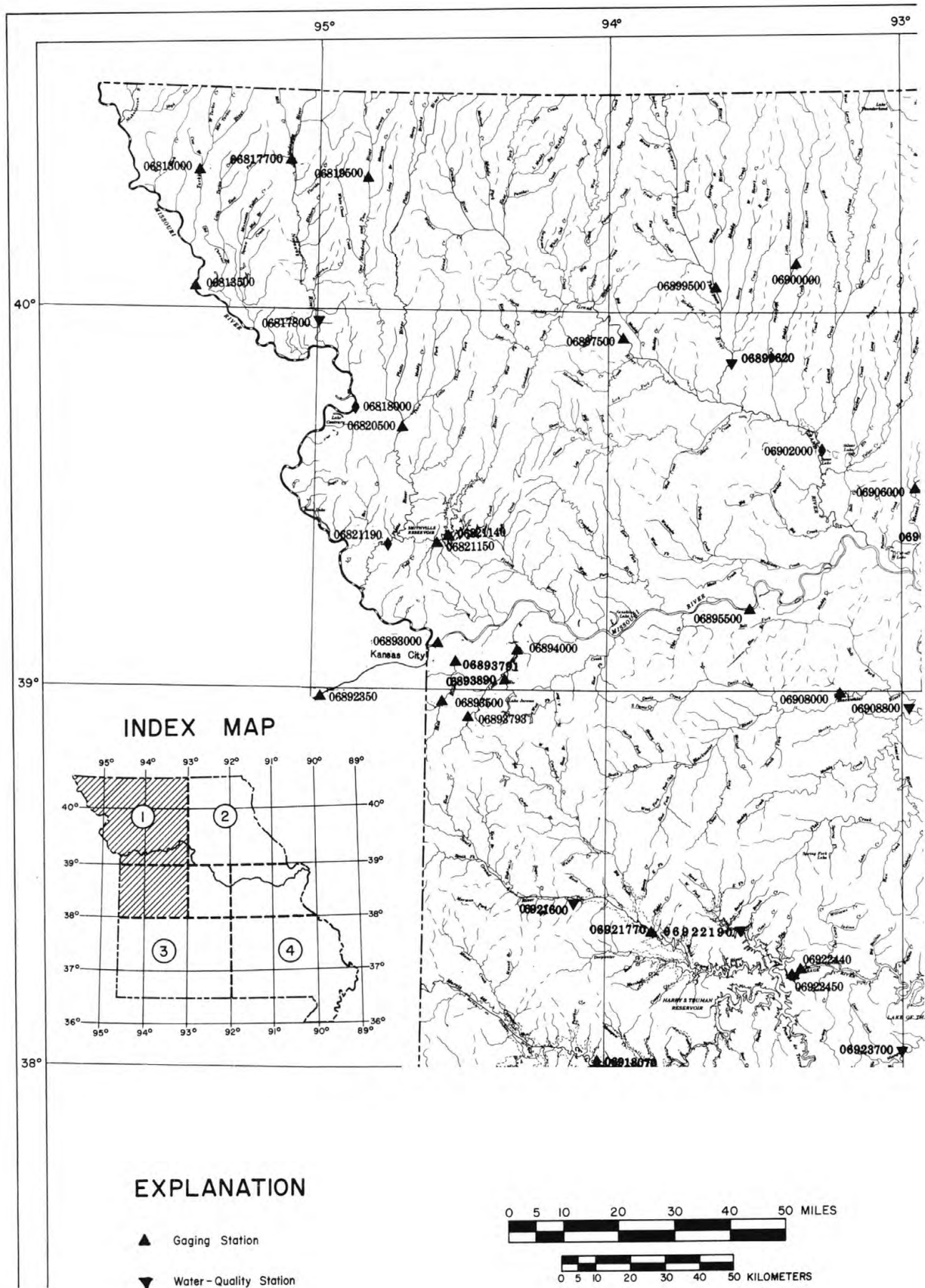
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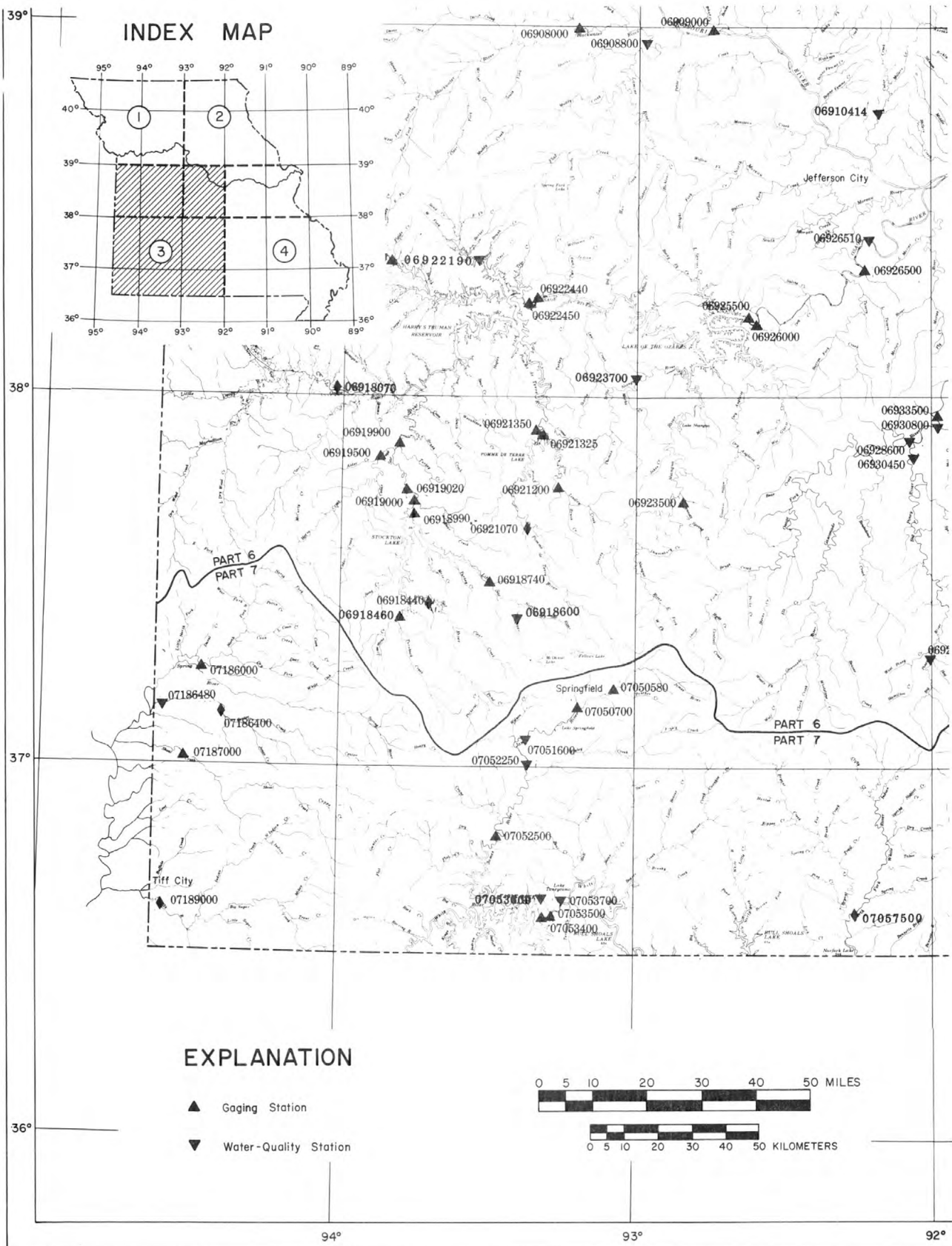
Index

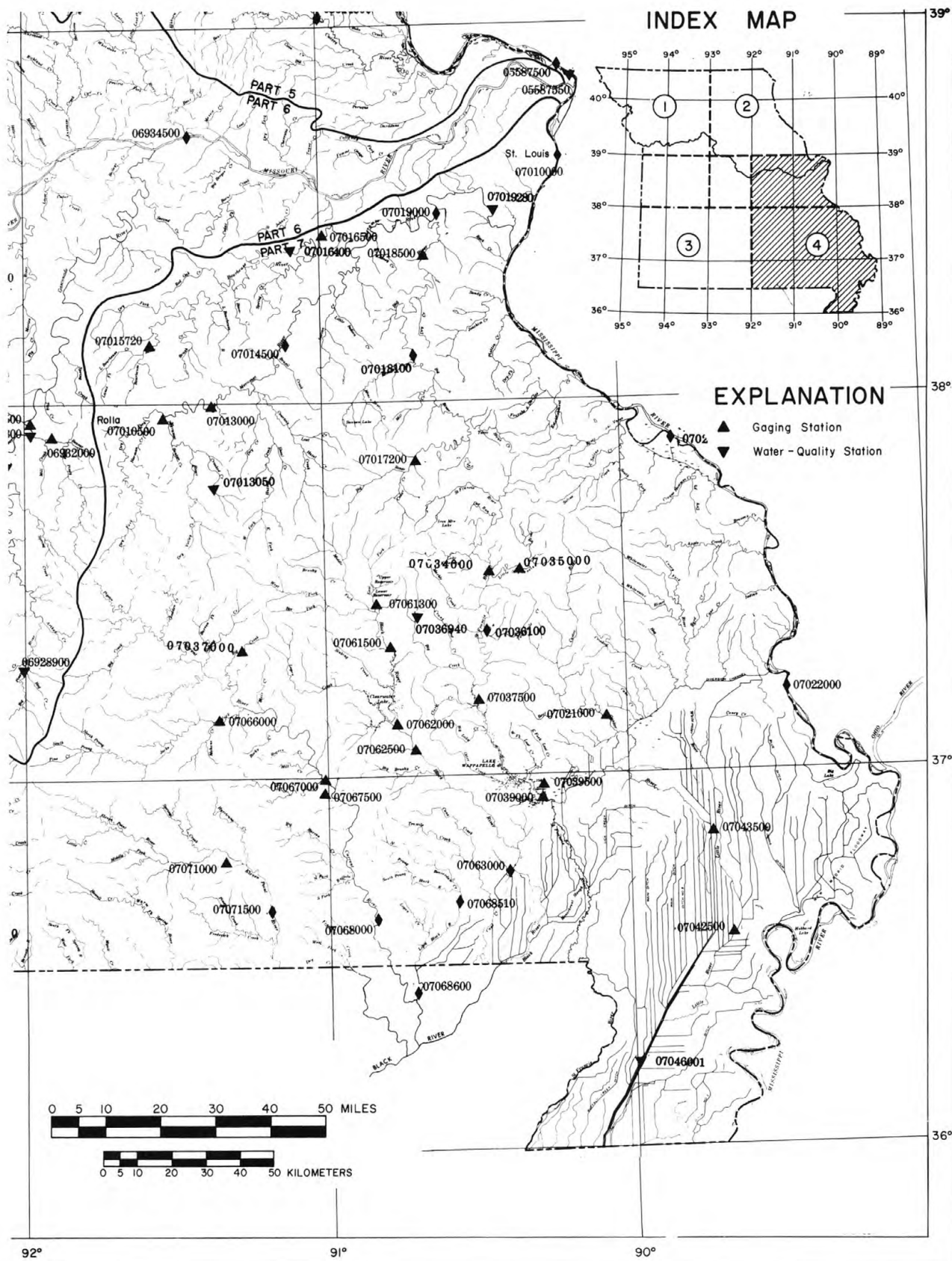
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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
<i>Length</i>		
inch (in.)	2.54×10^1	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^0	kilometer
<i>Area</i>		
acre	4.047×10^3	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi ²)	2.590×10^0	square kilometer
<i>Volume</i>		
gallon (gal)	3.785×10^0	liter
	3.785×10^0	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^3	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft ³)	2.832×10^1	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft ³ /s) d]	2.447×10^3	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^3	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
<i>Flow</i>		
cubic foot per second (ft ³ /s)	2.832×10^1	liter per second
	2.832×10^1	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^1	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
<i>Mass</i>		
ton (short)	9.072×10^{-1}	megagram or metric ton

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment for the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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