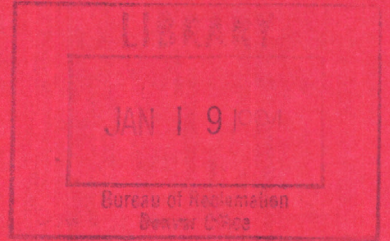


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Water Resources Data Missouri Water Year 1992



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MO-92-1
Prepared in cooperation with the Missouri Department of
Natural Resources, Division of Geology and Land Survey
and Division of Environmental Quality; Missouri State
Highway and Transportation Commission; and with other
State and Federal agencies

CALENDAR FOR WATER YEAR 1992

1991

OCTOBER

S	M	T	W	T	F	S
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1992

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SEPTEMBER

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20	21	22	23	24	25	26
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Water Resources Data Missouri Water Year 1992

by H.L. Reed, T.J. Perkins, and G.L. Gray, Jr.



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MO-92-1

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

U.S. DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, 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 surface water, surface-water quality, and ground-water levels 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 U.S. Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

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This report was prepared in cooperation with the State of Missouri and with other agencies under the general supervision of John Skelton, Hydrologic Surveillance Section Chief, succeeded by Loyd A. Waite and Marvin G. Sherrill, District Chief, Missouri.

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[Letter after station name designates type of data: (d) discharge, (c) chemical, (m) microbiological,
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DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

The following continuous-record surface-water discharge or stage-only stations (gaging stations) in Missouri have been discontinued. Daily streamflow or stage records were collected and published for the period of record, expressed in water years, shown for each station. Those stations with an asterisk (*) after the station number are currently operated as crest-stage partial-record stations. Discontinued project stations with less than three years of record have not been included. Information regarding these stations may be obtained from the District Office at the address given on the back side of the title page of this report.

[Letters after station name designate type of data collected: (d) discharge, (e) elevation (stage only)]

Station name	Station number	Drainage area (mi ²)	Period of record
Middle Fabius River near Baring (d)	05497500	185	1930-61
North River at Bethel (d)	05500500	58.0	1930-73
Oak Dale Branch near Emden (d)	05503000	2.64	1955-75
North Fork Salt River near Hunnewell (d)	05503500	626	1931-40, 1979-88
Youngs Creek near Mexico (d)	05506000	67.4	1930-82
Middle Fork Salt River at Duncan's Bridge (d)	05506190	200	1980-82
Elk Fork Salt River near Paris (d)	05507000	262	1930-54, 1980-82
Salt River near Monroe City (d)	05507500	2,230	1939-81
Calumet Creek near Clarksville (d)	05509700	15.7	1965-72
Tarkio River at Fairfax (d)	06813000	508	1922-90
Mill Creek at Oregon (d)	06816000	4.90	1950-76
Nodaway River near Burlington Junction (d)	06817500	1,240	1922-83
Platte River at Ravenwood (d)	06818900*	486	1921-23, 1924-25, 1928-32, 1958-71
One Hundred Two River at Maryville (d)	06819500	515	1932-90
White Cloud Creek near Maryville (d)	06820000	6.06	1948-70
Jenkins Branch at Gower (d)	06821000	2.72	1950-76
Line Creek at Riverside (d)	06821280	19.2	1975-81
Brush Creek at Main Street in Kansas City (d)	06893560	14.8	1970-79
Rock Creek at Independence (d)	06893600	5.20	1967-74
Shoal Creek at Claycomo (d)	06893670	29.8	1975-81
East Fork Fishing River at Excelsior Spring (d)	06894500	20.0	1950-72
Sni-A-Bar Creek near Tarsney (d)	06894680	29.1	1970-79
Crooked River near Richmond (d)	06895000*	159	1948-70
Wakenda Creek at Carrollton (d)	06896000*	248	1948-70
Thompson Branch near Albany (d)	06896500	5.58	1955-72
East Fork Big Creek near Bethany (d)	06897000*	95.0	1934-72
Thompson River at Mount Moriah (d)	06898100	891	1960-77
Weldon River near Mercer (d)	06898500	246	1939-59
Weldon River at Mill Grove (d)	06899000	494	1929-72
Shoal Creek near Braymer (d)	06899700	391	1957-77
Medicine Creek near Galt (d)	06900000	225	1921-75, 1977-90
Locust Creek near Linneus (d)	06901500	550	1928-72
West Yellow Creek near Brookfield (d)	06902200	135	1959-77
Hamilton Branch near New Boston (d)	06902500	2.51	1955-72
Mussell Fork near Musselfork (d)	06906000	267	1948-51, 1962-90
Thomas Hill Lake near Thomas Hill (e)	06906350	147	1966-74
Middle Fork Chariton River below Salisbury (d)	06906470	201	1964-70
Burge Branch near Arrow Rock (d)	06906600	0.33	1959-73
Flat Creek near Sedalia (d)	06906700	148	1958-67
Lamine River at Clifton City (d)	06907000	598	1922-71
South Fork Blackwater near Elm (d)	06907500	16.6	1954-79
Blackwater River at Valley City (d)	06907700	547	1958-73
Shiloh Branch near Marshall (d)	06908500	2.87	1952-65
Moniteau Creek near Fayette (d)	06909500*	81	1948-69
Petite Saline Creek near Boonville (d)	06910000	182	1948-67

Station name	Station number	Drainage area (mi ²)	Period of record
Hinkson Creek at Columbia (d)	06910230	44.8	1964-76
Cedar Creek near Columbia (d)	06910410	70.2	1986-91
Moreau River near Jefferson City (d)	06910500*	561	1966-82
Chesapeake Spring at Chesapeake (d)	06918444	--	1987-91
			1947-74
			1926,
			1932,
			1936,
			1954,
			1963-68
Oak Grove Branch near Brighton (d)	06918700	1.30	1956-75
Little Sac River at Aldrich (d)	06918800	304	1967-68
Pomme De Terre River near Bolivar (d)	06921000	225	1950-69
Pomme De Terre River at Hermitage (d)	06921500	655	1921-65
South Grand River at Archie (d)	06921590	356	1969-86
South Grand River at Ulrich (d)	06921600	670	1960-69
Big Creek at Blairstown (d)	06921720	414	1960-74
Brushy Creek near Blairstown (d)	06921740	1.15	1960-75
South Grand River near Brownington (d)	06922000	1,660	1921-71
Big Buffalo Creek near Stover (d)	06922800	24.2	1965-77
Starks Creek at Preston (d)	06925200	4.18	1956-76
Van Cleve Branch near Meta (d)	06926200	0.75	1956-72
Niangua River near Decaturville (d)	06924000	627	1929-69
Maries River at Westphalia (d)	06927000*	257	1947-70
Big Hollow near Fulton (d)	06927200	4.05	1957-72
Osage Fork Gasconade River at Drynob (d)	06927800	404	1962-81
Gasconade River near Hazlegreen (d)	06928000	1,250	1928-71
Laquey Branch near Hazlegreen (d)	06928200	1.58	1958-72
Gasconade River near Waynesville (d)	06928500	1,680	1914-71
Beeler Branch near Cabool (d)	06928700	7.78	1967-76
Little Beaver Creek near Rolla (d)	06931500	6.45	1947-75
Loutre River at Mineola (d)	06935500	202	1947-67
Coldwater Creek near St. Louis (d)	06936500	43.6	1959-65,
Meramec River at Cook Station (d)	07010350	199	1965-81
Meramec Spring near St. James (d)	07010500	--	1903-06,
			1921-29,
			1965-86
Green Acre Branch near Rolla (d)	07011500	0.62	1947-75
Bourbeuse River near St. James (d)	07015000	21.3	1947-81
Lanes Fork near Rolla (d)	07015500	0.225	1952-71
Bourbeuse River near Spring Bluff (d)	07016000	608	1943-81
Dry Branch near Bonne Terre (d)	07017500	3.35	1955-75
Sandy Creek near Pevely (d)	07019690	32.5	1966-68,
			1969-72
Plattin Creek at Plattin (d)	07019790	65.8	1965-72
Saline Creek near Minnith (d)	07020270	82.6	1968-81
Castor River at Zalma (d)	07021000	423	1920-91
Brewers Creek near Ironton (d)	07033800	2.19	1964-66
Barnes Creek near Fredericktown (d)	07035500	3.35	1955-75
Clark Creek near Piedmont (d)	07037700	4.39	1956-76
Little River Ditch 81 near Kennett (d)	07041000	111	1926-79
Little River Ditch 1 near Kennett (d)	07042000	235	1926-79
Little River Ditch 251 near Lilbourn (d)	07042500	235	1945-91
Castor River at Aquilla (d)	07043000	175	1945-81
Little River Ditch 1 near Morehouse (d)	07043500	450	1945-91
Little River Ditch 251 near Kennett (d)	07044000	883	1926-79
Little River Ditch 66 near Kennett (d)	07045000	--	1926-79
Little River Ditch 66-A near Kennett (d)	07045500	--	1927-65
Little River Ditch 259 near Kennett (d)	07046000	89.0	1926-79
Roaring River Spring near Cassville (d)	07050150	--	1965-68
James River near Strafford (d)	07050580	165	1973-86
Wilsons Creek near Springfield (d)	07052100	31.4	1972-82
Wilsons Creek below Springfield (d)	07052150	47.2	1967-72
Wilsons Creek near Battlefield (d)	07052160	55.0	1968-70,
			1972-82

WATER RESOURCES DATA - MISSOURI, 1992
DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record
James River near Boaz (d)	07052250	462	1972-80
Hodgson Mill Spring at Sycamore (d)	07057800	--	1965-68
Fudge Hollow near Licking (d)	07064300	1.72	1956-76
Montauk Springs at Montauk (d)	07064400	--	1964-68
Big Creek near Yukon (d)	07064500	8.36	1949-75
East Fork L. Black River near Lesterville (d)	07061300	94.5	1960-90
Round Spring at Round Spring (d)	07065000	--	1928-39, 1965-79
Alley Spring at Alley (d)	07065500	--	1928-39, 1965-79
Current River near Eminence (d)	07066500	1,272	1921-75
Middle Fork Little Black River at Grandin (d)	07068250	6.85	1980-84
North Prong Little Black River near Grandin (d)	07068300	39.4	1980-84
Little Black River near Grandin (d)	07068380	79.5	1980-84
Little Black River below Fairdealing (d)	07068510	194	1980-86
Logan Creek at Oxly (d)	07068540	37.5	1980-84
Little Black River at Success, AR (d)	07068600	386	1980-86
Fourche River near Poynor (d)	07068863	87.2	1976-83
Eleven Point River near Thomasville (d)	07070500	361	1950-76
Stahl Creek near Miller (d)	07185500	3.86	1950-76
Spring River at La Russell (d)	07185700	306	1947-81
Spring River at Carthage (d)	07185765	425	1966-80
Center Creek near Carterville (d)	07186400	232	1962-91
Turkey Creek near Joplin (d)	07186600	41.8	1963-72

WATER RESOURCES DATA - MISSOURI, 1992

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

The following surface-water-quality stations in Missouri have been discontinued or converted to partial-record stations. Water-quality data (daily or periodic samples with collection frequency not less than quarterly) were collected and published for the period of record shown for each station. Discontinued project stations with less than three years of record are not included. Information regarding these stations may be obtained from the District Chief at the address given on the back of the title page of this report.

[Type of record: (B) biological, (C) chemical, (M) microbiological (S) sediment, (T) temperature]

Station name	Station number	Drainage area (mi ²)	Type of record	Period of record
Fox River at Wayland	05495000	400	C	1967-72
Mississippi River at Canton	05495150	--	C,T	1969-75
Middle Fabius River near Monticello	05498000	393	S	1980-86
South Fabius River near Taylor	05500000	620	C,M	1972-73, 1979-88
North River at Palmyra	05501000	373	C	1972-75
Mississippi River at Hannibal	05501600	--	C,M	1982-89
North Fork Salt River near Hunnewell	05503500	626	S	1980-88
Salt River near New London	05508000	2,480	C,M,T	1967-75, 1977-90
Mississippi River at Alton, IL	05587500	171,500	S	1980-85, 1986-89
Mississippi River below Alton, IL	05587550	171,500	C,M	1975-89
Nodaway River near Oregon	06817800	--	C,M	1968-75, 1977-89
Platte River at Platte City	06821200	--	C	1967-75
Missouri River at Sibley	06894100	--	C,T	1972-75
Thompson River near Chillicothe	06899620	--	C,M	1968-75, 1983-87
Chariton River near Prairie Hill	06905500	1,870	B,C,M,T	1962-63, 1967-75, 1978-86
East Fork Little Chariton River near Macon	06906200	112	C	1971-74
East Fork Chariton River near Huntsville	06906300	220	C,M	1963-69, 1973-75, 1979-91
East Fork Chariton River near Clifton Hill	06906320	--	C	1963-73
Middle Fork Little Chariton River below Salisbury	06906470	201	C,M	1983-86
Burge Branch near Arrow Rock	06906600	0.33	S	1961-64
Lamine River near Blackwater	06908800	2,610	B,C,M,T	1979-86
Missouri River at Boonville	06909000	505,700	T	1953-59, 1960-64
Hinkson Creek at Columbia	06910230	70.2	T	1987-91
Cedar Creek near Columbia	06910410	44.8	C,M	1987-91
Cedar Creek near Ashland	06910414	--	C,M	1983-89
Marais Des Cygnes River near Worland	06916650	3,230	C,M	1962-63, 1972-75, 1977-81
Sac River near Dadeville	06918440	257	C,M,T	1974-78, 1980-82, 1983-87
Little Sac River near Walnut Grove	06918600	--	C,M	1984-86, 1988-90
Stockton Lake near Stockton	06918990	1,160	T	1974-77
Pomme De Terre River near Polk	06921070	276	C,M,T	1970-74, 1983-86
Pomme De Terre River near Hermitage	06921350	615	T	1974-77
Pomme De Terre River at Hermitage	06921500	615	T	1970-78
South Grand River at Urich	06921600	670	C,M	1983-87
West Fork Tebo Creek near Lewis	06922190	--	C,M	1983-91
Tebo Creek at Leesville	06922200	--	B,C,M,T	1978-83
Osage River at Warsaw	06922500	11,500	T	1969-78
Big Buffalo Creek near Stover	06922800	24.2	T	1965-77
Gasconade River near Hooker	06928600	--	C,M	1977-86
Big Piney River at Devil's Elbow	06930450	--	C,M	1977-89
Missouri River near St. Louis	06935840	--	C,T	1969-74
Mississippi River at East St. Louis, IL	07001000	--	C	1969-73
Crooked Creek near Dillard	07013050	--	C	1982-88
Meramec River near Sullivan	07014500	1,475	C,M	1963-75, 1977-90
Bourbeuse River above Union	07016400	808	C,M	1963-74, 1983-87
Big River near Richwoods (DeSoto)	07018100	735	C,M	1963-75, 1983-87

DISCONTINUED SURFACE-WATER-QUALITY STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Type of record	Period of record
Mississippi River at Cape Girardeau	07020850	--	C,T	1969-74
Headwater Diversion Channel near Allenville	07021800	--	C	1969-75
St. Francis River near Saco	07036100	664	C,M	1983-87, 1988-89
Big Creek at Chloride	07036940	--	C	1969-75, 1983-90
St. Francis River at St. Francis, AR	07040100	--	C	1969-75
Little River Ditches near Kennett	07046001	--	C,M	1969-70, 1972-73, 1977-89
James River near Nixa	07050750	273	T	1966-75, 1977-80
James River near Wilsons Creek	07051600	--	C,M	1967-82, 1983-87
Wilsons Creek near Springfield	07052100	31.4	C,T	1972-82
Wilsons Creek below Springfield	07052150	47.2	C,T	1967-70, 1970-72
Wilsons Creek near Battlefield	07052160	55.0	C,T	1972-82
James River west of Nixa	07052200	440	C	1962-63, 1965-67
James River near Boaz	07052250	462	C,M,T	1967-82, 1983-87
Finley Creek at Riverdale	07052340	--	C	1967-75
Lake Taneycomo at Branson	07053700	--	C,M	1977-91
North Fork River near Tecumseh	07057500	561	C,M	1969-72, 1978-79, 1983-87
Black River near Annapolis	07061500	484	C	1969-72
Black River at Poplar Bluff	07063000	1,245	C,M	1983-87
Black River below Poplar Bluff	07063050	--	C	1969-75
Main Ditch near Neelyville	07063300	--	C	1969-75
Current River at Doniphan	07068000	2,038	C,M	1979-80, 1981-82, 1984-89
Current River near Doniphan	07068050	--	C	1969-75
Middle Fork Little Black River at Grandin	07068250	6.85	T	1980-84
North Prong Little Black River near Grandin	07068300	39.4	C,M	1980-84
Little Black River near Grandin	07068380	79.5	C,M,S,T	1980-84
Little Black River below Fairdealing	07068510	194	C,M,S,T	1980-86
Logan Creek at Oxly	07068540	37.5	C,M,S,T	1980-84
Little Black River near Naylor	07068550	--	C	1969-75
Little Black River at Success, AR	07068600	386	C,M,S,T	1980-86
Fourche River near Poynor	07068863	87.2	T	1976-83
Fourche River near Middlebrook, AR	07068867	--	C	1969-75
Spring River near Thayer	07069170	--	C	1969-75
Eleven Point River near Bardley	07071500	793	C,M	1983-87
Eleven Point River below Bardley	07071900	--	C	1969-75
Spring River near Waco	07186000	1,164	C	1965-75, 1977-78, 1980-81
Center Creek near Carterville	07186400	232	C,M	1962-75, 1980-89
Center Creek near Smithfield	07186480	--	C,M	1969-75, 1977-89
Turkey Creek near Joplin	07186600	41.8	C,M	1963-77
Shoal Creek above Joplin	07187000	427	C,M	1968-68, 1979-82
Shoal Creek near Galena, KS	07187560	--	C	1968-75
Lost Creek at Seneca	07188500	42	C	1967-75
Little Sugar Creek at Caverna	07188820	--	C	1967-75
Elk River near Tiff City	07189000	872	C,M	1962-63, 1965-75, 1980-81, 1983-90
Buffalo Creek at Tiff City	07189100	--	C	1967-75



The Kansas River at the James Street bridge during the flood of July 1951
at Kansas City, Missouri



The Kansas River at the Missouri Pacific railroad bridge (Minnesota
Avenue) during the flood of July 1951 at Kansas City, Missouri

WATER RESOURCES DATA - MISSOURI, 1992

INTRODUCTION

The Water Resources Division of 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 U.S. Geological Survey, the data are published annually in this report series, entitled "WATER RESOURCES DATA - MISSOURI." This volume contains records for water discharge at 98 gaging stations; stage at 12 lakes and reservoirs; water quality at 29 sampling stations (including 2 lakes); water-level records for 16 ground-water monitoring wells; and data for 8 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." These Water-Supply Papers were in an annual series through September 30, 1960, 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 Section, Federal Center, Box 25425, Denver, CO 80225.

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

Beginning with water year 1975, water data for streamflow, water quality, and ground water are published in Survey reports on a State-boundary basis. These 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-92-1." For archiving and general distribution, the reports for water years 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. Beginning with the 1990 water year, all water-data reports are also available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on back of the title page or by telephone (314) 341-0825. A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, CO 80225.

COOPERATION

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

MISSOURI DEPARTMENT OF CONSERVATION, Jerry J. Presley, Director.

MISSOURI DEPARTMENT OF HEALTH, Dr. Coleen Kivlahan, MD, Director.

MISSOURI DEPARTMENT OF NATURAL RESOURCES, David Shorr, Director.

DIVISION OF GEOLOGY AND LAND SURVEY, Dr. James H. Williams, Director.

DIVISION OF ENVIRONMENTAL QUALITY, John A. Young, Director.

LAND RECLAMATION COMMISSION, Charles Stieffermann, Director.

MISSOURI STATE HIGHWAYS AND TRANSPORTATION COMMISSION, Wayne Muri, Chief Engineer.

CITY UTILITIES OF SPRINGFIELD, R. David Plank, Manager, Engineering Division.

CITY OF CAPE GIRARDEAU, J. Ronald Fischer, City Manager.

CITY OF ROLLA, Merle Strouse, City Administrator.

WATER RESOURCES DATA - MISSOURI, 1992

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.
 U.S. Department of Commerce, National Oceanic and Atmospheric Administration,
 National Weather Service.
 National Park Service, Midwest Region.
 Union Electric Company of Missouri.
 Missouri Park Board.

WATER USE--1990

Listed below are general water-use facts for the state of Missouri. The major water uses and percentage of surface and ground water for 1990 are shown in figures 1 and 2.

MISSOURI WATER-USE FACT SHEET

1. Total offstream water use was 6,930 million gallons per day (Mgal/d).
2. Ground-water use was 730 Mgal/d, about 10 percent of total offstream use. The largest ground-water use was for irrigation in southeastern Missouri.
3. Offstream surface-water use was 6,200 Mgal/d, about 90 percent of total offstream use. The largest use was in the St. Louis and Kansas City metropolitan areas.
4. Consumptive use of freshwater was 529 Mgal/d, which was about 8 percent of total use. Irrigation consumptive use was about 50 percent of total consumptive use.
5. The largest use of water in Missouri was for onstream hydroelectric power generation, about 13,900 Mgal/d.
6. Total population was 5.12 million, an increase of 1.8 percent from 1985.
7. Per capita water use for all offstream uses was 1,350 gallons per day.
8. Public water supplied was 677 Mgal/d: 27 percent ground water and 73 percent surface water.
9. Domestic water use was 410 Mgal/d: 15 percent self-supplied and 85 percent public-supplied.
10. Commercial water use was 81.2 Mgal/d: 27 percent self-supplied and 73 percent public-supplied.
11. Industrial water use was 218 Mgal/d: 39 percent self-supplied and 61 percent public-supplied.
12. Mining water use was 25.3 Mgal/d, mostly from dewatering of active and inactive lead mines.
13. The largest offstream use of water was 4,580 Mgal/d (mostly surface water) to produce 57,100 gigawatt hours of electricity. This was 66 percent of the total offstream water use.
14. Non-irrigation agricultural water use was 54.8 Mgal/d for fish culture and livestock use.
15. The largest use of ground water was 335 Mgal/d for irrigation. Total irrigation water use was 371 Mgal/d.
16. About 2,455 municipal and other sewage-treatment facilities released 998 Mgal/d of effluent.

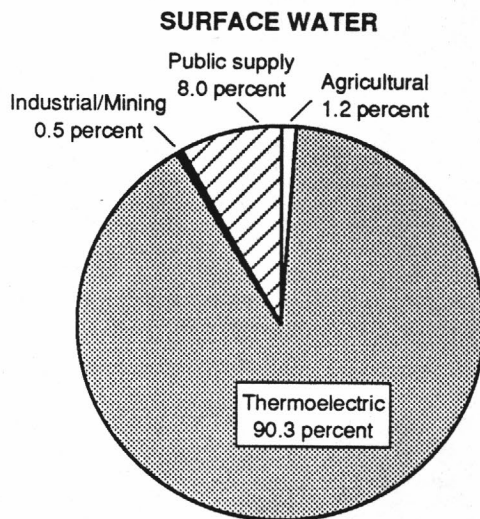


Figure 1.--Major water-use categories and percentage of surface water used in Missouri during 1990.

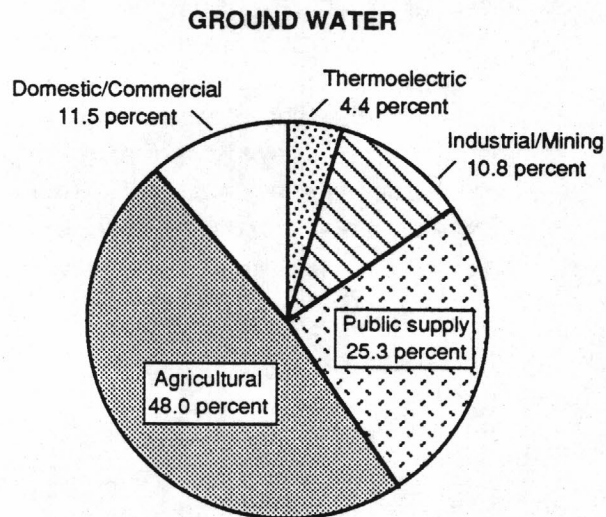


Figure 2.--Major water-use categories and percentage of ground water used in Missouri during 1990.

PHYSIOGRAPHY

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

The Central Lowland includes most of the area north of the Missouri River and a large 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 Plateaus 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 (Bootheel) is a relatively flat area of about 3,000 square miles 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.

SUMMARY OF HYDROLOGIC CONDITIONS

Precipitation

Precipitation was greater than normal in Missouri during October through March and less than normal, except for the Northwest Prairie and West Ozarks (fig. 4), during April through September. The normal precipitation for the standard period 1951-80 ranges from about 36 inches annually in the northwest to about 47 inches annually 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. 4)	October-March		April-September		Water Year 1992	
	Departure from normal		Departure from normal		Departure from normal	
	Precipitation	(1951-80)	Precipitation	(1951-80)	Precipitation	(1951-80)
Northwest Prairie	15.38	+4.00	25.41	+0.71	40.79	+4.71
Northeast Prairie	16.14	+2.61	17.52	-5.07	33.66	-2.46
West Central Plains	15.06	+1.05	22.84	-1.63	37.90	-0.58
West Ozarks	17.58	+1.57	28.42	+4.23	46.00	+5.80
East Ozarks	19.60	+1.36	21.83	-1.40	41.43	-0.04
Bootheel	23.49	+0.77	20.34	-3.72	43.83	-2.95

Surface Water--Streamflow

Streamflow varies seasonally in Missouri and generally reflects precipitation patterns unless a stream is regulated. Monthly mean discharges during water year 1992 and long-term mean monthly discharges at representative stations are shown in figure 4. In general, streamflows were less than long-term mean flows in northeastern Missouri, western Missouri, and along the Missouri River main stem and were average to above average elsewhere.

Peak discharges for water year 1992 are compared to the peak discharges for the period of record at 15 selected gaging stations in table 2. The 7-day average low flow for water year 1992 is compared to the 7-day, 2-year low flow and minimum 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.

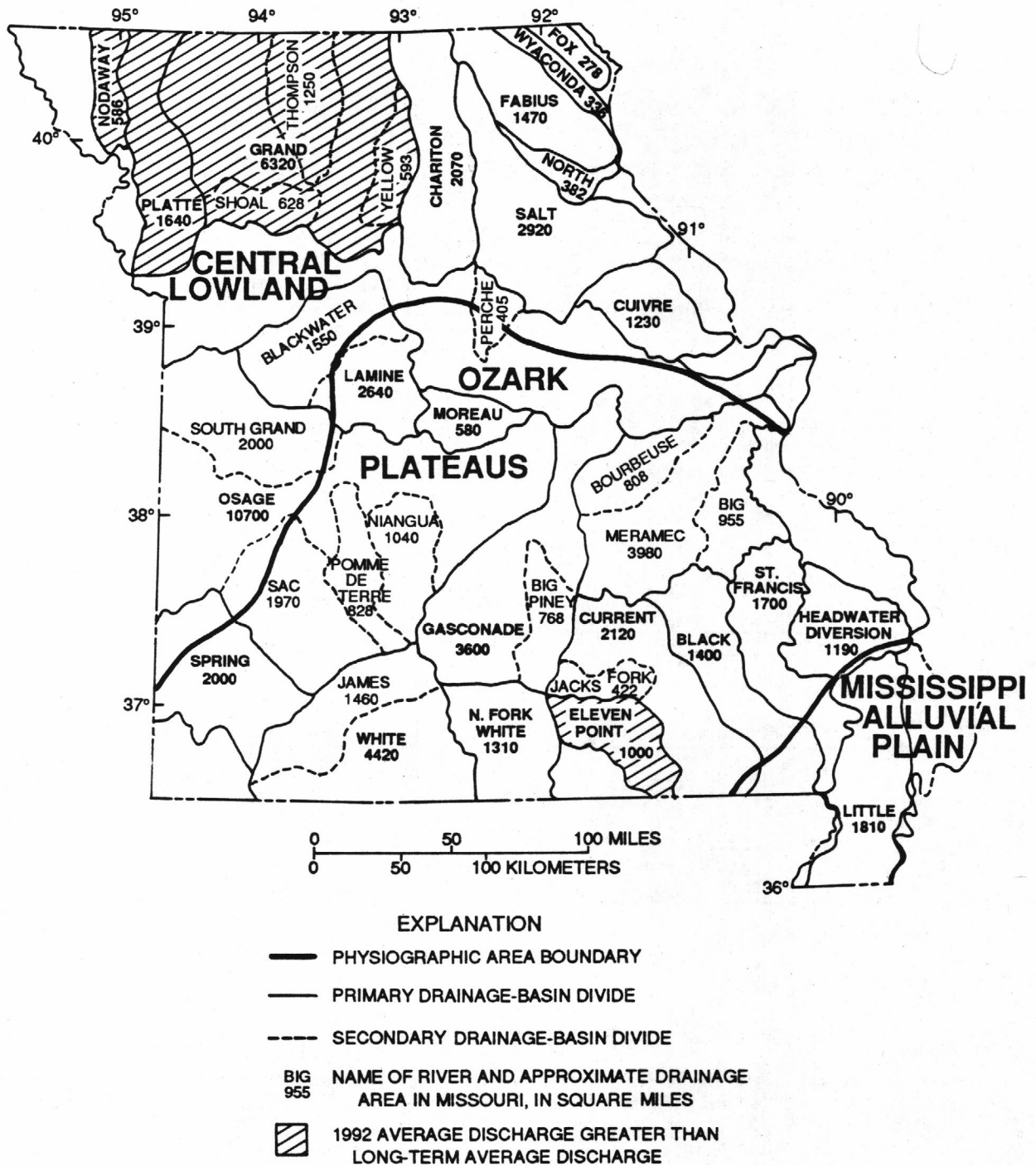
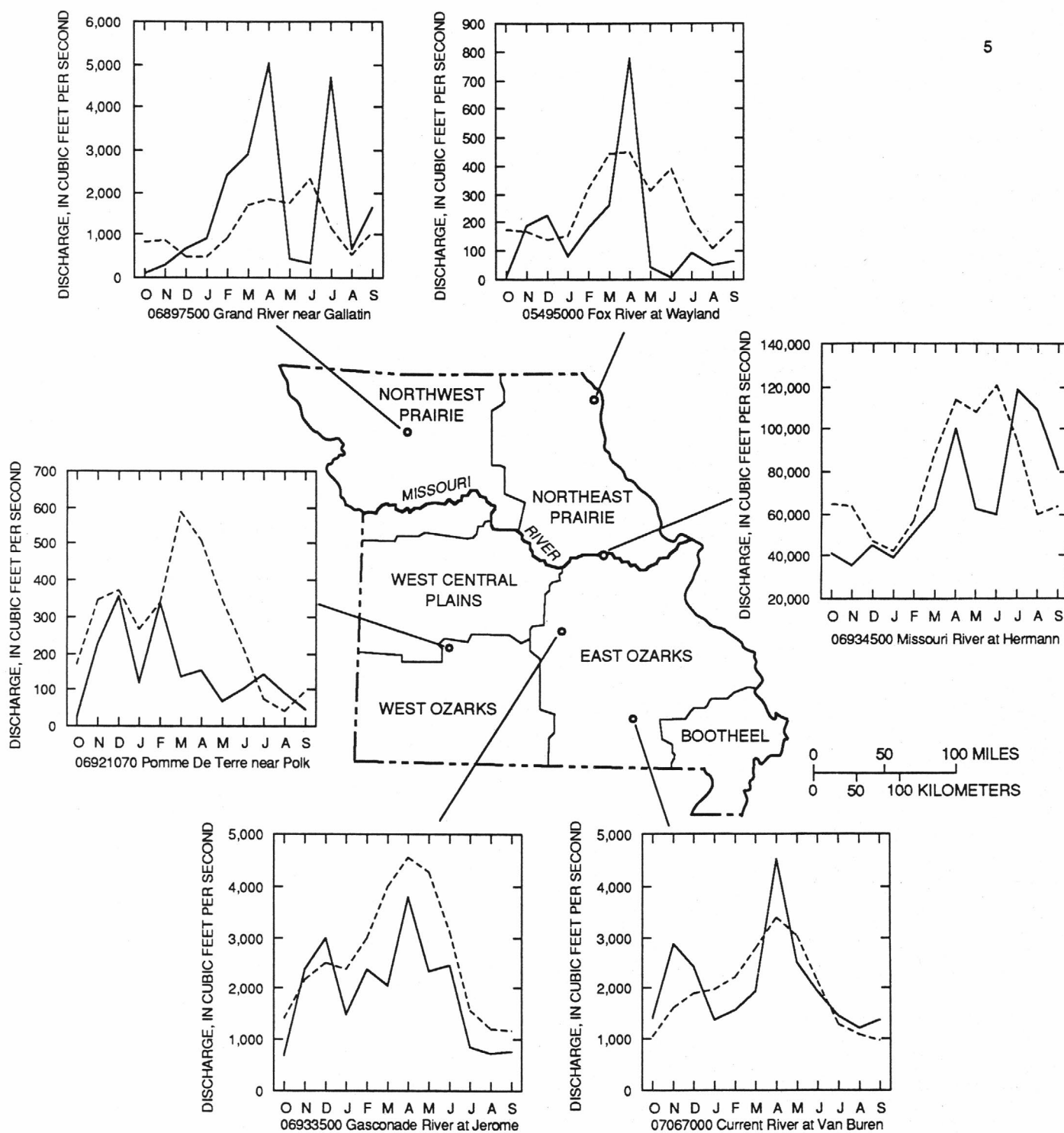


Figure 3.--Major drainage basins, physiographic areas, and areas of greater-than-average discharge during 1992.



EXPLANATION

- 1992 WATER YEAR MONTHLY
MEAN DISCHARGE
- LONG-TERM MEAN MONTHLY
DISCHARGE

Figure 4.--Comparison of 1992 water-year streamflow to long-term mean monthly discharge.

WATER RESOURCES DATA - MISSOURI, 1992

Table 2.—Comparisons of peak discharge for the 1992 water year with those for period of record for selected stations

Station identification	Peak discharge during 1992 water year		Peak discharge for period of record	
	Cubic feet per second	Date	Cubic feet per second	Date
05549500 Fox River at Wayland	7,980	Apr. 20	26,400	Apr. 22, 1973
05587450 Mississippi River at Grafton, Ill.	235,000	May 2	535,000	Apr. 29, 1973
06893000 Missouri River at Kansas City	167,000	July 31	573,000	July 14, 1951
06894000 Little Blue River near Lake City	4,930	Apr. 20	42,300	Aug. 13, 1982
06897500 Grand River near Gallatin	35,600	Apr. 22	69,100	June 24, 1947
06905500 Chariton River near Prairie Hill	14,000	Apr. 21	31,900	Apr. 23, 1973
06933500 Gasconade River at Jerome	14,400	Apr. 21	136,000	Dec. 5, 1982
06934500 Missouri River at Hermann	249,000	July 28	676,000	June 6-7, 1903
07010000 Mississippi River at St. Louis	421,000	Apr. 24	1,019,000	June 10-11, 1903
07019000 Meramec River near Eureka	39,100	Apr. 22	145,000	Dec. 6, 1982
07022000 Mississippi River at Thebes, Ill.	426,000	Apr. 25	893,000	May 27, 1943
07037500 St. Francis River near Patterson	29,300	Apr. 20	155,000	Dec. 3, 1982
07057500 North Fork River near Tecumseh	5,590	Oct. 29	133,000	Nov. 19, 1985
07068000 Current River at Doniphan	42,900	Apr. 21	122,000	Dec. 3, 1982
07018600 Spring River near Waco	17,800	July 11	103,000	May 19, 1943

Table 3.—Comparisons of 1992 7-day low flows to 7-day, 2-year low flows and minimum 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 flows for period of record used	
	1992	2-year ¹	Discharge	Years of occurrence
05549500 Fox River at Wayland (1922-91)	0.83	1.3	0	Several years
06820500 Platte River near Agency (1933-91)	21	17	0	Several years
06921070 Pomme de Terre River near Polk (1969-91)	11	3.0	0.3	1980
07016500 Bourbeuse River at Union (1921-91)	34	32	11	1956
07067000 Current River at Van Buren (1912-91)	826	700	473	1956
07187000 Shoal Creek above Joplin (1942-91)	78	92	12	1954

¹ Skelton, John, 1976, Missouri stream and springflow characteristics—Low-flow frequency and flow duration: Rolla, Missouri Division of Geology and Land Survey Water Resources Report 32, 76 p.

Water Quality--Streamflow

Samples for determining the chemical quality of streamflow were collected at 29 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, carbonate, bicarbonate, alkalinity, inorganic constituents, nutrients, trace elements, indicator bacteria, and sediment.

Missouri streams generally are not contaminated by industrial wastes. Localized contamination may occur near urban areas, industrialized centers, agricultural-chemical-use areas, and waste-dump sites. The range of dissolved-solids concentrations in selected streams during water year 1992 is given in the following table:

Station identification	Dissolved-solids concentration (milligrams per liter)	
	Minimum	Maximum
Des Moines River at St. Francisville	286	494
Cuivre River near Troy	155	241
Mississippi River below Grafton, Ill.	236	330
Missouri River at St. Joseph	348	477
Platte River at Sharps Station	206	236
Grand River near Sumner	186	305
Osage River below St. Thomas	158	274
Gasconade River above Jerome	153	215
Missouri River at Hermann	300	446
Meramec River near Eureka	174	218

Daily suspended-sediment samples and data on the particle size of suspended sediment were collected at 10 stations in Missouri. At three Missouri River stations, point suspended-sediment samples and particle-size data were collected periodically. The following table lists two selected stations in the Central Lowland and at the Mississippi River at Thebes and their minimum and maximum daily mean suspended-sediment concentrations during water year 1992:

Station identification	Daily mean suspended-sediment concentration (milligrams per liter)	
	Minimum	Maximum
Middle Fork Salt River at Paris	7	1,500
Salt River near Shelbina	3	2,820
Mississippi River at Thebes	51	1,990

Ground-Water Levels

Ground-water levels for 16 ground-water monitoring wells are listed in this report. Water levels generally followed precipitation patterns, although fluctuations may reflect changes in the rate of pumping and the location of principal pumping centers.

SPECIAL NETWORK AND PROGRAM

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.

EXPLANATION OF THE RECORDS

The surface- and ground-water records published in this report are for the 1992 water year that began October 1, 1991, and ended September 30, 1992. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for the surface water, and ground-water-level data. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether stream site or well, in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The system used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water sites will differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and, in Missouri, for surface-water stations where only miscellaneous measurements are made.

Downstream Order and Station Number

Since October 1, 1950, the order of listing hydrologic-station records in U.S. Geological Survey reports is in a downstream direction along the mainstream. 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 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 Wells and 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, and 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.

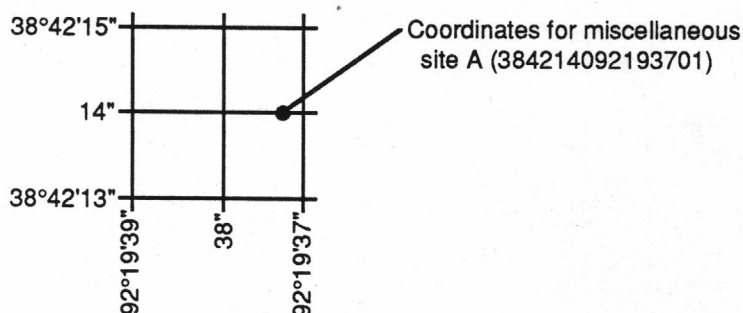


Figure 5.--System for numbering miscellaneous sites (latitude and longitude).

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharge may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or any period of time. They may be obtained using a continuous stage-recording device, but need not be. Locations of surface-water stations are shown in figure 6.

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report.

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 electronic retrieval of data via satellite from a data-collection platform at the gaging station, direct readings on a 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 U.S. Geological Survey. These methods are described in standard textbooks, in U.S. Geological Survey Water-Supply Paper 2175, 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.

Data Presentation

Streamflow data in this report are presented in a new format that is considerably different from the format in data reports prior to the 1991 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of a pilot program to reformat the annual water-data report to meet current user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) now consist of four parts: the manuscript or station description; the data table of daily mean values of discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water year; and a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration.

Station manuscript

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.—Information on locations is obtained from the most accurate maps available. The location of the gaging station with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.—Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.—This indicates the period for which records have been published for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not and whose location was such that flow at it can reasonably be considered equivalent to flow at the present station.

REVISED RECORDS.—Because of new information, published records occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted 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 most recently revised figure was first published is given.

GAGE.—The type of gage in current use, the datum of the current gage referred to sea level (see "DEFINITION OF TERMS" section), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.—All periods of estimated daily discharge will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily discharge table. (See next section, "IDENTIFYING ESTIMATED DAILY DISCHARGE.") If a "REMARKS" paragraph is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph also is used to present information relative to the accuracy of the records, to special methods of computation, and to conditions that affect natural flow at the station. In addition, information may be presented pertaining to average discharge data for the period of record; to extremes data for the period of record and the current year; and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.—Records provided by a cooperating organization or obtained for the U.S. Geological Survey by a cooperating organization are identified here.

EXTREMES OUTSIDE PERIOD OF RECORD.—Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

REVISIONS.—If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "REVISED RECORDS" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District Office (address given on the back of the title page of this report) to determine if the published records were ever revised after the station was discontinued. Of course, if the data for a discontinued station were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "REMARKS" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

Headings for "AVERAGE DISCHARGE", "EXTREMES FOR PERIOD OF RECORD", and "EXTREMES FOR CURRENT YEAR" have been deleted and the information contained in these paragraphs, except for the listing of secondary instantaneous peak discharges in the "EXTREMES FOR CURRENT YEAR" paragraph, is now presented in the tabular summaries following the discharge table or in the "REMARKS" paragraph, as appropriate. No changes have been made to the data presentation of lake contents.

Data table of daily mean values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed "TOTAL" gives the sum of the daily figures for each month; the line headed "MEAN" gives the average flow in cubic feet per second for the month; and the lines headed "MAX" and "MIN" give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month also is usually 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"). The figure for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Statistics of monthly mean data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period will be expressed as "FOR PERIOD OF RECORD, BY WATER YEAR (WY)," and will list the first and last water years of the range of years selected from the "PERIOD OF RECORD" paragraph in the station manuscript. It will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

A table titled "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, "FOR PERIOD OF RECORD," will consist of all of the stations record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated "ANNUAL" (see line headings below), except for the "ANNUAL 7-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the "REMARKS" paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When this occurs, it will be noted in the "REMARKS" paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data are also given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage basin.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments that follow clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.—The sum of the daily mean values of discharge for the year. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

ANNUAL MEAN.—The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

HIGHEST ANNUAL MEAN.—The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.—The minimum annual mean discharge occurring for the designated period.

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HIGHEST DAILY MEAN.--The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.--The minimum daily mean discharge for the year or for the designated period.

ANNUAL 7-DAY MINIMUM.--The lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1 - March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

INSTANTANEOUS PEAK FLOW.--The maximum instantaneous discharge occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are stored in District computer files for stations meeting certain criteria. Those discharge values may be obtained by writing to the District Office. (See address on back of title page of this report.)

INSTANTANEOUS PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.--The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF.--Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

Acre-foot (AC-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.

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 the runoff is distributed uniformly in time and area.

Inches (INCHES) indicates the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.--The discharge that is exceeded by 10 percent of the flow for the designated period.

50 PERCENT EXCEEDS.--The discharge that is exceeded by 50 percent of the flow for the designated period.

90 PERCENT EXCEEDS.--The discharge that is exceeded by 90 percent of the flow for the designated period.

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 annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record 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. These measurements generally are made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily value with the letter symbol "e" and printing a table footnote, "e Estimated", or by listing the dates of the estimated record in the "REMARKS" paragraph of the station description.

Accuracy of 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 cubic foot per second; to tenths between 1.0 and 10 cubic feet per second; to whole numbers between 10 and 1,000 cubic feet per second; and to three significant figures above 1,000 cubic feet per second. 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 runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Data Available

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

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

The National Water Data Exchange, Water Resources Division, U.S. Geological Survey, National Center, Reston, VA 22092, maintains an index of all discharge measurement sites in the State as well as an index of records of discharge collected by other agencies but not published by the U.S. Geological Survey. Information on records available at specific sites can be obtained upon request.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always require corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be one or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station, where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water are shown in figure 7.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency or sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality records are published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-records stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

Onsite Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be ensuring that the data obtained represents the in situ quality of water. To ensure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To ensure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chapter D2; Book 3, Chapter C2; Book 5, Chapters A1, A3, and A4. Most methods for collecting and analyzing water samples are described in the publications listed in the section "Publications on Techniques of Water-Resources Investigations". Also, detailed information on collecting, treating, and shipping samples may be obtained from the District Office.

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.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon bi-hourly readings 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 temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once daily, the water temperatures are taken at about the same time each day. Large streams have a small daily temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

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

Sediment

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

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations measured 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 readings from the Chain of Rocks Water-Treatment Plant and the Chouteau Island Water-Treatment Plant. Approximately once a week, two depth-integrated verticals are taken to adjust the relation between suspended sediment and turbidity.

Laboratory Measurements

Samples for indicator bacteria and specific conductance are analyzed locally. All other samples are analyzed in the U.S. Geological Survey laboratories in Arvada, CO, Ocala, FL, and Iowa City, IA. Methods used in analyzing sediment samples and computing sediment records are given in Techniques of Water-Resources Investigations, Book 5, Chapter C1. Methods used by the U.S. Geological Survey laboratories are given in Techniques of Water-Resources Investigations, Book 1, Chapter D2; Book 3, Chapter C2; Book 5, Chapters A1, A3, and A4.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical and biological data obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither "LOCATION" nor the "DRAINAGE AREA" statements are repeated. The following information, when appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.—See Data Presentation under "Records of Stage and Water Discharge"; same comments apply.

DRAINAGE AREA.—See Data Presentation under "RECORDS OF STAGE AND WATER DISCHARGE"; same comments apply.

PERIOD OF RECORD.—This indicates the periods for which there are published water-quality records for the station. The periods shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.—Information on instrumentation is given only if a water-quality monitor, temperature recorder, sediment pumping samples, or other sampling device is in operation at a station.

REMARKS.—Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.—Records provided by a cooperating organization or obtained for the U.S. Geological Survey by a cooperating organization are identified here.

EXTREMES.—Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.—If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transaction to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to ensure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites (fig. 8). No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remarks Codes

The following remark codes may appear with the water-quality data in this report.

PRINTED OUTPUTREMARK

>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
K	Results based on colony count outside the acceptable range (non-ideal colony count).

Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter ($\mu\text{g/L}$) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's and 100's of nanograms per liter (ng/L). Present data above the microgram per liter level should be viewed with caution. Such data may actually represent increased environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey will begin using new trace-element protocols in the water year 1994.

Records of Ground-Water Levels

Only water-level data from a national network of observation wells are given in this report. These data are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers. Locations of the observation wells in this network in Missouri are shown in figure 9.

Collection and Computation of Data

Measurements of water levels are made under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Tables of water-level data are presented in numerical order according to map number (fig. 9). The prime identification number for a given well is the 15-digit number that appears in the upper left corner of the table. The secondary identification is the well map number and name shown at the beginning of each record.

Water-level records are obtained from direct measurements with a steel tape or M-scope, or from the graph or punched tape of a water-stage recorder. The water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. The method and frequency of measurement are given in the station description.

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water levels between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given to a tenth of a foot or a larger unit.

Data Presentation

Each well record consists of two parts, the station description and the data table of water levels during the water year. The description of the well is presented first through the use of descriptive headings preceding the tabular data. The following comments clarify information presented under the various headings of the well description.

LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds); the landline location; and a geographic point of reference.

FORMATIONS OPEN TO THE WELL.--This entry designates by name (if a name exists) and geologic age the formation(s) to which the well is open.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth and (or) screened interval, method of construction, use, and additional information, such as casing breaks, collapsed screen, and other changes since construction.

INSTRUMENTATION.--This paragraph provides information on the type of recorder (digital or graphic) and the date of recorder installation.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base, for example), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) sea level; it is reported with a precision depending on the method of determination.

REMARKS.--This entry describes factors that may affect the water level in a well or the measurement of the water level. It identifies wells that also are water-quality observation wells, and may be used to acknowledge the assistance of local (non-Survey) observers.

PERIOD OF PROCESSED RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to present" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the U.S. Geological Survey, may be noted.

A table of daily mean water levels follows the station description for each well. Water levels are reported in feet below land-surface datum and all taped measurements of water level are listed. Monthly mean, maximum, and minimum daily water levels are reported for wells equipped with a recording device. Missing records are indicated by dashes in place of the water level.

ACCESS TO WATSTORE DATA

The U.S. Geological Survey is the principal Federal water-data agency and, as such, collects and disseminates about 70 percent of the water data currently being used by numerous State, local, private, and other Federal agencies to develop and manage our water resources. As part of the U.S. Geological Survey's program of releasing water data to the public, a large-scale computerized system has been developed for the storage and retrieval of water data collected through its activities. The National Water-Data Storage and Retrieval System (WATSTORE) was established in 1972 to provide an effective and efficient means for the processing and maintenance of water data collected through the activities of the U.S. Geological Survey and to facilitate release of the data to the public. A variety of useful products, ranging from data tables to complex statistical analyses such as Log Pearson Type III, can be produced using WATSTORE. The system resides on the central computer facilities of the U.S. Geological Survey at its National Center in Reston, Virginia, and consists of related files and data bases.

*Station Header File - Contains descriptive information on over 440,000 sites throughout the United States and its territories where the U.S. Geological Survey collects or has collected data.

*Daily Values Files - Contains over 220 million daily values of streamflow, stages, reservoir contents, water temperatures, specific conductances, sediment concentrations, sediment discharges, and ground-water levels.

*Peak Flow File - Contains approximately 500,000 maximum (peak) streamflow and gage-height values at surface-water sites.

*Water-Quality Data - Contains approximately 2 million analyses of water samples that describe the chemical, physical, biological, and radio-chemical characteristics of both surface and ground water.

*Ground-Water Site Inventory Data Base - Contains inventory data for over 900,000 wells, springs, and other sources of ground water. The data include site location, geohydrologic characteristics, well-construction history, and onsite field measurements, such as water temperature.

In 1976, the U.S. Geological Survey opened WATSTORE to the public for direct access. The signing of a Memorandum of Agreement with the Survey is required to obtain direct access to WATSTORE. The system can be accessed either synchronously or asynchronously. The requestor will be expected to pay all computer costs he/she incurs. Direct access may be obtained by contacting:

U.S. Geological Survey
National Water Data Exchange
421 USGS National Center
Reston, Virginia 22092

In addition to providing direct access to WATSTORE, data can be provided in various machine-readable formats on magnetic tape or 5-1/4 inch floppy disk; and, as noted in the introduction, on CD-ROM discs. Beginning with the 1990 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division's District offices. (See address on the back of the title page.) A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

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.

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 that produce blue colonies within 24 hours when incubated at $44.5\text{ }^{\circ}\text{C} \pm 0.2\text{ }^{\circ}\text{C}$ on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococci 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 $35\text{ }^{\circ}\text{C} \pm 1.0\text{ }^{\circ}\text{C}$ 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.

Cubic foot per second-day (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 2,445 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.

Annual 7-day minimum is the lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1 - March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

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 (GH) 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 ($\mu\text{g/g}$) 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 ($\mu\text{G/L}$, $\mu\text{g/L}$) is a unit for expressing the concentration of chemical constituents in solution. Micrograms per liter represent the mass of solute per unit volume (liter) of water.

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	0.004	- .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.

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.

Sea level in this report refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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.

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."

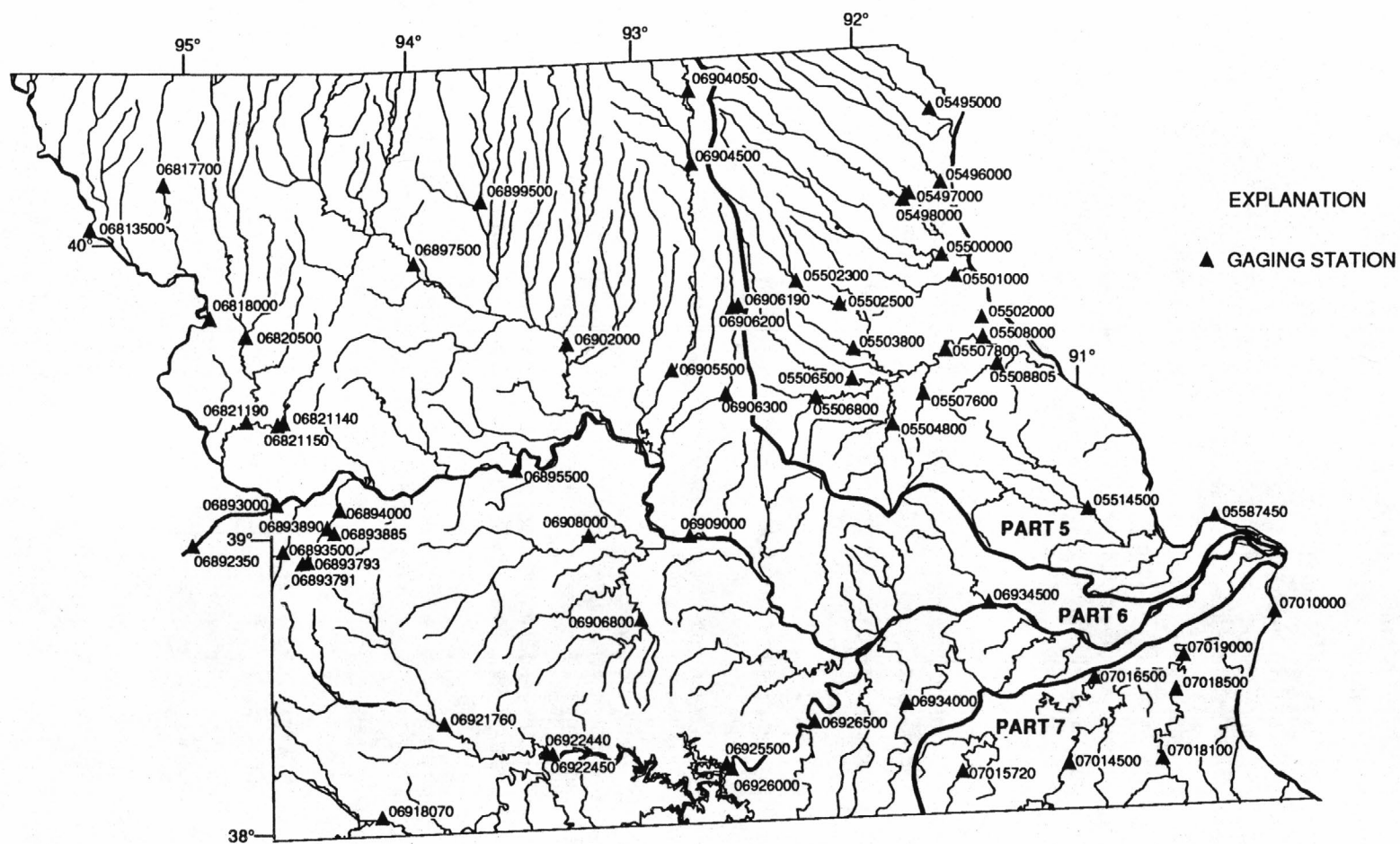
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- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F. P. Haeni: USGS--TWRI Book 2, Chapter D2. 1988. 86 pages.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. McCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 2-E2. *Borehole geophysics applied to ground-water investigations*, by W. S. Keys: USGS--TWRI Book 2, Chapter E2. 1990. 150 pages.
- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W. E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 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.
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- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F. A. Kilpatrick and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1989. 27 pages.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

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- 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-A12. *Fluorometric procedures for dye tracing*, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 41 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.
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- 3-A16. *Measurement of discharge using tracers*, by F. A. Kilpatrick and E. D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.
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- 3-A19. *Levels of streamflow gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 27 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 programmed 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.
- 3-B4. *Regression modeling of ground-water flow*, by R. L. Cooley and R. L. Naff: USGS--TWRI Book 3, Chapter B4. 1990. 232 pages.
- 3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems--An introduction*, by O. L. Franke, T. E. Reilly, and G. D. Bennett: USGS--TWRI Book 3, Chapter B5. 1987. 15 pages.
- 3-B6. *The principle of superposition and its application in ground-water hydraulics*, by T. E. Reilly, O. L. Franke, and G. D. Bennett: USGS--TWRI Book 3, Chapter B6. 1987. 28 pages.
- 3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E. J. Wexler: USGS--TWRI Book 3, Chapter B7. 1992. 90 pages.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

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- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M. J. Fishman and L. C. Friedman: USGS--TWRI Book 5, Chapter A1. 1989. 545 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
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- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L. J. Britton and P. E. Greeson, editors: USGS--TWRI Book 5, Chapter A4. 1989. 363 pages.
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- 5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M. G. McDonald and A. W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 pages.
- 6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S. A. Leake and D. E. Prudic: USGS--TWRI Book 6, Chapter A2. 1991. 68 pages.
- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.
- 8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.



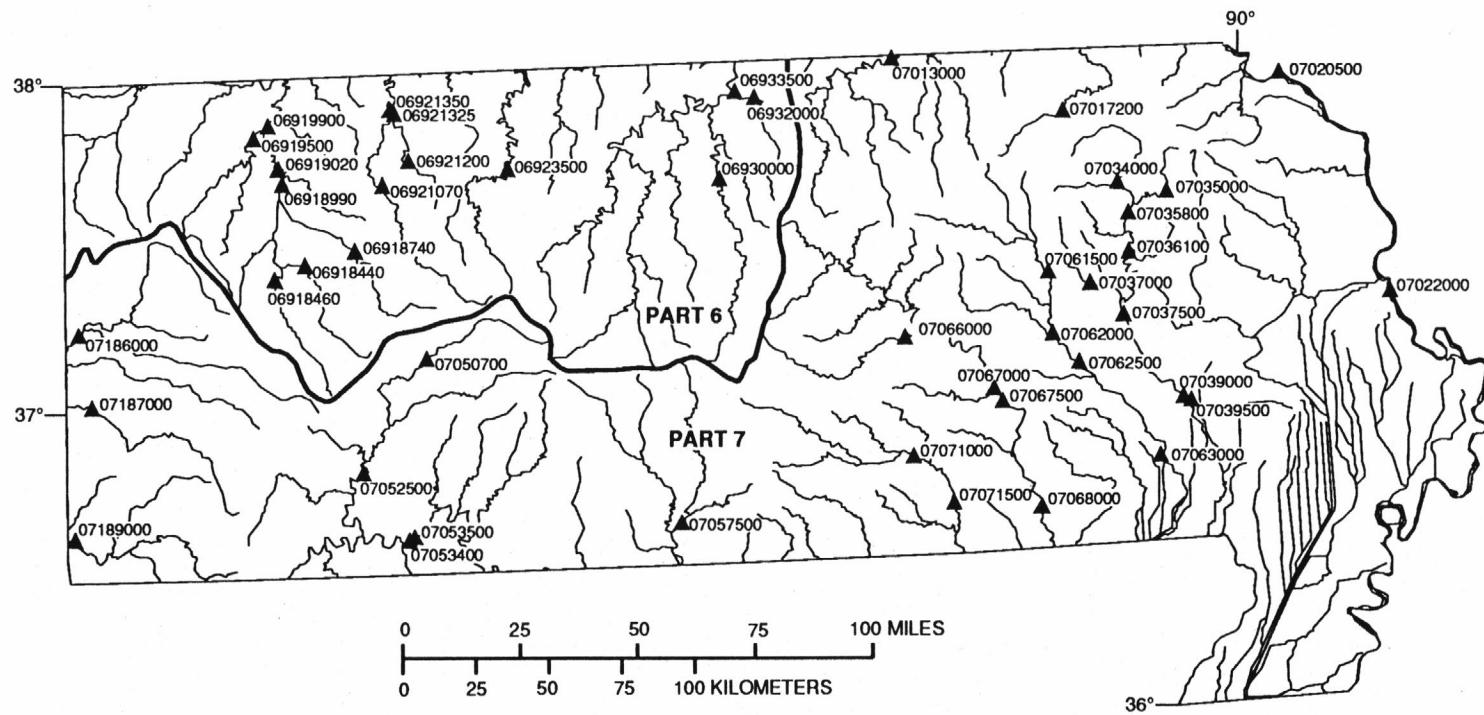


Figure 6.--Location of surface-water stations.

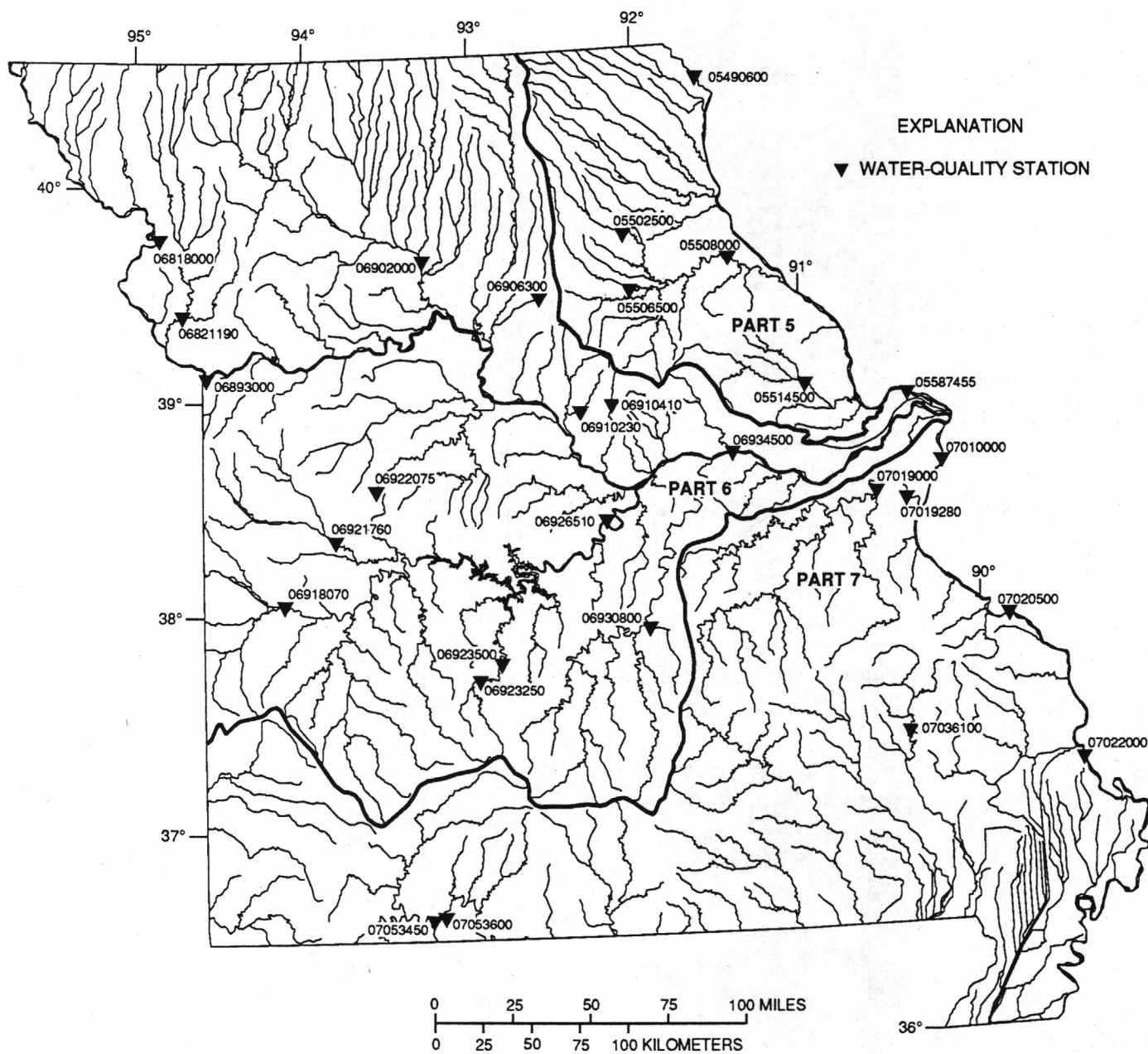


Figure 7.--Location of surface-water-quality stations.

DES MOINES RIVER BASIN

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

WATER-QUALITY RECORDS

LOCATION.--Lat 40°27'45", long 91°34'00", Clark County, in SW 1/4 NW 1/4 sec.4, T.65 N., R.6 W., Hydrologic Unit 07100009, at bridge on County Highway B at St. Francisville, and 8.0 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.

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 on many days during winter periods.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 8,010 mg/L, Apr. 13, 1981; minimum daily mean, 2 mg/L, Feb. 13, 1990 and Oct. 7, 8, 1991.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 765,000 tons, Mar. 20, 1982; minimum daily, 7.3 tons, Oct. 7, 1991.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,290 mg/L, Apr. 21; minimum daily mean, 2 mg/L, Oct. 7 and 8.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 268,000 tons, Apr. 21; minimum daily, 7.3 tons, Oct. 7.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (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)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
NOV												
05...	1530	4670	690	8.2	1.0	23	13.9	97	3900	780	320	80
JAN												
23...	1030	4580	680	8.3	1.5	8.6	14.3	102	62	54	360	98
MAR												
04...	0800	10000	575	8.2	7.5	16	12.5	104	40	42	290	77
MAY												
06...	0930	21700	588	8.2	13.0	16	10.6	99	42	K30	320	86
JUL												
15...	0900	15400	505	7.9	23.0	64	6.8	78	2500	9500	240	61
SEP												
10...	0730	7520	465	8.0	18.0	120	7.8	81	K18000	K16000	220	54

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

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)
NOV												
05...	28	21	4.7	203	110	34	0.40	11	420	428	0.57	5300
JAN												
23...	28	15	2.7	256	69	31	0.40	18	494	458	0.67	6110
MAR												
04...	23	12	3.5	200	56	24	0.40	15	365	364	0.50	9850
MAY												
06...	25	9.1	2.5	207	40	--	0.30	17	396	324	0.54	23200
JUL												
15...	22	11	3.6	156	64	27	0.40	11	314	321	0.43	13100
SEP												
10...	21	10	3.7	157	53	18	0.30	13	286	283	0.39	5810

DES MOINES RIVER BASIN

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)
NOV 05...	0.020	3.60	0.190	0.200	1.4	0.380	0.200	0.170	--	--	20
JAN 23...	0.020	9.30	0.080	0.090	0.60	0.210	0.160	0.160	48	60	<10
MAR 04...	0.030	7.30	0.060	0.060	0.80	0.250	0.180	0.170	81	66	--
MAY 06...	0.020	9.50	0.010	0.010	0.30	0.110	0.110	0.110	--	--	20
JUL 15...	0.020	5.90	0.020	0.030	1.3	0.340	0.100	0.100	--	--	30
SEP 10...	0.020	3.50	0.040	0.040	0.60	0.160	0.110	0.090	--	--	--
DATE	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	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)
NOV 05...	85	<3	10	21	5	<10	4	<1	<1.0	270	<6
JAN 23...	81	<3	7	19	8	<10	2	<1	<1.0	250	<6
MAY 06...	93	<3	13	10	3	<10	2	3	<1.0	220	<6
JUL 15...	91	<3	38	16	6	<10	3	2	<1.0	220	<6

DES MOINES RIVER BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	1100	134	398	1890	286	1460	12700	943	32300
2	1100	65	192	2020	131	717	10700	861	24900
3	1130	4	14	1960	144	762	11600	832	26100
4	1460	62	244	2960	96	769	11100	510	15300
5	1590	115	494	3800	104	1070	7940	302	6470
6	1340	6	22	4010	210	2280	7470	177	3570
7	1150	2	7.3	3590	84	810	7770	112	2340
8	1190	2	7.9	2690	75	542	10400	138	3860
9	1300	11	38	3020	103	842	16700	559	25200
10	1090	22	66	4800	130	1690	17700	555	26500
11	947	5	13	1480	70	280	13600	258	9480
12	926	4	10	1030	44	121	10300	36	1000
13	968	4	9.5	1190	59	191	10200	35	968
14	926	9	22	2010	91	494	12400	123	4120
15	882	11	27	2050	55	306	13400	406	14700
16	872	11	25	2210	42	253	16100	713	31000
17	770	9	19	2150	162	943	16700	411	18500
18	449	8	10	4860	703	9230	18500	329	16500
19	770	10	21	3680	408	4050	19600	276	14600
20	1060	9	27	3130	162	1370	19200	230	11900
21	637	9	15	2710	86	632	16900	180	8210
22	693	14	26	2600	69	486	13100	135	4770
23	644	12	20	2610	99	696	12000	208	6750
24	637	12	21	8960	462	11200	13500	344	12500
25	644	14	24	12200	911	30000	14400	524	20400
26	658	14	25	12100	720	23500	15400	463	19200
27	553	11	17	9340	143	3610	15700	328	13900
28	560	15	23	8750	105	2480	15300	310	12800
29	915	44	110	8230	238	5290	12200	153	5050
30	1270	86	294	15100	1300	53100	10200	82	2260
31	1360	155	570	---	---	---	9400	175	4450
JANUARY			FEBRUARY			MARCH			
1	8910	64	1530	7190	208	4030	10300	174	4850
2	8460	86	1960	6510	46	800	10200	157	4330
3	8560	151	3490	6280	31	533	10100	148	4040
4	8820	29	688	6320	42	724	10100	139	3800
5	8670	49	1140	6250	42	710	10200	152	4180
6	8620	59	1360	6380	35	597	11300	540	16500
7	7880	57	1210	7610	61	1260	18300	1700	83800
8	7770	60	1250	12000	186	6040	28200	1820	138000
9	7750	48	1010	11400	101	3100	30300	1250	102000
10	8130	37	815	10200	179	4930	30700	1910	159000
11	8820	39	937	7400	108	2160	30400	1380	113000
12	9040	64	1550	5320	47	672	30200	746	60800
13	10100	103	2800	4570	64	791	30000	730	59100
14	12300	150	5000	4470	91	1100	29600	617	49300
15	12100	147	4800	4610	87	1080	26000	592	41500
16	9160	120	2980	5410	95	1380	24000	489	31700
17	7940	98	2100	6670	115	2070	22400	471	28500
18	6260	80	1360	9140	350	8640	20000	438	23700
19	5120	67	930	12300	1180	39300	20600	414	23000
20	5580	57	853	11900	1030	33200	20000	400	21600
21	5020	48	645	11300	860	26200	19200	418	21700
22	4220	42	478	10800	400	11700	17900	323	15600
23	4190	49	556	10500	243	6880	15600	194	8170
24	5480	60	894	10800	196	5700	9770	139	3680
25	8510	76	1740	12400	247	8290	4770	101	1300
26	8930	96	2300	12100	313	10200	3890	96	1010
27	9450	115	2920	11100	277	8310	6670	316	5700
28	8590	100	2320	10600	221	6330	13100	309	10900
29	8110	72	1580	10500	227	6440	11400	329	10100
30	8120	43	947	---	---	---	10500	443	12500
31	7920	50	1060	---	---	---	10400	169	4740

DES MOINES RIVER BASIN

05490600 DES MOINES RIVER AT ST. FRANCISVILLE, MO

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	12000	157	5100	33200	143	12800	8640	130	3030
2	13300	220	7900	28300	143	11000	7850	113	2390
3	13400	184	6660	22600	134	8170	7580	108	2220
4	11400	133	4090	22200	82	4930	6890	110	2050
5	11400	130	3990	22100	105	6270	6710	112	2040
6	13100	153	5420	21800	117	6900	6380	113	1940
7	12800	160	5520	21600	105	6140	6010	109	1760
8	12800	157	5430	21000	131	7410	5490	116	1710
9	12200	186	6130	19700	177	9420	5280	115	1650
10	10200	158	4350	18100	165	8080	5290	116	1660
11	10400	166	4670	15600	214	9010	5230	113	1600
12	13200	539	19200	13500	178	6500	4780	130	1680
13	9630	581	15100	12900	181	6290	4580	116	1430
14	7270	516	10100	11800	141	4500	4370	107	1260
15	6930	298	5570	10600	111	3190	4280	104	1200
16	8800	262	6220	8380	133	3010	4240	103	1170
17	12600	439	14900	7380	168	3340	3950	109	1170
18	15300	437	18100	7100	238	4560	3120	89	750
19	17100	467	21600	7910	189	4040	2680	77	558
20	36800	1390	138000	8110	166	3630	4710	192	2440
21	43400	2290	268000	8110	197	4320	9270	184	4600
22	27400	1620	120000	8810	201	4790	11100	181	5420
23	21200	913	52200	9440	198	5040	11800	184	5870
24	28700	583	45200	9540	195	5030	12900	196	6820
25	31700	471	40300	10300	153	4260	12600	215	7310
26	30600	483	39900	10200	117	3220	9790	141	3720
27	30600	361	29800	7330	109	2160	7920	88	1880
28	32200	262	22800	6590	117	2070	5590	75	1130
29	34000	227	20800	8050	140	3040	4280	101	1170
30	33800	184	16800	8620	148	3440	4240	96	1100
31	---	---	---	8560	140	3230	---	---	---
JULY			AUGUST			SEPTEMBER			
1	4690	94	1180	19900	263	14100	3170	107	914
2	5000	113	1520	18700	160	8070	3520	111	1050
3	6280	572	9690	19200	101	5220	3480	119	1120
4	5570	362	5450	19800	82	4360	4030	128	1400
5	6300	190	3230	19800	71	3770	4300	139	1610
6	5240	120	1690	19700	96	5120	4140	170	1900
7	4860	104	1370	19400	82	4280	4460	404	4860
8	6000	112	1810	18300	69	3420	7700	843	17500
9	4700	129	1630	17200	70	3230	5880	621	9860
10	5470	141	2090	17100	96	4440	6010	377	6110
11	5690	114	1750	16600	64	2870	4750	288	3690
12	5360	97	1400	14600	61	2420	4000	232	2500
13	5240	141	2000	11300	59	1800	4110	187	2070
14	10600	437	12500	9300	56	1420	3880	165	1730
15	14700	451	17900	8930	54	1300	4840	333	4350
16	16000	515	22200	8170	52	1140	31800	1590	136000
17	16600	340	15200	8400	51	1160	22600	1630	99400
18	18100	490	23900	7440	52	1030	19200	1010	52400
19	18300	231	11400	6760	58	1050	13700	664	24600
20	19000	172	8810	6110	93	1540	16900	737	33600
21	19000	132	6800	5810	67	1050	16700	525	23700
22	19000	116	5940	5650	98	1490	18700	282	14200
23	18200	108	5290	5350	71	1030	18800	226	11500
24	16500	97	4310	5260	62	879	19300	180	9380
25	16900	92	4190	4680	59	742	19200	185	9590
26	18600	605	30400	4430	78	937	19100	154	7950
27	17400	576	27100	4390	87	1040	18800	148	7540
28	17500	268	12700	3820	41	423	16500	165	7340
29	18600	170	8540	3600	93	903	15400	138	5740
30	21100	207	11800	3260	101	885	10500	119	3370
31	20400	252	13900	3150	104	881	---	---	---

FOX RIVER BASIN

05495000 FOX RIVER AT WAYLAND, MO

LOCATION.--Lat 40°23'33", long 91°35'50", in NW 1/4 sec.31, T.65 N., R.6 W., Clark County, Hydrologic Unit 07110001, on left bank 30 ft downstream from bridge on U.S. Highway 136, 0.8 mi west of Wayland, 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. Revised daily mean discharges for the period Aug. 9, 1977 to Sept. 30, 1977 and the annual maximum peak for the 1977 water year published in WDR-MO-79-1: 1978.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 501.52 ft above sea level. 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; June 1936 to Aug. 1988 upstream 300 ft. at present 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	17	1210	79	33	114	120	109	16	3.5	559	8.4
2	.16	85	521	78	32	94	111	95	16	4.5	301	8.2
3	.49	53	264	134	33	80	90	85	14	5.4	144	7.8
4	20	43	134	173	36	73	80	79	13	14	79	6.0
5	94	23	151	180	36	67	71	74	13	11	52	4.8
6	58	17	113	144	34	572	63	63	14	15	38	12
7	36	11	111	114	31	1500	58	55	15	14	30	27
8	24	9.2	219	101	41	872	54	51	16	14	28	517
9	13	6.7	164	95	45	485	51	47	13	13	24	165
10	8.6	5.5	120	85	23	310	56	43	11	12	161	291
11	5.2	5.2	85	71	22	207	105	41	10	11	46	236
12	3.1	5.2	139	63	19	165	1820	46	9.2	11	24	115
13	2.2	5.3	422	64	21	148	874	48	9.2	13	20	63
14	1.5	5.3	190	70	24	144	350	40	8.7	68	17	41
15	1.4	6.4	119	111	52	135	228	42	7.6	320	16	30
16	1.2	8.8	76	65	116	124	308	38	8.1	270	13	23
17	.85	15	69	39	186	114	896	34	9.7	160	12	18
18	.81	1130	73	33	544	124	635	32	7.7	142	11	31
19	.74	545	80	27	847	704	1140	28	4.2	119	9.2	38
20	.70	274	48	26	583	432	7280	28	4.1	71	8.8	49
21	.78	166	57	26	365	288	3910	25	4.4	42	7.2	64
22	1.1	65	103	29	243	250	2310	25	4.6	33	6.8	52
23	.85	38	668	49	171	193	853	24	5.3	34	7.0	40
24	.84	27	569	139	194	149	496	26	5.0	27	6.4	32
25	.84	22	400	51	590	126	353	22	4.5	20	6.0	23
26	.90	14	259	119	341	105	278	22	4.4	24	7.9	20
27	1.4	14	174	88	234	89	223	22	3.9	329	8.1	17
28	1.4	16	128	37	173	75	186	21	3.5	179	7.7	15
29	1.7	49	109	32	139	74	163	19	3.9	192	6.4	13
30	3.1	2980	100	29	---	84	144	18	3.7	241	4.8	12
31	4.0	---	85	33	---	95	---	17	---	491	7.3	---
MEAN	9.32	189	225	76.9	180	258	777	42.5	8.76	93.7	53.8	66.0
MAX	94	2980	1210	180	847	1500	7280	109	16	491	559	517
MIN	.13	5.2	48	26	19	67	51	17	3.5	3.5	4.8	4.8
IN.	.03	.53	.65	.22	.48	.74	2.17	.12	.02	.27	.16	.18

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	173	170	140	151	316	442	454	306	385	208	111	177
MAX	1313	1375	1330	1133	1433	2264	2750	1868	2223	2789	1509	1999	
(WY)	1987	1929	1983	1969	1982	1979	1973	1973	1947	1982	1970	1970	
MIN	.000	.007	.019	.19	.42	8.56	2.35	1.39	.060	.21	.019	.17	
(WY)	1957	1957	1957	1957	1957	1956	1956	1956	1956	1936	1936	1937	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

	192	164	253
ANNUAL MEAN			
HIGHEST ANNUAL MEAN			677
LOWEST ANNUAL MEAN			17.6
HIGHEST DAILY MEAN	3210	May 5	7280
LOWEST DAILY MEAN	.13	Oct 1	.13
INSTANTANEOUS PEAK FLOW	---		7980
INSTANTANEOUS PEAK STAGE	---		15.81
INSTANTANEOUS LOW FLOW	---		.13
ANNUAL SEVEN-DAY MINIMUM	.18	Sep 26	.83
ANNUAL RUNOFF (INCHES)	6.51		5.57
10 PERCENT EXCEEDS	486		333
50 PERCENT EXCEEDS	64		41
90 PERCENT EXCEEDS	.85		4.8
			2.0

05496000 WYACONDA RIVER ABOVE CANTON, MO

LOCATION.--Lat 40°08'32", long 91°33'55", in SW 1/4 SW 1/4 NE 1/4 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, 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.

REVISED RECORDS.--WDR MO-92-1: (M) .

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 517.41 ft above sea level. 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.--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.

REVISIONS.--Revised date of maximum discharge for 1991 water year from June 6 to May 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.31	54	2010	79	39	116	95	85	14	3.7	77	4.3
2	.70	132	476	75	38	98	82	72	13	6.5	50	4.6
3	3.5	145	201	139	38	87	74	60	12	10	34	4.6
4	216	71	201	205	38	79	69	51	12	9.5	25	4.9
5	102	51	171	140	38	74	64	44	11	7.1	20	4.3
6	198	37	133	105	38	642	56	40	13	6.4	15	6.5
7	82	30	119	86	35	1090	53	37	13	11	13	15
8	47	27	261	79	31	801	50	34	13	11	12	42
9	32	24	201	76	34	398	47	33	11	6.5	12	200
10	23	22	123	70	28	234	50	32	10	7.9	593	97
11	17	20	84	63	29	168	63	31	9.2	8.5	745	74
12	17	20	155	57	29	139	770	30	9.0	7.8	86	42
13	16	20	595	58	27	124	338	33	8.5	187	29	25
14	11	21	254	56	29	111	149	30	7.2	741	24	20
15	10	25	122	60	58	105	118	31	6.4	506	20	16
16	9.3	26	73	55	163	96	203	31	6.9	172	16	13
17	9.0	81	64	45	254	92	844	28	6.8	92	13	11
18	8.6	1250	77	48	795	182	690	24	7.2	54	11	11
19	9.7	1170	77	45	769	978	1450	22	6.4	36	10	15
20	9.0	271	62	34	385	739	3600	21	5.5	50	10	16
21	8.6	210	79	36	231	312	5010	20	7.4	107	6.4	57
22	10	112	175	38	158	224	3530	21	5.9	48	5.3	26
23	12	77	1070	47	123	170	854	22	6.3	65	5.8	18
24	16	63	1030	79	162	132	396	35	6.9	60	6.3	16
25	16	56	329	52	1020	112	253	21	6.5	82	6.8	13
26	16	51	198	86	532	94	190	20	6.2	688	6.5	12
27	17	35	152	61	258	82	156	19	4.2	182	6.9	12
28	17	35	118	45	188	73	130	17	3.5	61	4.6	11
29	19	78	105	37	147	73	118	16	3.1	33	7.2	9.9
30	19	1740	94	37	---	82	99	15	2.7	598	4.6	8.6
31	25	---	85	37	---	89	---	14	---	102	4.0	---
MEAN	32.2	198	287	68.7	197	251	653	31.9	8.26	128	60.6	27.0
MAX	216	1740	2010	205	1020	1090	5010	85	14	741	745	200
MIN	.31	20	62	34	27	73	47	14	2.7	3.7	4.0	4.3
IN.	.09	.56	.84	.20	.54	.74	1.86	.09	.02	.37	.18	.0

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	141	155	155	147	336	408	405	342	364	244	119	160
MAX	1677	1463	1399	946	1389	1346	1809	1736	2594	2389	2242	2510
(WY)	1987	1986	1983	1946	1985	1985	1983	1986	1947	1982	1970	1986
MIN	.000	.000	.47	.10	2.05	7.53	3.38	1.69	.66	.016	.000	.017
(WY)	1954	1954	1954	1954	1989	1957	1956	1934	1956	1934	1934	1953

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
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ANNUAL MEAN	215		161		247	
HIGHEST ANNUAL MEAN					751	1986
LOWEST ANNUAL MEAN					14.2	1989
HIGHEST DAILY MEAN	5070	May 6	5010	Apr 21	16500	Sep 22 1986
LOWEST DAILY MEAN	.25	Sep 21-23	.31	Oct 1	.00	Many Years
INSTANTANEOUS PEAK FLOW	--		5370	Apr 21	17700	Jun 30 1933
INSTANTANEOUS PEAK STAGE	--		20.28	Apr 21	31.33	Sep 22 1986
INSTANTANEOUS LOW FLOW	--		.23	Oct 1	.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	.30	Sep 20	4.3	Jun 25	.00	Many Years
ANNUAL RUNOFF (INCHES)	7.41		5.58		8.55	
10 PERCENT EXCEEDS	494		317		500	
50 PERCENT EXCEEDS	54		45		28	
90 PERCENT EXCEEDS	2.2		6.9		1.8	

05498000 MIDDLE FABRUS RIVER NEAR MONTICELLO, MO

LOCATION.--Lat 40°05'37", long 91°44'08", in SE ¼ 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, 8.0 mi downstream from Radish Branch and 17 mi upstream from mouth.

DRAINAGE AREA.--393 mi².

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

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

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.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.87	166	1880	79	38	138	135	86	13	2.6	945	10
2	1.8	99	403	77	38	114	108	75	13	4.0	244	10
3	6.7	84	182	81	39	100	93	64	12	7.6	108	9.4
4	285	40	92	167	38	92	86	54	11	8.9	63	8.7
5	176	29	105	146	37	87	78	47	12	5.3	43	8.0
6	182	25	104	108	37	396	73	42	12	4.0	33	15
7	57	20	148	90	35	594	65	39	11	3.8	28	20
8	28	15	196	83	35	819	61	36	11	3.4	26	47
9	19	14	174	80	35	347	59	34	10	7.1	23	30
10	15	13	117	72	33	217	71	34	9.5	19	1250	46
11	10	12	86	67	31	165	108	32	8.7	8.4	137	93
12	8.5	11	278	59	29	136	143	32	8.1	6.5	46	61
13	7.1	10	523	56	29	124	108	33	7.8	37	36	32
14	6.8	8.4	295	57	31	126	85	32	6.9	858	29	21
15	6.7	7.9	160	49	64	109	71	33	6.7	807	20	17
16	6.9	7.4	100	54	138	98	165	32	6.6	307	17	13
17	7.1	15	74	43	290	91	525	32	6.7	177	15	11
18	6.8	1440	57	38	537	367	485	30	6.4	100	14	11
19	7.7	960	62	34	1010	1720	1020	27	5.5	69	13	9.3
20	7.6	313	64	34	441	1550	3850	24	5.8	110	12	12
21	7.7	200	146	35	249	573	2540	24	4.9	159	11	97
22	9.5	105	178	37	182	312	1440	31	4.8	95	11	25
23	11	62	861	43	150	227	503	23	4.6	98	10	17
24	13	43	889	77	190	174	288	20	4.4	74	9.9	15
25	17	33	474	51	861	142	222	21	4.2	135	9.5	12
26	17	28	206	75	855	122	180	19	4.0	3010	10	12
27	16	29	146	46	322	104	151	18	3.7	1520	12	12
28	16	29	121	48	217	92	126	17	3.6	331	11	10
29	21	33	107	41	169	90	109	16	3.0	115	11	8.5
30	19	1600	93	38	---	95	96	15	2.7	485	10	7.2
31	17	---	87	37	---	114	---	14	---	292	11	---
MEAN	32.6	182	271	64.6	212	304	435	33.4	7.45	286	104	23.3
MAX	285	1600	1880	167	1010	1720	3850	86	13	3010	1250	97
MIN	.87	7.4	57	34	29	87	59	14	2.7	2.6	9.5	7.2
IN.	.10	.52	.80	.19	.58	.89	1.23	.10	.02	.84	.30	.07

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	171	162	162	197	317	467	476	365	314	272	109	154
MAX	1368	1481	1418	1179	1359	1521	2719	1679	2582	2149	1758	1815
(WY)	1987	1986	1983	1969	1969	1979	1973	1973	1947	1981	1970	1970
MIN	.000	.000	.11	.31	1.23	6.32	3.83	1.48	1.04	.78	.56	.087
(WY)	1954	1954	1957	1957	1957	1957	1956	1989	1956	1988	1988	1953

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	219		163		263	
HIGHEST ANNUAL MEAN					749	1973
LOWEST ANNUAL MEAN					18.7	1989
HIGHEST DAILY MEAN	6210	May 5	3850	Apr 20	15100	Apr 23 1973
LOWEST DAILY MEAN	.83	Sep 21	.87	Oct 1	.00	Several Years
INSTANTANEOUS PEAK FLOW	--		4390	Apr 20	17700	Apr 23 1973
INSTANTANEOUS PEAK STAGE	--		15.94	Apr 20	27.14	Apr 23 1973
INSTANTANEOUS LOW FLOW	--		.70	Oct 2	.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	.88	Sep 20	3.4	Jun 26	.00	Several Years
ANNUAL RUNOFF (INCHES)	7.55		5.64		9.10	
10 PERCENT EXCEEDS	459		336		558	
50 PERCENT EXCEEDS	56		40		37	
90 PERCENT EXCEEDS	3.0		7.5		2.4	

FABIUS RIVER BASIN

05500000 SOUTH FABIUS RIVER NEAR TAYLOR, MO

LOCATION.--Lat 39°53'49", long 91°34'49", in SW 1/4 NW 1/4 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.

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 sea level (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.--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.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	155	3030	175	61	247	158	171	22	4.3	2260	14
2	2.0	736	1960	166	60	207	157	152	21	5.4	1090	14
3	11	479	522	164	59	180	141	130	19	11	438	15
4	4200	265	319	176	59	164	127	109	18	11	250	12
5	3280	162	236	228	59	150	116	98	18	8.1	171	10
6	818	112	281	193	57	142	106	86	21	7.6	120	16
7	375	91	375	159	56	541	100	76	33	9.9	93	21
8	216	74	549	143	54	1160	99	71	24	10	79	31
9	143	61	535	131	51	614	91	69	18	9.1	67	29
10	103	56	349	123	47	354	185	63	16	17	458	45
11	75	55	250	113	47	260	550	61	14	23	1440	42
12	60	53	583	106	49	207	463	59	13	37	317	32
13	50	52	1420	100	48	172	348	58	12	38	176	31
14	44	51	1020	97	50	149	240	56	11	57	289	52
15	36	58	455	89	317	137	195	54	12	1820	152	40
16	28	69	296	99	390	123	471	54	11	1910	86	29
17	27	250	222	68	681	114	577	52	11	636	60	23
18	27	3780	182	97	2190	147	994	48	10	383	47	23
19	21	4740	148	81	1530	1430	2710	42	9.1	264	41	19
20	18	2130	133	59	831	3050	5140	39	8.4	174	37	16
21	13	839	298	60	456	1530	5390	38	8.9	124	31	17
22	10	542	422	63	325	627	3380	40	8.5	236	26	15
23	9.3	347	1160	71	259	394	946	66	7.9	294	24	37
24	9.7	256	1950	75	234	293	572	46	7.8	262	20	51
25	8.7	193	1020	72	995	234	431	35	7.3	172	19	40
26	8.6	156	508	77	1450	201	339	38	6.7	228	20	34
27	8.6	142	346	68	677	173	282	36	5.9	2120	17	32
28	9.2	129	276	71	402	153	241	35	5.7	1920	16	23
29	10	135	237	65	308	145	212	29	5.9	536	16	18
30	12	717	212	62	---	146	189	27	4.9	306	17	15
31	19	---	191	60	---	151	---	25	---	1510	15	---
MEAN	311	563	629	107	407	439	832	63.3	13.0	424	255	26.5
MAX	4200	4740	3030	228	2190	3050	5390	171	33	2120	2260	52
MIN	2.0	51	133	59	47	114	91	25	4.9	4.3	15	10
IN.	.58	1.01	1.17	.20	.71	.82	1.50	.12	.02	.79	.47	.05

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	275	272	252	282	499	705	731	629	495	350	167	191
MAX	2690	3103	2137	2000	2340	2659	3989	3437	3891	2877	2335	2841	
(WY)	1987	1986	1983	1965	1982	1973	1973	1935	1947	1969	1970	1970	
MIN	.000	.000	1.52	2.12	4.78	15.0	13.4	7.56	5.68	.71	.000	.39	
(WY)	1957	1957	1957	1954	1989	1956	1989	1989	1977	1988	1936	1953	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	493		338		395	
HIGHEST ANNUAL MEAN					1105	
LOWEST ANNUAL MEAN					27.4	
HIGHEST DAILY MEAN	8270	May 7	5390	Apr 21	18800	Jun 8 1947
LOWEST DAILY MEAN	2.0	Oct 2	2.0	Oct 2	.00	Several Years
INSTANTANEOUS PEAK FLOW	--		7090	Oct 4	19700	Jun 8 1947
INSTANTANEOUS PEAK STAGE	--		10.34	Oct 4	19.5	Jun 8 1947
INSTANTANEOUS LOW FLOW	--		1.4	Oct 2	.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	2.6	Sep 26	5.5	Jun 26	.00	Several Years
ANNUAL RUNOFF (INCHES)	10.81		7.43		8.66	
10 PERCENT EXCEEDS	1320		822		948	
50 PERCENT EXCEEDS	135		95		57	
90 PERCENT EXCEEDS	6.6		11		4.0	

NORTH RIVER BASIN

05501000 NORTH RIVER AT PALMYRA, MO

LOCATION.--Lat 39°49'06", long 91°31'13", in SE 1/4 SW 1/4 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. Datum of gage is 464.81 ft above sea level (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.--No estimated daily discharges. Records good except for period of possible ice effect, Jan. 14-20, 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.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	416	556	70	42	107	107	96	24	4.0	23	3.3
2	24	422	264	70	41	99	95	87	22	6.4	64	3.9
3	50	174	150	71	40	94	88	78	20	12	37	4.6
4	1930	107	105	71	39	90	84	72	20	9.5	23	4.0
5	1160	83	105	70	38	88	80	68	27	6.4	15	3.2
6	386	73	136	67	37	85	75	62	23	5.1	11	5.8
7	126	72	245	63	35	107	74	57	23	6.7	10	7.9
8	87	64	293	60	34	197	74	55	16	6.8	12	5.2
9	71	58	211	57	33	140	73	52	13	5.6	9.4	5.9
10	59	51	146	55	33	108	250	48	12	6.6	549	18
11	47	49	117	53	36	92	422	44	11	8.2	1140	25
12	39	50	532	52	40	84	281	44	11	10	226	13
13	32	51	609	53	37	78	167	42	9.7	14	91	9.6
14	29	51	297	52	37	75	131	39	8.9	13	59	8.9
15	29	63	162	47	280	72	117	38	9.3	14	40	7.7
16	29	113	123	41	269	68	561	36	9.7	54	29	7.1
17	27	486	107	47	859	66	403	33	9.5	85	22	8.1
18	29	3030	96	39	1980	83	520	31	9.6	58	18	12
19	29	1140	80	39	547	996	1800	29	9.2	48	29	12
20	28	567	96	43	277	598	2990	27	7.7	31	17	11
21	27	328	227	42	181	321	1790	29	6.7	23	12	11
22	26	181	217	46	148	212	714	38	6.7	60	9.4	14
23	25	138	808	53	131	161	295	44	6.8	67	8.6	12
24	25	113	654	47	121	130	216	37	6.3	73	8.1	7.7
25	28	95	280	57	456	119	176	32	5.9	41	7.3	5.8
26	32	86	172	47	332	109	157	41	5.5	32	6.2	3.6
27	34	82	127	49	183	98	139	38	4.9	28	5.9	4.1
28	35	83	107	47	141	91	123	36	4.4	107	5.9	3.5
29	43	82	95	44	121	93	112	32	3.8	66	5.2	3.0
30	40	463	86	42	---	103	105	28	3.8	42	3.7	2.6
31	44	---	77	42	---	112	---	26	---	34	3.1	---
MEAN	148	292	235	52.8	226	157	407	45.8	11.7	31.5	80.6	8.12
MAX	1930	3030	808	71	1980	996	2990	96	27	107	1140	25
MIN	20	49	77	39	33	66	73	26	3.8	4.0	3.1	2.6
IN.	.46	.87	.73	.16	.65	.49	1.22	.14	.03	.10	.25	.02

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	163	173	173	178	311	453	463	437	324	232	104	119
MAX	1742	2639	1832	991	1720	2783	2691	2249	2296	2045	1357	1351	
(WY)	1987	1986	1983	1969	1982	1973	1973	1935	1947	1969	1970	1970	
MIN	.000	.000	.23	.66	.92	6.54	31.7	15.5	4.77	.52	.000	.17	
(WY)	1957	1957	1957	1954	1954	1956	1936	1989	1936	1936	1936	1940	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	319	140	257
HIGHEST ANNUAL MEAN			748
LOWEST ANNUAL MEAN			22.1
HIGHEST DAILY MEAN	15600	May 15	32600
LOWEST DAILY MEAN	4.3	Sep 15	.00
INSTANTANEOUS PEAK FLOW	---		57500
INSTANTANEOUS PEAK STAGE	---		29.70
INSTANTANEOUS LOW FLOW	---		.00
ANNUAL SEVEN-DAY MINIMUM	5.2	Aug 27	.00
ANNUAL RUNOFF (INCHES)	11.61		9.35
10 PERCENT EXCEEDS	542		454
50 PERCENT EXCEEDS	87		38
90 PERCENT EXCEEDS	14		3.2

BEAR CREEK BASIN

05502000 BEAR CREEK AT HANNIBAL, MO

LOCATION.--Lat 39°40'43", long 91°24'41", in SE 1/4 NW 1/4 sec.1, T.56 N., R.5 W., Ralls County, Hydrologic Unit 07110004, at bridge on Industrial Drive, on right downstream bank 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 U.S. 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 sea level. Prior to Mar. 26, 1948, nonrecording gage; Mar. 26, 1948 to Sept. 30, 1953, water-stage recorder, at datum 2.00 ft higher; Oct. 1, 1953 to Oct. 30, 1961, at present 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.

REMARKS.--No estimated daily discharges. Records good except for discharges above 90 ft³/s, which are poor. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	104	3.5	3.3	1.8	4.1	12	7.3	2.0	.54	1.0	4.7
2	2.4	90	3.0	3.8	1.8	3.8	11	6.4	1.8	2.5	.55	5.4
3	7.8	10	3.7	4.0	1.8	3.7	9.8	5.1	1.8	3.1	.33	5.0
4	35	3.6	2.6	3.5	1.9	3.2	9.7	4.8	1.9	1.2	.21	4.8
5	63	2.9	2.6	3.3	1.9	7.0	8.7	4.5	1.8	.63	.16	4.2
6	8.3	2.8	6.6	3.1	1.8	7.8	8.3	4.5	1.6	.46	.20	5.4
7	4.7	3.0	16	2.9	1.8	8.2	8.3	4.3	1.4	.78	.18	6.4
8	3.6	2.2	8.6	2.9	1.6	9.4	7.9	4.3	1.2	.79	.43	4.8
9	3.3	2.0	4.1	2.6	1.4	6.1	8.0	4.2	1.1	.61	.35	11
10	2.8	2.2	3.0	2.3	1.6	4.8	55	4.0	1.0	1.4	251	13
11	2.5	2.4	2.6	2.2	1.7	3.7	18	3.6	1.0	.70	242	7.9
12	2.2	3.0	56	2.5	1.8	4.1	11	3.6	1.0	.79	152	5.4
13	3.4	3.1	55	2.7	2.0	3.7	8.3	3.7	.73	.60	22	5.0
14	6.3	3.3	6.5	2.6	2.7	3.8	7.8	3.3	.69	.46	5.1	3.8
15	10	6.2	4.1	2.0	26	3.6	7.8	3.4	2.6	.52	3.2	3.3
16	13	6.8	3.4	1.8	16	3.6	30	3.3	1.4	.68	2.5	2.5
17	16	33	3.2	2.1	30	7.1	18	3.3	1.2	.95	2.2	2.0
18	19	41	2.6	1.9	48	53	56	3.3	1.1	.56	2.1	3.5
19	24	33	2.1	1.7	66	131	131	2.9	.80	.34	3.1	3.8
20	27	32	6.3	2.0	95	99	236	2.7	.81	.59	5.3	4.3
21	29	30	21	2.2	73	27	101	2.9	.90	.55	4.9	5.0
22	33	68	11	3.0	31	36	22	3.1	.85	1.8	4.7	4.6
23	37	12	49	5.6	7.9	20	19	2.5	1.1	1.7	4.8	2.8
24	42	2.9	48	3.2	7.8	15	17	2.2	1.0	1.1	5.3	3.2
25	46	2.3	16	2.4	8.1	13	14	2.0	.87	.84	5.3	3.1
26	49	2.3	6.6	2.0	6.0	12	12	2.9	.68	.89	5.4	4.0
27	52	2.6	5.2	2.0	5.3	9.6	11	2.5	.67	.73	5.5	5.2
28	55	2.5	4.8	2.0	5.0	10	9.6	2.8	.58	.43	5.2	4.7
29	57	2.5	4.5	1.9	4.4	13	9.3	3.1	.61	.27	4.8	3.8
30	54	11	4.0	2.0	---	19	8.3	3.4	.70	.20	4.1	3.5
31	65	---	3.5	2.0	---	15	---	3.0	---	1.3	4.3	---
MEAN	25.0	17.4	11.9	2.63	15.7	18.1	29.5	3.64	1.16	.90	24.1	4.87
MAX	65	104	56	5.6	95	131	236	7.3	2.6	3.1	251	13
MIN	1.2	2.0	2.1	1.7	1.4	3.2	7.8	2.0	.58	.20	.16	2.0
IN.	.93	.63	.44	.10	.55	.67	1.06	.14	.04	.03	.90	.18

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	12.7	14.3	15.1	12.8	26.1	31.0	33.3	27.1	22.9	23.6	14.0	11.6
MEAN	12.7	14.3	15.1	12.8	26.1	31.0	33.3	27.1	22.9	23.6	14.0	11.6
MAX	116	225	155	84.0	124	125	193	146	158	193	131	190
(WY)	1970	1986	1983	1969	1985	1973	1973	1991	1939	1981	1970	1970
MIN	.000	.000	.11	.27	.85	.88	1.16	1.51	.58	.000	.003	.006
(WY)	1957	1957	1964	1977	1964	1956	1956	1956	1963	1954	1953	1988

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

	27.0	12.9	20.3
ANNUAL MEAN	27.0	12.9	20.3
HIGHEST ANNUAL MEAN			57.5
LOWEST ANNUAL MEAN			2.47
HIGHEST DAILY MEAN	420	May 7	2010
LOWEST DAILY MEAN	.93	Sep 30	2.10
INSTANTANEOUS PEAK FLOW	--		.00
INSTANTANEOUS PEAK STAGE	--		6500
INSTANTANEOUS LOW FLOW	--		14.05
ANNUAL SEVEN-DAY MINIMUM	1.2	Sep 25	.00
ANNUAL RUNOFF (INCHES)	11.84		.00
10 PERCENT EXCEEDS	57		8.91
50 PERCENT EXCEEDS	6.1		.35
90 PERCENT EXCEEDS	1.8		.28

SALT RIVER BASIN

05502300 NORTH FORK SALT RIVER AT HAGERS GROVE, MO

LOCATION.--Lat 39°49'40", long 92°14'10", in NE 1/4 SW 1/4 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, wire-weight gage and crest-stage gage. Datum of gage is 702.30 ft above sea level.

REMARKS.--Estimated daily discharges: Jan. 10 to Feb. 15. 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 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.56	974	1320	86	29	93	86	69	6.9	3.6	647	9.6
2	1.1	668	324	102	30	79	68	58	7.4	3.9	202	9.0
3	.19	147	210	202	30	69	57	46	7.5	4.6	130	8.7
4	1960	62	75	165	28	63	53	38	7.2	4.2	91	7.9
5	1060	44	160	121	28	60	48	34	7.3	3.8	68	7.1
6	211	33	172	104	26	566	44	31	7.4	3.6	55	13
7	73	24	375	104	26	1340	40	27	8.7	3.6	51	108
8	35	26	328	105	21	510	38	26	8.4	3.4	54	58
9	19	21	196	97	14	252	36	25	8.4	6.6	58	36
10	8.9	18	123	75	20	176	101	22	8.5	11	45	83
11	5.2	17	92	50	21	122	338	19	7.5	6.9	37	122
12	3.0	19	896	45	17	97	268	20	9.0	5.8	31	53
13	2.1	25	906	40	19	86	113	17	7.8	264	31	40
14	1.6	43	274	35	23	76	80	15	6.4	2550	24	30
15	1.2	73	141	30	325	68	70	16	6.1	1620	21	23
16	.93	119	90	25	415	57	695	18	7.1	355	20	16
17	.76	449	83	35	397	50	1140	19	6.7	324	18	18
18	.40	4820	56	25	2080	191	474	15	6.7	144	17	100
19	1.6	1120	55	20	718	1990	1200	13	6.8	277	16	389
20	.65	640	80	25	311	1320	4010	12	6.7	1080	17	111
21	.43	382	364	27	202	430	2620	12	6.2	1150	17	136
22	.45	155	385	33	144	249	642	11	5.5	270	14	242
23	.34	99	1590	40	141	163	329	13	5.4	244	12	90
24	.38	79	860	28	344	115	254	11	5.6	172	11	41
25	.42	81	288	38	1650	93	200	11	6.0	168	9.6	24
26	.44	47	185	31	467	78	172	13	4.8	3240	15	18
27	.67	73	138	30	248	65	140	12	5.1	1510	25	16
28	1.4	308	110	28	174	55	110	9.4	4.9	318	69	18
29	2.4	251	104	27	124	70	94	8.2	4.6	170	33	25
30	1.6	4690	98	27	---	111	82	7.2	3.8	1300	17	16
31	5.5	---	87	28	---	125	---	6.5	---	2090	12	---
MEAN	110	517	328	59.0	278	284	453	21.1	6.68	558	60.2	62.3
MAX	1960	4820	1590	202	2080	1990	4010	69	9.0	3240	647	389
MIN	.34	17	55	20	14	50	36	6.5	3.8	3.4	9.6	7.1
IN.	.35	1.58	1.04	.19	.82	.90	1.39	.07	.02	1.76	.19	.19

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	202	300	227	86.3	326	450	404	450	267	276	81.3	100
MEAN	202	300	227	86.3	326	450	404	450	267	276	81.3	100
MAX	1201	1426	1319	406	1599	1177	2036	1316	1074	1688	441	589
(WY)	1987	1986	1983	1982	1982	1979	1983	1981	1984	1981	1982	1986
MIN	2.02	4.40	2.20	1.13	5.18	22.5	8.20	10.4	3.55	4.01	3.90	3.41
(WY)	1989	1976	1977	1977	1989	1989	1989	1980	1988	1988	1984	1988

SUMMARY STATISTICS

	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	271		228		264	
HIGHEST ANNUAL MEAN					553	
LOWEST ANNUAL MEAN					35.4	
HIGHEST DAILY MEAN	7940	May 5	4820	Nov 18	18800	Apr 3 1983
LOWEST DAILY MEAN	.34	Oct 23	.34	Oct 23	.18	Aug 7 1988
INSTANTANEOUS PEAK FLOW	---		6470	Nov 18	26900	Jun 6 1947
INSTANTANEOUS PEAK STAGE	---		14.84	Nov 18	19.7	Jun 6 1947
INSTANTANEOUS LOW FLOW	---		.17	Oct 23	.17	Oct 23 1991
ANNUAL SEVEN-DAY MINIMUM	.44	Oct 20	.44	Oct 20	.44	Oct 20 1991
ANNUAL RUNOFF (INCHES)	10.09		8.49		9.83	
10 PERCENT EXCEEDS	716		485		467	
50 PERCENT EXCEEDS	49		44		28	
90 PERCENT EXCEEDS	3.5		5.5		3.4	

SALT RIVER BASIN

05502500 NORTH FORK SALT RIVER NEAR SHELBYNA, MO

LOCATION.--Lat 39°44'29", long 92°02'26", in SW 1/4 NE 1/4 sec.17, T.57 N., R.10 W., Shelby County, Hydrologic Unit 07110005, on right bank near downstream end of bridge on State Highway 15, 3.0 mi north of Shelbyna, 15.0 mi upstream from Black Creek and at mile 122.3.

DRAINAGE AREA.--481 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1930 to February 1934, March 1934 to September 1972. March 1988 to current year. Prior to March 1988 published as "Salt River near Shelbyna, Mo.". Fragmentary record prior to October 1933. Monthly discharge only for period October 1933 to February 1934 published in WSP 1308.

GAGE.--Water-stage recorder and crest-stage gage with concrete control since Mar. 25, 1988. Datum of gage is 664.58 ft above sea level. Prior to Mar. 1, 1934, nonrecording gage at site 100 ft downstream at present datum; Mar. 1, 1934 to Nov. 2, 1962, water-stage recorder at site 175 ft downstream at present datum; Nov. 3, 1962 to Sept. 30, 1972, water-stage recorder at site 100 ft upstream at present datum; Oct. 1, 1972 to Sept. 30, 1979, gage-height records collected by St. Louis U.S. Army Corps of Engineers at site 100 ft downstream; Oct. 1, 1979 to Sept. 1981, gage-height data collected by U.S. Geological Survey at site 100 ft downstream.

REMARKS.--Estimated daily discharges: Oct. 10-31. Water-discharge records good except those below 50 ft³/s, which are poor. Several observations of water temperature and specific conductance were made during the year. Water is pumped from river at the gage by City of Shelbyna.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1928 reached a stage of 23.54 ft, from floodmarks, discharge, 18,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	941	3750	108	39	173	175	117	11	2.8	1090	12
2	35	1130	693	112	40	148	133	105	13	2.6	254	10
3	107	299	358	211	40	126	115	73	12	7.5	124	11
4	1970	113	149	236	37	115	104	57	11	5.8	74	9.9
5	1850	61	174	158	37	104	93	49	10	3.6	51	10
6	448	46	230	121	35	317	86	45	10	2.6	38	13
7	150	30	465	106	34	1410	77	49	9.1	2.5	35	43
8	69	22	537	111	28	890	72	48	9.3	2.7	35	85
9	42	26	323	100	18	404	73	47	8.5	2.9	37	37
10	24	23	206	85	27	272	233	44	8.1	13	93	31
11	11	24	148	69	28	203	486	39	8.2	16	32	121
12	6.5	24	774	62	23	153	509	39	7.3	7.8	24	65
13	3.8	28	1360	64	25	128	267	36	7.0	22	22	31
14	2.6	36	518	64	31	117	182	32	6.6	1400	20	19
15	2.0	107	256	34	340	101	157	33	6.7	2680	16	14
16	1.5	156	157	30	609	86	747	29	6.6	502	15	11
17	1.2	587	125	46	434	82	1700	29	6.4	331	13	9.8
18	1.0	4500	91	33	2050	186	823	27	6.7	189	15	13
19	.50	4270	37	29	1340	1840	1750	24	6.8	141	14	317
20	2.0	1070	99	34	532	2050	4460	21	5.6	827	13	174
21	.81	781	427	35	320	767	5020	21	5.7	1290	14	77
22	.53	339	570	44	237	411	1730	21	4.6	375	14	229
23	.56	215	1590	53	200	279	607	19	5.3	264	12	136
24	.42	158	1530	37	274	209	413	20	5.6	224	11	56
25	.48	99	537	50	1740	170	327	18	4.9	117	12	34
26	.52	89	305	41	885	141	264	18	3.5	2040	14	25
27	.55	97	220	40	413	116	222	19	3.2	2800	21	23
28	.84	331	173	38	290	94	178	17	3.1	492	41	19
29	1.8	301	152	36	221	103	151	15	2.9	191	46	25
30	3.0	3130	140	36	---	182	132	14	2.8	548	26	25
31	6.9	---	120	38	---	221	---	12	---	2340	17	---
MEAN	154	634	523	72.9	356	374	710	36.7	7.05	543	72.4	56.2
MAX	1970	4500	3750	236	2050	2050	5020	117	13	2800	1090	317
MIN	.42	22	37	29	18	82	72	12	2.8	2.5	11	9.8
IN.	.37	1.47	1.25	.17	.80	.90	1.65	.09	.02	1.30	.17	.13

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)**

	140	146	139	197	345	446	479	395	444	254	113	150
MEAN	140	146	139	197	345	446	479	395	444	254	113	150
MAX	809	1212	835	1319	1395	1417	1944	2310	4171	2906	1214	1831
(WY)	1958	1962	1972	1965	1949	1948	1944	1935	1947	1969	1970	1970
MIN	.000	.000	.000	.013	1.80	6.41	7.24	14.7	2.93	.000	.000	.000
(WY)	1953	1954	1954	1954	1934	1956	1989	1941	1988	1934	1936	1953

SUMMARY STATISTICS**

	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	379	294	273
HIGHEST ANNUAL MEAN			656
LOWEST ANNUAL MEAN			36.2
HIGHEST DAILY MEAN	7360	May 6	18600
LOWEST DAILY MEAN	.42	Oct 24	.00
INSTANTANEOUS PEAK FLOW	---	---	23000
INSTANTANEOUS PEAK STAGE	---	15.81	27.4
INSTANTANEOUS LOW FLOW	---	.42	.00
ANNUAL SEVEN-DAY MINIMUM	.55	Oct 21	.00
ANNUAL RUNOFF (INCHES)	10.70	8.32	7.70
10 PERCENT EXCEEDS	979	769	650
50 PERCENT EXCEEDS	66	54	28
90 PERCENT EXCEEDS	8.3	5.8	1.5

**Statistics based only on years with complete daily discharge record.

SALT RIVER BASIN

05502500 NORTH FORK SALT RIVER NEAR SHELBYNA, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT: March 25, 1988 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,550 mg/L, Mar. 24, 1991; minimum daily mean, 2 mg/L, Nov. 25, 1989.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 23,100 tons, June 8, 1990; minimum daily, 0.00 tons, several days.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,820 mg/L, July 26; minimum daily mean, 3 mg/L, Jan. 22 and 23.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 18,600 tons, July 15; minimum daily, 0.37 ton, Jan. 22.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	24	98	6.8	941	328	981	3750	612	6600
2	35	34	3.4	1130	465	1420	693	275	544
3	107	142	47	299	282	246	358	166	162
4	1970	1150	6930	113	98	32	149	141	57
5	1850	977	5220	61	51	8.4	174	145	69
6	448	431	572	46	44	5.4	230	170	106
7	150	148	65	30	41	3.3	465	211	271
8	69	57	11	22	38	2.2	537	266	386
9	42	42	4.7	26	35	2.4	323	158	142
10	24	41	3.2	23	32	2.0	206	81	46
11	11	37	2.2	24	30	1.9	148	64	26
12	6.5	37	2.0	24	27	1.8	774	219	652
13	3.8	33	1.6	28	27	2.1	1360	617	2340
14	2.6	29	1.4	36	47	4.7	518	349	498
15	2.0	23	1.4	107	79	24	256	166	119
16	1.5	16	1.2	156	116	50	157	94	40
17	1.2	16	1.4	587	840	1930	125	60	20
18	1.0	36	3.6	4500	1120	12900	91	48	11
19	.50	31	1.3	4270	550	6730	37	166	17
20	2.0	21	1.1	1070	295	851	99	211	57
21	.81	15	.98	781	186	403	427	239	282
22	.53	15	1.3	339	124	115	570	408	619
23	.56	18	1.9	215	82	48	1590	786	3470
24	.42	17	2.1	158	58	25	1530	730	3100
25	.48	19	2.4	99	44	12	537	316	486
26	.52	19	2.6	89	37	8.9	305	158	132
27	.55	21	2.2	97	42	11	220	87	52
28	.84	22	2.4	331	87	82	173	102	47
29	1.8	17	2.6	301	397	308	152	94	39
30	3.0	18	3.1	3130	1160	9380	140	51	19
31	6.9	19	4.6	---	---	---	120	29	9.3

SALT RIVER BASIN

05502500 NORTH FORK SALT RIVER NEAR SHELBYNA, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	108	24	7.1	39	9	.97	173	90	42
2	112	32	9.9	40	12	1.3	148	80	32
3	211	219	134	40	17	1.9	126	74	25
4	236	158	104	37	15	1.5	115	71	22
5	158	92	39	37	9	.92	104	85	24
6	121	75	24	35	6	.56	317	273	331
7	106	52	15	34	9	.81	1410	926	3570
8	111	48	14	28	12	.93	890	777	1950
9	100	25	6.8	18	13	.62	404	320	362
10	85	8	1.9	27	11	.80	272	168	125
11	69	6	1.1	28	9	.72	203	85	47
12	62	7	1.2	23	10	.64	153	52	22
13	64	10	1.8	25	19	1.3	128	35	12
14	64	32	4.7	31	30	2.6	117	25	7.8
15	34	30	2.8	340	129	143	101	19	5.2
16	30	22	1.7	609	393	650	86	29	6.7
17	46	15	1.8	434	224	277	82	35	7.7
18	33	12	1.1	2050	1520	8980	186	405	328
19	29	10	.77	1340	907	4230	1840	1870	9980
20	34	7	.62	532	218	315	2050	1620	9210
21	35	4	.39	320	176	150	767	983	2080
22	44	3	.37	237	197	127	411	931	1030
23	53	3	.47	200	131	70	279	721	560
24	37	6	.63	274	130	123	209	123	70
25	50	5	.69	1740	535	2490	170	172	80
26	41	5	.57	885	607	1450	141	41	16
27	40	28	3.0	413	479	540	116	35	11
28	38	14	1.4	290	188	150	94	54	14
29	36	7	.67	221	107	64	103	81	23
30	36	10	1.0	---	---	---	182	65	32
31	38	18	1.9	---	---	---	221	62	37
APRIL			MAY			JUNE			
1	175	45	21	117	95	30	11	172	5.2
2	133	35	12	105	112	31	13	217	7.6
3	115	29	9.0	73	136	27	12	269	8.7
4	104	24	6.7	57	160	25	11	264	7.7
5	93	19	4.9	49	50	6.7	10	240	6.6
6	86	22	5.0	45	74	9.1	10	219	6.1
7	77	21	4.4	49	82	11	9.1	199	4.9
8	72	13	2.5	48	68	8.8	9.3	181	4.5
9	73	13	2.5	47	70	9.0	8.5	164	3.7
10	233	52	39	44	80	9.3	8.1	148	3.2
11	486	189	259	39	89	9.4	8.2	134	3.0
12	509	239	331	39	83	8.8	7.3	127	2.5
13	267	103	76	36	73	7.1	7.0	122	2.3
14	182	79	39	32	78	6.6	6.6	117	2.1
15	157	228	97	33	92	8.2	6.7	119	2.2
16	747	1840	4450	29	97	7.7	6.6	123	2.2
17	1700	1780	8510	29	97	7.6	6.4	127	2.2
18	823	676	1550	27	99	7.3	6.7	132	2.4
19	1750	1450	7120	24	110	7.1	6.8	136	2.5
20	4460	1380	15600	21	103	5.8	5.6	141	2.1
21	5020	983	13200	21	94	5.2	5.7	146	2.2
22	1730	706	3440	21	86	4.8	4.6	149	1.9
23	607	437	745	19	85	4.4	5.3	125	1.8
24	413	205	230	20	87	4.7	5.6	97	1.5
25	327	146	130	18	93	4.5	4.9	76	1.0
26	264	110	78	18	102	4.9	3.5	74	.70
27	222	113	68	19	112	5.6	3.2	76	.66
28	178	85	41	17	122	5.7	3.1	79	.66
29	151	86	35	15	125	5.0	2.9	81	.62
30	132	90	32	14	126	4.6	2.8	80	.60
31	---	---	---	12	136	4.4	---	---	---

SALT RIVER BASIN

05502500 NORTH FORK SALT RIVER NEAR SHELBY, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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)
JULY			AUGUST			SEPTEMBER			
1	2.8	70	.52	1090	717	2300	12	84	2.6
2	2.6	72	.52	254	268	197	10	81	2.2
3	7.5	79	1.6	124	128	44	11	95	2.7
4	5.8	87	1.3	74	101	20	9.9	96	2.6
5	3.6	95	.91	51	97	13	10	97	2.7
6	2.6	103	.73	38	93	9.6	13	98	3.6
7	2.5	107	.73	35	90	8.5	43	100	12
8	2.7	111	.82	35	112	11	85	102	23
9	2.9	114	.88	37	149	15	37	94	9.3
10	13	113	4.0	93	194	47	31	157	13
11	16	96	4.1	32	186	16	121	164	54
12	7.8	81	1.7	24	160	10	65	121	22
13	22	210	35	22	138	8.0	31	94	7.8
14	1400	2500	13200	20	118	6.5	19	79	4.2
15	2680	2440	18600	16	100	4.4	14	46	1.7
16	502	550	902	15	87	3.5	11	45	1.3
17	331	170	151	13	84	3.1	9.8	27	.71
18	189	193	98	15	82	3.2	13	94	3.7
19	141	185	80	14	79	3.0	317	530	512
20	827	884	2070	13	77	2.7	174	257	142
21	1290	1210	4360	14	74	2.8	77	145	31
22	375	442	484	14	70	2.7	229	311	202
23	264	318	227	12	66	2.1	136	225	86
24	224	291	181	11	79	2.4	56	142	22
25	117	254	77	12	92	3.1	34	105	9.5
26	2040	2820	16200	14	84	3.1	25	86	5.8
27	2800	1100	9070	21	86	4.8	23	89	5.6
28	492	398	581	41	81	8.8	19	89	4.6
29	191	154	83	46	72	9.0	25	82	5.6
30	548	193	578	26	70	4.9	25	75	5.3
31	2340	1650	10500	17	78	3.5	---	---	---

SALT RIVER BASIN

05503800 CROOKED CREEK NEAR PARIS, MO

LOCATION.--Lat 39°35'06", long 91°59'36", near NW corner S 1/4, sec.2, T.55 N., R.10 W., Monroe County, Hydrologic Unit 07110005, on right bank downstream from county road bridge, 7.0 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 sea level. Prior to Nov. 8, 1967, wire-weight gage and Nov. 9, 1967 to Sept. 1979, recording gage at datum 50 ft lower.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.11	350	89	8.8	4.2	9.8	21	7.8	1.4	.06	1.3	.00
2	.21	322	23	8.4	4.2	8.4	14	7.1	1.3	.12	1.1	.00
3	.65	34	14	8.4	4.2	7.3	11	6.4	1.0	.19	.95	.00
4	295	12	11	8.5	4.2	7.0	9.9	5.9	.95	.16	.71	.00
5	255	7.4	10	8.7	4.1	6.7	8.6	5.3	1.1	.00	.53	.00
6	42	6.6	25	7.7	3.6	6.7	7.5	4.7	.97	.00	.46	.00
7	13	6.6	91	7.1	3.8	13	6.9	4.3	1.1	.00	.56	.00
8	6.8	5.3	96	6.9	3.7	29	6.5	4.0	.95	.00	.55	.00
9	4.7	4.4	42	6.2	3.3	14	6.2	3.9	.83	.00	1.2	.20
10	3.3	4.2	21	5.9	3.4	9.3	185	3.7	.68	.00	32	3.4
11	1.7	3.7	13	5.6	3.3	7.2	90	3.6	.60	.01	2.2	2.3
12	1.9	3.5	155	5.3	3.5	6.5	55	3.4	.75	.01	1.1	1.2
13	2.3	3.8	202	5.2	3.6	5.5	23	3.3	.55	.00	.60	.75
14	1.6	4.6	42	5.3	3.9	5.2	15	2.8	.54	.00	.42	.47
15	1.5	17	20	5.0	137	5.0	12	2.8	.55	.00	.30	.39
16	1.3	60	12	4.2	97	4.4	98	2.8	.48	.08	.24	.32
17	1.1	249	9.7	3.9	111	4.6	116	2.8	.47	.00	.21	.41
18	1.0	1570	8.2	3.6	380	85	96	2.7	.44	.26	.07	.54
19	.84	757	6.9	2.9	112	483	666	2.6	.49	.38	.00	.41
20	.66	133	10	3.0	44	224	858	2.3	.35	.21	.00	.42
21	.66	96	67	3.8	25	64	325	1.9	.28	.18	.08	.48
22	.73	33	60	4.4	17	52	62	2.0	.24	.24	.10	.44
23	.81	19	317	6.1	14	28	32	2.0	.17	.24	.04	.39
24	.91	13	180	6.9	12	18	23	2.0	.45	.65	.03	.36
25	.88	9.3	48	7.4	98	14	19	1.9	.59	4.0	.00	.35
26	.78	7.3	26	6.4	58	12	15	2.5	.52	3.8	.00	.35
27	.69	7.0	18	5.2	25	9.9	12	2.1	.46	5.7	.00	.35
28	.93	7.0	14	4.5	16	8.7	10	1.9	.31	5.8	.00	.29
29	1.5	8.8	12	4.2	12	13	9.1	1.7	.18	7.0	.00	.23
30	1.5	91	12	4.2	---	75	8.4	1.5	.10	3.3	.00	.16
31	2.3	---	9.9	4.2	---	45	---	1.6	---	1.9	.00	---
MEAN	22.9	128	53.7	5.74	41.8	41.3	94.0	3.33	.63	1.11	1.44	.47
MAX	295	1570	317	8.8	380	483	858	7.8	1.4	7.0	32	3.4
MIN	.11	3.5	6.9	2.9	3.3	4.4	6.2	1.5	.10	.00	.00	.00
IN.	.33	1.79	.77	.08	.56	.60	1.31	.05	.01	.02	.02	.01

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	34.8	74.7	68.5	21.1	74.1	77.0	63.5	99.3	67.0	63.6	15.0	21.4
MEAN	34.8	74.7	68.5	21.1	74.1	77.0	63.5	99.3	67.0	63.6	15.0	21.4
MAX	320	550	247	86.4	359	208	319	362	230	398	48.0	192
(WY)	1987	1986	1983	1982	1985	1984	1983	1990	1990	1981	1982	1986
MIN	.000	.000	.000	.000	.000	.066	.16	1.53	.031	.000	.000	.000
(WY)	1980	1981	1989	1989	1989	1989	1989	1988	1988	1988	1988	1983

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

	67.1	32.6	56.5
ANNUAL MEAN	67.1	32.6	56.5
HIGHEST ANNUAL MEAN			99.7
LOWEST ANNUAL MEAN			7.38
HIGHEST DAILY MEAN	3460	Jul 12	3870
LOWEST DAILY MEAN	.00	Many Days	.00
INSTANTANEOUS PEAK FLOW	---	2060	12100
INSTANTANEOUS PEAK STAGE	---	7.83	15.53
INSTANTANEOUS LOW FLOW	---	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.02	Jun 28	.00
ANNUAL RUNOFF (INCHES)	11.38	5.55	9.60
10 PERCENT EXCEEDS	135	66	82
50 PERCENT EXCEEDS	7.1	4.1	3.1
90 PERCENT EXCEEDS	.33	.10	.00

SALT RIVER BASIN

05504800 SOUTH FORK SALT RIVER ABOVE SANTA FE, MO

LOCATION.--Lat 39°19'34", long 91°50'02", in SE 1/4 SE 1/4 sec.31, T.53 N., R.8 W., Audrain County, Hydrologic Unit 07110006, on left bank near downstream side of bridge on county road, 4.0 mi southwest of Santa Fe, 1.0 mi upstream from Littleby Creek and at mile 104.2 above mouth of Salt River.

DRAINAGE AREA.--233 mi².

PERIOD OF RECORD.--February 1940 to current year. Published as "near Santa Fe" October 1969 to September 1975 and as "at Santa Fe" February 1940 to September 1968 and October 1975 to September 1986.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 644.87 ft above sea level. Prior to Feb. 5, 1940, nonrecording gage; Feb. 5, 1940 to Sept. 30, 1968, and Oct. 1975 to Sept. 1986, water-stage recorder, 8.0 mi downstream at datum 613.05; Oct. 1, 1968 to Sept. 30, 1975, water-stage recorder, 1.0 mi downstream at datum 639.09 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	100	13	22	9.6	30	113	24	3.2	1.6	7.2	1.0
2	2.7	69	14	20	9.2	26	73	21	3.1	1.8	3.6	1.1
3	3.8	45	26	20	8.7	23	55	19	2.9	14	2.6	1.3
4	12	29	27	19	8.2	21	45	17	2.8	12	2.2	1.2
5	15	21	25	18	7.7	20	38	15	2.5	6.3	1.8	1.6
6	21	16	34	17	7.4	20	33	14	2.2	3.9	1.7	1.4
7	10	11	49	16	7.3	154	29	12	2.5	2.9	2.1	1.3
8	5.4	7.2	77	15	6.9	176	26	11	58	2.5	2.7	1.5
9	3.9	6.3	60	14	6.3	71	25	11	24	2.1	5.4	2.2
10	2.7	6.0	37	13	6.3	44	111	11	10	2.3	6.1	3.2
11	1.9	5.3	24	11	6.5	35	54	9.1	5.4	3.8	3.3	8.9
12	1.6	5.2	253	11	7.5	31	41	9.5	3.9	14	2.3	6.3
13	1.5	6.1	605	11	8.4	24	34	9.4	3.3	23	2.1	3.7
14	1.5	6.6	150	11	11	20	30	10	2.7	12	2.2	3.1
15	1.7	6.7	67	11	274	18	27	10	3.0	9.1	2.0	2.8
16	3.3	5.9	42	9.2	406	16	46	14	3.1	6.1	1.9	2.1
17	3.1	78	29	9.3	536	16	54	14	3.3	4.9	2.0	1.5
18	2.7	332	22	8.7	1810	242	60	11	3.9	5.2	1.9	1.8
19	2.9	214	17	8.9	511	1610	212	8.9	2.8	6.1	1.7	2.0
20	3.3	76	19	8.9	194	950	675	8.5	2.4	4.5	1.5	2.1
21	3.6	47	149	9.0	109	314	360	90	2.0	5.2	1.3	19
22	3.5	33	237	9.6	77	300	135	21	1.9	14	1.3	235
23	4.3	26	373	12	61	329	79	9.4	1.8	8.1	1.2	68
24	4.2	17	565	14	50	145	64	7.3	1.5	5.6	1.4	23
25	3.9	12	185	14	47	93	56	6.4	1.8	4.1	1.5	12
26	3.8	9.9	83	18	44	79	44	6.0	1.8	3.8	1.4	7.5
27	3.6	8.8	54	16	43	67	37	4.7	1.9	3.3	1.2	5.6
28	4.5	7.9	40	13	41	55	32	4.2	2.1	4.6	1.1	5.4
29	12	8.7	33	12	34	50	29	3.9	2.0	4.3	1.1	5.4
30	17	8.9	28	11	---	224	27	3.8	1.9	3.4	1.2	3.3
31	12	---	24	10	---	283	---	3.6	---	6.8	1.2	---
MEAN	5.64	40.8	108	13.3	150	177	88.1	13.5	5.46	6.49	2.26	14.5
MAX	21	332	605	22	1810	1610	675	90	58	23	7.2	235
MIN	1.5	5.2	13	8.7	6.3	16	25	3.6	1.5	1.6	1.1	1.0
IN.	.03	.20	.54	.07	.69	.88	.42	.07	.03	.03	.01	.07

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	134	124	138	131	210	317	310	293	249	209	52.3	114
MEAN	134	124	138	131	210	317	310	293	249	209	52.3	114
MAX	1646	1378	1447	792	1031	1715	1734	2238	1307	2415	544	1060
(WY)	1942	1986	1983	1974	1985	1973	1944	1943	1942	1969	1982	1970
MIN	.006	.36	.58	1.18	1.91	2.74	4.43	5.92	3.28	1.31	.46	.22
(WY)	1954	1954	1964	1963	1954	1954	1963	1980	1988	1944	1964	1960

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	127		51.8		190
HIGHEST ANNUAL MEAN					509
LOWEST ANNUAL MEAN					10.7
HIGHEST DAILY MEAN	3860	May 4	1810	Feb 18	24000
LOWEST DAILY MEAN	1.5	Oct 13-14	1.0	Sep 1	.00
INSTANTANEOUS PEAK FLOW	---		2160	Feb 18	28800
INSTANTANEOUS PEAK STAGE	---		11.41	Feb 18	28.24
INSTANTANEOUS LOW FLOW	---		.93	Sep 1, 2	.00
ANNUAL SEVEN-DAY MINIMUM	2.0	Oct 10	1.1	Aug 27	.00
ANNUAL RUNOFF (INCHES)	7.39		3.02		11.07
10 PERCENT EXCEEDS	255		95		308
50 PERCENT EXCEEDS	23		10		15
90 PERCENT EXCEEDS	3.5		1.9		1.4

LOCATION.--Lat 39°29'01", long 92°00'49", in NE 1/4 NE 1/4 NE 1/4 sec.10, T.54 N., R.10 W., Monroe County, Hydrologic Unit 07110006, on left bank downstream side of bridge on State Highway 24 at Paris, about 1.0 mile upstream from Wabash Railroad bridge. 14.0 mi upstream from Elk Fork Salt River and at mile 106 above mouth of Salt River.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 630.00 ft above sea level. Prior to Jan. 22, 1940, nonrecording gage at present site; Jan. 1940 to Sept. 1958, a water-stage recorder, 1.4 mi downstream; Sept. 1958 to July 1968, 1.5 mi downstream; July 1968 to Apr. 1973, 1.5 mi downstream at datum 8.29 ft lower.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
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ANNUAL MEAN	283		174		249	
HIGHEST ANNUAL MEAN					743	1973
LOWEST ANNUAL MEAN					53.1	1956
HIGHEST DAILY MEAN	10400	Jul 12	3000	Nov 18	24800	Apr 22 1973
LOWEST DAILY MEAN	.00	Oct 19-21	.00	Oct 19-21, Aug 27	.00	Many Years
INSTANTANEOUS PEAK FLOW	--		3420	Nov 18	45000	Apr 21 1973
INSTANTANEOUS PEAK STAGE	--		9.02	Nov 18	33.5	Apr 21 1973
INSTANTANEOUS LOW FLOW	--		.00	Many Days	.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	1.6	Oct 18	1.6	Oct 18	.00	Many Years
ANNUAL RUNOFF (INCHES)	10.78		6.66		9.50	
10 PERCENT EXCEEDS	597		419		561	
50 PERCENT EXCEEDS	78		32		30	
90 PERCENT EXCEEDS	6.0		3.6		1.8	

SALT RIVER BASIN

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, 2 mg/L, Oct. 23, 1989.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 40,200 tons, Mar. 5, 1985; minimum daily, 0.00 tons, many years.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,500 mg/L, Nov. 18; minimum daily mean, 7 mg/L, Jan. 17.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 12,200 tons, Nov. 18; minimum daily, 0.00 ton, many days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	3.7	46	.33	637	485	1000	1140	1180	3740
2	3.7	20	.18	960	429	1160	1000	996	2820
3	11	10	.30	397	226	250	251	554	390
4	55	38	.11	156	153	66	146	301	120
5	522	258	371	83	111	25	105	228	65
6	333	345	309	50	73	10	155	171	71
7	124	283	97	36	40	3.9	218	115	67
8	56	173	27	23	40	2.5	274	101	74
9	27	128	9.4	20	43	2.3	244	99	65
10	17	111	5.0	18	48	2.3	168	97	44
11	13	102	3.6	18	52	2.5	119	100	32
12	11	76	2.2	19	57	2.9	229	167	115
13	8.9	78	1.9	20	62	3.4	830	660	1570
14	7.5	75	1.5	21	60	3.4	582	772	1230
15	6.2	55	.91	54	57	8.4	214	475	282
16	6.3	37	.63	114	133	46	135	299	110
17	4.7	46	.65	532	706	1420	103	223	62
18	.82	43	.09	3000	1500	12200	85	191	44
19	.00	40	.00	2840	828	6360	70	182	34
20	.00	33	.00	2300	383	2450	82	135	30
21	.00	30	.00	612	218	370	362	185	188
22	2.6	30	.21	302	186	152	457	215	265
23	3.7	33	.41	180	171	83	651	224	426
24	4.1	31	.34	132	153	55	1310	647	2280
25	3.7	34	.33	105	87	25	606	503	858
26	12	36	1.2	84	68	15	238	272	179
27	12	27	.85	74	63	13	167	164	75
28	10	43	1.2	75	58	12	135	125	46
29	8.9	69	1.7	93	59	15	118	96	31
30	6.2	48	.82	180	313	191	108	63	18
31	16	156	6.9	---	---	---	99	51	14

SALT RIVER BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	91	52	13	22	19	1.1	110	84	25
2	87	47	11	22	20	1.2	92	90	22
3	85	43	9.9	22	17	.99	82	87	19
4	98	29	7.7	22	17	.99	73	70	14
5	101	27	7.3	22	16	.92	69	59	11
6	83	27	6.1	20	14	.78	73	5	8.9
7	62	33	5.5	22	16	.92	302	100	138
8	57	35	5.4	21	88	4.9	903	617	1480
9	54	25	3.6	17	120	5.5	300	345	297
10	51	20	2.7	16	116	5.1	170	193	89
11	47	17	2.1	16	112	4.7	128	128	44
12	42	14	1.6	15	105	4.3	98	95	25
13	41	12	1.4	17	97	4.4	79	74	16
14	43	13	1.5	22	131	8.8	69	64	12
15	39	13	1.3	489	551	811	60	51	8.2
16	24	11	.73	582	388	624	53	49	7.0
17	30	7	.53	386	391	417	46	37	4.5
18	22	17	.98	1220	1160	3930	223	85	161
19	18	52	2.6	1320	787	2850	2260	1180	7290
20	21	144	7.9	474	462	621	1820	642	3270
21	22	147	8.6	231	250	158	653	410	728
22	25	116	7.8	170	190	87	342	261	243
23	35	116	11	138	180	67	238	135	88
24	39	126	13	119	173	56	174	98	46
25	43	137	16	246	190	152	141	85	32
26	39	142	15	618	434	729	121	74	24
27	31	81	7.0	275	305	231	106	78	22
28	28	17	1.3	172	182	86	92	70	17
29	24	10	.66	136	123	46	111	71	22
30	22	11	.68	---	---	---	403	146	164
31	22	14	.86	---	---	---	324	134	119
APRIL			MAY			JUNE			
1	188	106	54	86	64	15	9.6	82	2.1
2	141	81	31	75	64	13	8.8	93	2.2
3	114	68	21	63	64	11	8.6	105	2.4
4	100	77	21	53	55	7.9	7.3	115	2.3
5	89	70	17	49	47	6.1	5.8	90	1.4
6	79	56	12	45	57	6.9	5.2	66	.92
7	70	59	11	39	51	5.4	4.8	68	.89
8	66	60	11	37	45	4.5	4.1	71	.78
9	70	85	17	33	64	5.6	4.2	92	1.0
10	1810	948	5430	27	62	4.6	3.8	85	.87
11	1080	636	2090	25	65	4.4	4.1	69	.76
12	385	211	228	26	58	4.1	4.3	86	1.0
13	254	113	78	25	72	4.8	3.9	86	.90
14	170	106	49	22	68	4.0	3.8	98	1.0
15	140	110	42	21	84	4.9	17	69	3.4
16	257	153	113	19	88	4.6	5.5	56	.83
17	776	386	900	17	90	4.1	5.4	61	.90
18	648	366	668	16	76	3.4	3.9	47	.51
19	1370	702	2690	15	74	2.9	3.3	42	.37
20	2320	1200	7570	13	76	2.7	3.2	51	.44
21	2740	804	5950	12	78	2.5	2.2	62	.37
22	2110	426	2520	11	80	2.4	2.9	55	.43
23	464	197	264	12	83	2.6	3.0	54	.43
24	263	119	85	11	87	2.5	1.6	51	.22
25	232	97	61	9.8	91	2.4	2.1	63	.37
26	185	86	43	11	95	2.8	2.7	96	.72
27	153	78	32	11	89	2.7	2.2	72	.43
28	128	63	22	11	81	2.4	2.2	59	.35
29	111	56	17	10	74	2.1	2.7	60	.43
30	96	60	15	9.9	68	1.8	3.0	60	.48
31	---	---	---	10	73	2.0	---	---	---

SALT RIVER BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	1.1	61	.19	19	83	4.2	9.0	69	1.7
2	2.0	62	.35	64	79	14	7.8	68	1.4
3	4.2	63	.72	34	66	6.2	7.7	48	.99
4	3.7	65	.65	18	54	2.6	7.1	42	.81
5	3.3	66	.60	12	50	1.7	7.1	43	.82
6	3.2	68	.60	11	47	1.3	7.0	41	.78
7	3.4	70	.64	22	33	1.9	4.1	40	.44
8	3.1	70	.59	44	33	4.0	6.4	41	.70
9	1.8	65	.32	82	37	8.4	8.5	80	1.8
10	1.6	60	.26	62	63	10	316	170	82
11	1.6	60	3.7	21	60	3.4	204	66	37
12	23	58	6.6	11	49	1.4	60	51	8.3
13	29	58	4.6	7.0	51	.95	25	47	3.1
14	14	60	2.2	4.9	56	.74	15	47	1.9
15	9.6	112	2.8	4.4	45	.54	11	47	1.5
16	291	211	170	4.5	40	.49	8.3	48	1.1
17	134	165	60	4.4	24	.29	7.4	49	.97
18	66	160	29	4.1	20	.22	9.2	50	1.2
19	38	156	16	3.3	21	.18	8.8	51	1.2
20	20	126	7.0	3.3	21	.19	9.2	51	1.3
21	13	76	2.6	3.0	23	.18	8.5	52	1.2
22	86	78	18	2.4	26	.17	12	53	1.7
23	61	52	8.8	3.9	28	.30	16	54	2.3
24	30	61	4.9	3.5	28	.34	25	55	3.7
25	87	74	17	1.1	35	.10	20	56	3.0
26	65	40	7.3	2.2	40	.24	18	56	2.8
27	268	127	156	.00	45	.00	21	57	3.2
28	492	311	419	.69	50	.09	17	58	2.6
29	147	277	110	2.3	55	.34	13	59	2.1
30	59	140	24	5.1	66	.97	12	60	2.0
31	29	92	7.2	5.4	68	.99	---	---	---

SALT RIVER BASIN

05506800 ELK FORK SALT RIVER NEAR MADISON, MO

LOCATION.--Lat 39°26'05", long 92°10'04", in SE 1/4 NE 1/4 SW 1/4 sec.29, T.54 N., R.11 W., Monroe County, Hydrologic Unit 07110006, on downstream side of highway, 25 ft to the left of bridge on State Highway AA, 500 ft downstream from Allen Creek, 3.5 mi southeast of Madison and at mile 29.8.

DRAINAGE AREA.--200 mi².

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

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 690.16 ft above sea level (Missouri State Highways and Transportation Commission bench mark).

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.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.66	854	87	23	11	27	116	29	3.5	.97	2.5	.74
2	1.1	261	42	24	10	24	78	22	3.2	1.1	1.6	.74
3	4.7	54	38	22	9.8	22	60	17	3.2	1.6	1.3	.73
4	44	22	26	22	9.6	21	50	15	3.2	4.8	1.2	.66
5	73	13	29	20	9.1	19	42	14	3.4	3.6	1.1	.66
6	23	8.6	87	19	9.1	27	36	12	3.2	2.1	.99	.73
7	14	7.9	146	19	8.9	112	32	11	3.6	1.6	1.6	.79
8	6.8	6.2	130	18	7.9	60	30	11	3.1	1.2	2.3	.80
9	5.0	5.3	75	16	7.3	41	29	10	2.8	.93	6.6	1.4
10	4.6	5.1	43	14	7.0	31	859	9.6	2.6	1.1	3.0	1.2
11	3.9	6.2	29	13	7.6	24	296	8.7	2.6	3.4	1.9	3.1
12	1.7	6.6	201	13	8.0	21	120	9.3	2.5	5.8	1.6	2.5
13	1.4	8.4	241	14	8.6	19	73	8.2	3.8	4.4	1.3	1.4
14	1.7	8.1	105	16	14	17	57	8.0	3.0	4.0	1.0	1.0
15	1.7	35	52	14	359	15	50	8.5	3.7	2.6	1.0	.96
16	1.5	36	34	11	278	14	88	9.0	4.8	2.1	.83	.98
17	1.2	650	27	10	209	14	145	7.7	5.8	3.5	.74	1.0
18	1.2	2790	21	9.5	702	570	220	6.9	3.5	2.4	.80	1.1
19	2.3	573	15	8.9	253	2080	688	6.2	2.3	255	.84	.96
20	2.5	186	42	9.3	133	617	938	5.6	1.9	162	.83	1.4
21	2.8	126	251	10	86	212	573	9.3	1.6	34	.79	1.3
22	3.2	70	176	13	63	178	188	14	1.4	12	.68	2.2
23	4.5	44	585	20	50	155	118	15	1.7	8.5	.66	3.3
24	2.9	28	455	19	43	102	109	9.2	1.8	11	.67	2.4
25	1.7	18	140	20	57	76	90	6.7	1.6	8.8	.62	2.1
26	2.1	15	95	20	63	63	70	5.7	1.6	6.8	.63	1.9
27	2.3	18	61	16	47	51	54	5.0	1.6	6.6	.60	1.6
28	4.1	19	46	13	39	43	44	4.7	1.5	19	1.1	1.5
29	7.1	19	38	12	32	75	38	4.5	1.2	10	1.6	1.7
30	11	106	33	11	---	358	34	4.4	1.1	5.6	1.1	1.6
31	33	---	27	11	---	214	---	4.0	---	3.7	.85	---
MEAN	8.73	200	109	15.5	87.7	171	177	10.0	2.69	19.0	1.37	1.41
MAX	73	2790	585	24	702	2080	938	29	5.8	255	6.6	3.3
MIN	.66	5.1	15	8.9	7.0	14	29	4.0	1.1	.93	.60	.66
IN.	.05	1.12	.63	.09	.47	.99	.99	.06	.02	.11	.01	.01

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	120	143	155	110	184	270	298	224	181	143	39.2	85.1
MEAN	120	143	155	110	184	270	298	224	181	143	39.2	85.1
MAX	1077	1248	750	533	935	1154	1651	810	1005	1409	256	577
(WY)	1987	1986	1983	1974	1985	1973	1973	1990	1969	1981	1985	1986
MIN	.25	1.24	.94	.95	2.07	3.02	10.8	10.0	1.61	1.06	.82	.63
(WY)	1981	1981	1989	1977	1989	1981	1989	1992	1988	1988	1980	1988

SUMMARY STATISTICS

	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	99.2	66.6	162
HIGHEST ANNUAL MEAN			365
LOWEST ANNUAL MEAN			23.6
HIGHEST DAILY MEAN	3350	May 5	24100
LOWEST DAILY MEAN	.66	Oct 1	.00
INSTANTANEOUS PEAK FLOW	---		42300
INSTANTANEOUS PEAK STAGE	---		33.4
INSTANTANEOUS LOW FLOW	---		.00
ANNUAL SEVEN-DAY MINIMUM	.86	Sep 26	.00
ANNUAL RUNOFF (INCHES)	6.74		11.04
10 PERCENT EXCEEDS	187		260
50 PERCENT EXCEEDS	17		13
90 PERCENT EXCEEDS	1.5		1.1

SALT RIVER BASIN

05507600 LICK CREEK AT PERRY, MO

LOCATION.--Lat 39°25'53", long 91°40'34", near center of NW 1/4 SW 1/4 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 sea level. Prior to November 1967 nonrecording gage at same site and datum.

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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of October 12, 1969, reached a stage of 26.24 ft as determined by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	153	8.6	9.1	4.5	10	22	5.2	.38	.00	.07	.04
2	.39	46	11	8.4	4.1	8.4	16	4.3	.30	.02	.06	.04
3	.11	16	15	7.7	3.7	7.4	13	3.5	.25	.18	.05	.04
4	4.5	7.7	13	7.1	3.3	6.6	11	3.0	.27	.18	.04	.03
5	42	4.1	11	6.6	3.3	6.2	9.3	2.7	.32	6.3	.03	.03
6	14	2.9	34	5.9	3.0	6.5	8.0	2.5	.27	2.0	.03	.04
7	5.2	2.9	104	5.8	3.0	9.0	7.2	2.3	.24	1.1	.20	.03
8	2.4	1.5	73	5.1	2.7	23	6.9	2.2	.21	.66	.11	.03
9	1.2	1.6	35	4.6	2.5	14	6.8	2.0	.13	.40	.09	.34
10	.93	1.6	19	4.0	2.4	11	307	1.9	.08	.27	690	.31
11	.78	1.5	13	4.0	2.6	7.7	105	1.8	.08	.21	70	.16
12	.76	1.7	426	3.8	2.7	6.1	35	1.6	.07	.18	16	.09
13	.68	2.7	162	3.9	2.7	5.0	22	1.6	.06	.15	5.9	.06
14	.72	3.6	40	4.8	4.0	4.2	16	1.4	.05	.13	2.4	.05
15	.65	4.0	23	4.0	1.66	3.7	13	1.4	1.1	1.1	1.3	.05
16	.59	7.6	15	3.0	75	3.5	13	1.4	.58	.87	.87	.04
17	.56	276	11	2.8	564	3.6	12	1.3	.23	.80	.55	.04
18	.57	304	7.9	2.7	905	232	16	1.2	.11	.58	.38	.06
19	.59	55	6.2	2.4	139	990	79	1.1	.08	.35	.30	.05
20	.59	38	15	2.6	49	387	100	1.2	.08	.22	.19	.09
21	.63	34	61	2.8	30	80	49	1.3	.08	.15	.12	.13
22	.62	20	46	4.3	27	139	29	1.6	.05	.20	.09	.15
23	.59	12	453	30	21	66	19	1.6	.04	.21	.08	.07
24	.67	8.3	180	26	17	34	14	1.3	.04	.21	.07	.06
25	.88	5.8	54	17	21	24	12	1.1	.04	.18	.06	.06
26	.99	4.5	34	10	22	19	10	.94	.03	.24	.06	.07
27	1.1	4.2	25	7.6	19	15	8.9	.85	.02	.24	.06	.09
28	2.0	3.6	19	6.3	16	13	7.6	.77	.01	.17	.05	.06
29	2.6	3.5	16	5.6	13	16	6.8	.67	.01	.13	.05	.05
30	2.5	9.8	13	5.0	---	37	6.1	.61	.00	.10	.04	.04
31	3.3	---	11	4.8	---	31	---	.45	---	.08	.04	---
MEAN	3.36	34.6	63.1	7.02	73.4	71.6	32.7	1.77	.17	1.72	25.5	.080
MAX	42	304	453	30	905	990	307	5.2	1.1	18	690	.34
MIN	.13	1.5	6.2	2.4	2.4	3.5	6.1	.45	.00	.00	.03	.03
IN.	.04	.37	.70	.08	.76	.79	.35	.02	.00	.02	.28	.00

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	14.9	91.1	101	33.8	95.1	82.1	71.1	98.6	54.3	82.6	24.8	15.0
MAX	95.9	652	442	151	389	340	302	313	221	482	143	120	
(WY)	1987	1986	1983	1982	1985	1984	1984	1991	1982	1981	1982	1982	
MIN	.000	.048	.047	.003	1.67	.41	2.49	1.27	.035	1.14	.003	.011	
(WY)	1989	1981	1980	1980	1981	1981	1981	1988	1988	1989	1984	1983	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	82.2	26.1	63.5
HIGHEST ANNUAL MEAN			111
LOWEST ANNUAL MEAN			15.1
HIGHEST DAILY MEAN	4540	Jul 11	990
LOWEST DAILY MEAN	.06	Jul 8	.00
INSTANTANEOUS PEAK FLOW	---		2900
INSTANTANEOUS PEAK STAGE	---		13.34
INSTANTANEOUS LOW FLOW	---		.00
ANNUAL SEVEN-DAY MINIMUM	.08	Aug 25	.01
ANNUAL RUNOFF (INCHES)	10.73		3.41
10 PERCENT EXCEEDS	147		37
50 PERCENT EXCEEDS	5.0		2.8
90 PERCENT EXCEEDS	.27		.06
			6.30
			71
			3.0
			.02
			4800
		Mar 19	Apr 2 1983
		Jun 30-Jul 1	Many Years
		Aug 10	May 1 1983
		Aug 10	May 1 1983
		Jun 30-Jul 2	Many Years
		Jun 26	Many Years

SALT RIVER BASIN

05507700 MARK TWAIN LAKE NEAR CENTER, MO

LOCATION.--Lat 39°31'29", long 91°38'37", sec.26, T.55 N., R.7 W., Ralls County, Hydrologic Unit 07110007, inside dam structure at mile 63.0 on Salt River.

DRAINAGE AREA.--2,318 mi².

PERIOD OF RECORD.--1984 to present. 1984 to September 30, 1991, available in files at U.S. Army Corps of Engineers, St. Louis District.

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,165,000 ac-ft, Nov. 22, 1985, elevation, 630.56 ft; minimum, 386,000 ac-ft, Oct. 10, 1984, elevation, 596.60 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 662,000 ac-ft, Apr. 24, elevation, 611.81 ft; minimum, 496,000 ac-ft, July 14, elevation, 603.30 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	607.19	605.89	606.89	609.22	606.04	608.30	609.56	610.86	607.27	605.84	606.22	605.03
2	607.19	606.22	607.50	609.25	606.06	608.33	609.29	610.72	607.23	605.55	606.35	605.04
3	607.25	606.55	607.69	608.99	606.08	608.27	608.98	610.56	607.22	605.34	606.38	604.98
4	607.15	606.35	607.47	608.85	606.07	608.28	608.84	610.32	607.16	605.31	606.33	604.71
5	607.41	605.98	607.20	608.84	605.92	608.30	608.64	610.15	607.17	605.30	606.33	604.70
6	607.81	605.46	607.11	608.84	605.73	608.36	608.51	610.00	607.20	605.28	606.33	604.74
7	607.87	605.10	607.11	608.75	605.53	608.43	608.22	609.76	607.20	605.23	606.11	604.72
8	607.91	604.62	607.30	608.62	605.39	608.47	607.80	609.16	607.15	605.22	605.88	604.72
9	607.81	604.25	607.43	608.39	605.35	608.61	607.48	608.49	606.96	605.03	605.55	604.53
10	607.60	604.02	607.53	607.93	605.27	608.49	607.27	607.91	606.96	605.08	605.90	604.48
11	607.47	604.05	607.61	607.48	605.32	608.35	607.80	607.08	606.98	605.01	606.11	604.44
12	607.27	604.02	607.68	607.50	605.31	608.24	608.10	607.10	606.97	605.03	605.93	604.44
13	607.23	603.96	608.14	607.52	605.36	608.20	608.08	607.12	606.96	604.97	605.92	604.46
14	607.25	603.30	608.66	607.12	605.35	608.19	607.88	607.11	606.96	604.68	605.90	604.23
15	607.15	603.75	608.73	606.90	605.40	608.14	607.68	607.14	607.00	604.79	605.86	604.01
16	607.08	603.79	608.75	606.55	605.70	608.11	607.76	607.08	606.92	605.06	605.86	603.73
17	607.00	603.84	608.72	606.45	605.91	608.10	607.64	607.09	606.67	605.18	605.85	603.56
18	606.83	604.79	608.53	606.45	606.93	607.92	608.07	607.11	606.67	605.20	605.83	603.50
19	606.58	606.39	608.20	606.46	607.88	608.78	609.48	607.10	606.39	605.23	605.82	603.50
20	606.35	607.34	607.88	606.47	608.18	610.10	609.45	607.11	606.39	605.25	605.81	603.70
21	606.34	607.32	607.85	606.48	608.15	610.67	610.59	607.14	606.35	605.34	605.75	603.80
22	607.27	607.11	608.01	606.50	607.96	610.99	611.41	607.31	606.34	605.48	605.74	603.60
23	606.22	606.98	608.29	606.57	608.00	611.21	611.80	607.34	606.31	605.59	605.74	603.40
24	606.16	606.66	609.03	606.52	607.92	611.10	611.81	607.31	606.00	605.61	605.73	603.43
25	606.18	606.63	609.50	606.43	607.85	610.82	611.53	607.32	606.00	605.65	605.57	603.42
26	606.17	606.39	609.71	606.41	608.00	610.62	611.47	607.34	605.99	605.73	605.30	603.43
27	606.15	606.38	609.62	606.40	608.13	610.32	611.34	607.29	605.94	605.87	605.24	603.41
28	606.18	606.39	609.27	606.29	608.19	610.04	611.19	607.28	605.92	606.22	605.22	603.40
29	606.19	606.45	609.28	606.16	608.24	610.00	611.14	607.28	605.91	606.10	605.15	603.37
30	606.02	606.62	609.31	606.15	---	610.05	610.96	607.28	605.91	605.93	605.14	603.37
31	605.85	---	609.31	606.12	---	609.92	---	607.27	---	605.99	605.06	---
(-)	542000	556000	609000	547000	588000	622000	644000	569000	543000	545000	527000	497000
(=)	-26000	+14000	+53000	-62000	+41000	+34000	+22000	-75000	-26000	+2000	-18000	-30000
MAX	607.91	607.34	609.71	609.25	608.24	611.21	611.81	610.86	607.27	606.22	606.38	605.04
MIN	605.85	603.30	606.89	606.12	605.27	607.92	607.27	607.08	605.91	604.68	605.06	603.37

WTR YR. . . . -71000

(-) Contents, in acre-feet, at end of month.
(=) Change in contents, in acre-feet.

SALT RIVER BASIN

05507700 MARK TWAIN LAKE NEAR CENTER, MO--Continued

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	567000	543000	562000	608000	546000	589000	615000	642000	569000	542000	549000	527000
2	567000	549000	573000	608000	546000	590000	609000	639000	568000	537000	551000	527000
3	569000	555000	577000	603000	546000	589000	603000	635000	568000	533000	552000	526000
4	567000	551000	573000	600000	546000	589000	600000	630000	567000	532000	551000	521000
5	572000	544000	568000	600000	543000	589000	596000	627000	567000	532000	551000	521000
6	580000	535000	566000	600000	540000	590000	593000	624000	568000	532000	551000	522000
7	581000	528000	566000	598000	536000	592000	588000	619000	568000	531000	547000	521000
8	581000	519000	570000	596000	534000	593000	579000	606000	567000	530000	543000	521000
9	580000	513000	572000	591000	533000	595000	573000	593000	563000	527000	537000	518000
10	575000	509000	574000	582000	531000	593000	569000	581000	563000	528000	543000	517000
11	573000	509000	576000	573000	532000	590000	579000	565000	563000	527000	547000	516000
12	569000	509000	577000	573000	532000	588000	585000	566000	563000	527000	544000	516000
13	568000	508000	586000	574000	533000	587000	585000	566000	563000	526000	543000	517000
14	569000	496000	596000	566000	533000	587000	581000	566000	563000	521000	543000	512000
15	567000	504000	598000	562000	534000	586000	577000	566000	564000	523000	542000	508000
16	565000	505000	598000	555000	539000	585000	579000	565000	562000	527000	542000	504000
17	564000	505000	598000	553000	543000	585000	576000	566000	558000	530000	542000	501000
18	561000	523000	594000	553000	562000	582000	585000	566000	558000	530000	542000	499000
19	556000	552000	587000	554000	581000	599000	593000	566000	552000	531000	541000	499000
20	551000	570000	581000	554000	587000	626000	612000	566000	552000	531000	541000	503000
21	551000	570000	580000	554000	586000	638000	636000	566000	551000	533000	540000	505000
22	551000	566000	583000	554000	582000	644000	653000	570000	551000	535000	540000	501000
23	549000	563000	589000	556000	583000	649000	662000	570000	551000	537000	540000	498000
24	548000	557000	604000	555000	582000	647000	662000	570000	545000	538000	540000	498000
25	548000	557000	613000	553000	580000	641000	656000	570000	545000	538000	537000	498000
26	548000	552000	618000	553000	583000	637000	655000	570000	545000	540000	532000	498000
27	548000	552000	616000	552000	586000	630000	652000	569000	544000	542000	531000	498000
28	548000	552000	609000	550000	587000	624000	649000	569000	543000	549000	530000	498000
29	548000	553000	609000	548000	588000	624000	647000	569000	543000	547000	529000	497000
30	545000	557000	609000	548000	---	625000	644000	569000	543000	544000	529000	497000
31	542000	---	609000	547000	---	622000	---	569000	---	545000	527000	---
MAX	581000	570000	618000	608000	588000	649000	662000	642000	569000	549000	552000	527000
MIN	542000	496000	562000	547000	531000	582000	569000	565000	543000	521000	527000	497000

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 Dam, 5.0 mi northwest of Center and 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 sea level. Prior to Oct. 1979 nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 2-6, 24, 25 and June 4-10. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	2120	132	326	237	48	3580	1860	81	1650	23	124
2	638	90	945	2490	138	527	4080	1460	92	3250	39	422
3	1110	3200	2550	3430	87	382	2230	1800	83	374	85	1880
4	1750	3800	2880	384	512	143	1790	2480	108	98	117	591
5	74	4000	967	136	1900	93	2000	1700	131	94	99	115
6	30	3200	1800	1010	1890	85	2420	2700	114	382	579	104
7	27	3560	355	1780	1320	1100	3200	4500	105	440	4060	92
8	964	3830	117	1960	933	722	3960	6990	286	871	3180	880
9	2620	3250	148	4110	75	1950	4650	6690	703	542	847	1140
10	1040	526	58	4920	525	1920	2630	6260	60	29	701	1410
11	2100	307	78	1140	150	1660	289	2900	54	39	1230	56
12	154	93	135	36	138	755	253	33	104	59	841	35
13	22	1100	117	3130	126	796	2710	35	33	2130	150	824
14	510	1670	460	2620	275	617	3190	39	63	649	43	1830
15	262	376	557	3050	150	202	991	74	115	63	52	2830
16	882	128	685	1570	103	560	3620	164	2740	78	41	2040
17	1530	207	1170	432	108	1400	639	82	296	64	94	1080
18	2640	117	3470	30	114	1530	51	77	1690	54	109	181
19	2190	2120	3560	22	720	494	67	71	452	57	85	30
20	138	3760	2780	21	2000	1550	558	64	129	68	87	44
21	264	4630	145	50	2610	557	2530	61	350	38	116	1000
22	442	3980	128	104	1470	105	2440	58	31	33	88	472
23	719	3240	129	133	801	1680	1160	56	2130	57	73	121
24	317	900	594	839	1210	3860	3970	55	575	51	1080	216
25	98	1600	534	60	1470	2990	2370	42	62	42	2280	127
26	136	1210	1660	53	1110	2710	1790	29	67	41	884	45
27	130	249	4140	1080	990	3380	1500	72	102	33	208	73
28	127	121	1110	1170	381	2650	1550	69	84	1450	230	385
29	837	105	332	408	55	156	1620	59	70	1370	227	54
30	1310	123	322	50	---	3050	1760	74	217	935	226	56
31	1420	---	1370	1230	---	5000	---	88	---	26	187	---
MEAN	791	1787	1078	1219	745	1377	2120	1311	371	486	583	609
MAX	2640	4630	4140	4920	2610	5000	4650	6990	2740	3250	4060	2830
MIN	22	90	58	21	55	48	51	29	31	26	23	30
IN.	.39	.85	.53	.60	.34	.68	1.01	.64	.18	.24	.29	.29

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	734	1606	2116	1037	1666	2660	2392	2029	2334	2327	843	860
MEAN	734	1606	2116	1037	1666	2660	2392	2029	2334	2327	843	860
MAX	4355	6038	10360	3703	8098	10530	10310	6741	6240	10810	2396	3205
(WY)	1987	1987	1983	1986	1982	1985	1983	1981	1982	1981	1982	1982
MIN	4.62	14.8	31.4	30.5	81.6	87.0	126	67.5	126	75.2	13.9	25.3
(WY)	1980	1981	1980	1980	1989	1989	1989	1989	1988	1983	1980	1983

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	1571		1039		1717	
HIGHEST ANNUAL MEAN					2703	1986
LOWEST ANNUAL MEAN					283	1989
HIGHEST DAILY MEAN	9320	Jul 21	6990	May 8	65600	Jul 29 1981
LOWEST DAILY MEAN	11	Jan 6	21	Jan 20	.44	Oct 14 1979
INSTANTANEOUS PEAK FLOW	--		8910	May 8	72800	Jul 29 1981
INSTANTANEOUS PEAK STAGE	--		12.71	May 8	33.00	Apr 22 1973
INSTANTANEOUS LOW FLOW	--		13	Oct 3	.44	Oct 14 1979
ANNUAL SEVEN-DAY MINIMUM	32	Sep 18	42	Jul 21	.65	Oct 11 1979
ANNUAL RUNOFF (INCHES)	9.08		6.02		9.92	
10 PERCENT EXCEEDS	3980		3070		4940	
50 PERCENT EXCEEDS	1110		436		276	
90 PERCENT EXCEEDS	34		52		33	

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO

LOCATION.--Lat 39°36'44", long 91°24'30", in NE 1/4 NW 1/4 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 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 sea level. Prior to Apr. 7, 1931, nonrecording gage 400 ft upstream at datum 0.03 ft higher; Apr. 7, 1931 to Jan. 17, 1935, nonrecording gage at site 180 ft upstream at datum 0.04 ft lower, Jan. 1935 to Apr. 1985 water-stage recorder 400 ft upstream same datum.

REMARKS.--Estimated daily discharges: Dec. 3 to Jan. 4. 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. Flow mostly regulated by Clarence Cannon Dam, 9.9 mi upstream, since Sept. 1979. Five percent of the drainage area, 130 mi², is natural drainage not regulated.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	2030	145	792	575	92	4120	1820	103	357	49	151
2	91	1660	740	1300	236	107	4040	1360	101	3220	39	116
3	715	116	1690	3500	122	616	2840	1680	105	1710	47	699
4	1630	3620	3060	1500	108	346	1460	3250	112	137	93	2000
5	1190	4110	1410	139	1720	144	2200	1570	142	112	112	160
6	73	4260	1930	220	1670	139	2800	2330	130	104	99	125
7	44	3620	863	1640	2070	470	3280	3590	120	623	2740	104
8	108	4050	190	1290	1040	1130	3550	6730	154	233	3210	92
9	2040	3570	167	3850	279	1660	4690	6710	1300	1230	2430	1410
10	2040	1380	136	4760	393	2050	4130	6040	167	145	2470	1660
11	876	124	80	2790	286	1980	591	4430	78	51	452	529
12	1540	362	220	145	171	1040	359	207	77	57	1950	71
13	76	518	215	1230	156	852	2250	80	101	558	195	73
14	41	1830	146	3250	147	615	3030	72	51	2070	133	1850
15	644	974	916	3320	345	364	1310	77	81	107	66	2090
16	742	114	484	1900	167	530	3430	164	1110	82	67	2680
17	1160	300	529	1290	229	813	1530	124	1760	89	60	1700
18	1740	405	2930	105	634	2220	335	106	242	72	111	635
19	2860	1580	3520	69	242	1390	664	99	1930	64	110	81
20	778	2970	3370	64	1970	1680	608	92	110	66	90	50
21	185	4830	705	60	2470	1240	2180	87	428	73	103	80
22	176	4070	150	96	2410	321	2870	87	83	58	115	1360
23	771	3390	203	133	442	526	1190	78	524	49	91	152
24	622	1580	175	770	1180	3690	3750	74	2010	63	390	124
25	116	953	861	271	1550	3750	3420	72	125	60	1610	257
26	113	1750	778	90	1350	2180	1790	66	75	58	2210	76
27	137	721	3030	848	1060	3630	1210	53	83	54	167	60
28	145	162	2330	887	847	3130	1690	89	103	76	218	76
29	144	137	575	1360	136	1100	1830	87	89	1870	227	372
30	1850	128	400	182	---	1930	1770	79	76	1600	206	72
31	930	---	1000	832	---	4480	---	96	---	187	220	---
MEAN	762	1844	1063	1248	828	1426	2297	1335	386	491	648	630
MAX	2860	4830	3520	4760	2470	4480	4690	6730	2010	3220	3210	2680
MIN	41	114	80	60	108	92	335	53	51	49	39	50
IN.	.35	.83	.49	.58	.36	.66	1.03	.62	.17	.23	.30	.28

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	1043	1115	1117	1230	1864	2809	3071	2346	2405	1566	833	973
MAX	9124	6589	11100	6417	8787	13040	19110	12210	11490	14270	6689	9346
(WY)	1970	1929	1983	1974	1982	1973	1973	1943	1947	1969	1958	1970
MIN	1.94	2.82	3.85	12.5	9.79	33.7	150	73.4	45.8	2.49	.18	9.73
(WY)	1957	1954	1954	1954	1934	1956	1989	1934	1977	1936	1936	1976

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO--Continued

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 September 1989.

REMARKS.--Discontinued as National stream-quality accounting network station Sept. 1986. Discontinued as daily sediment station Sept. 1989. Oct. 1989 to Sept. 1990, partial water-quality data site. Oct. 1989 to present, partial sediment data site.

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, and Aug. 23, 24, 1980; minimum daily, 0.0°C, Mar. 1, 1980.

DATE	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)
NOV 14...	1170	15.0	13
MAR 31...	4350	8.0	106
APR 22...	3327	12.0	61
MAY 05...	3822	16.5	153
JUL 15...	84	26.0	57
SEP 09...	1034	26.0	118

SALT RIVER BASIN

05508805 SPENCER CREEK BELOW PLUM CREEK NEAR FRANKFORD, MO

LOCATION.--Lat 39°31'13", long 91°20'32", in NW 1/4 NW 1/4 NW 1/4 sec.27, T.55 N., R.4 W., Ralls County, Hydrologic Unit 07110007, on left bank 25 ft downstream from bridge on dual 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 September 1978, fragmentary record.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 485.00 ft above sea level. Mar. 24, 1930 to Sept. 30, 1936, nonrecording gage at site 0.75 mi upstream at datum 3.63 ft higher; Oct. 7, 1961 to July 15, 1974, fragmentary record, at present site, datum unknown; July 26, 1974 to Apr. 15, 1975, from nonrecording gage present site and datum.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	182	94	44	23	42	76	38	6.1	1.1	.86	3.0
2	4.4	123	61	42	23	39	63	33	5.6	51	.85	2.9
3	98	49	72	39	22	36	56	30	5.1	437	.72	2.8
4	74	32	71	36	21	33	51	28	5.1	66	.58	2.5
5	288	25	57	34	19	31	45	26	5.5	23	.50	2.4
6	71	21	104	32	19	30	41	24	5.0	12	.49	2.3
7	38	20	246	32	19	251	39	23	5.0	7.6	.47	2.3
8	26	17	228	32	17	126	37	22	4.7	6.4	.51	2.3
9	20	15	117	28	16	74	35	22	4.7	4.8	.54	3.8
10	16	16	73	25	17	61	1010	21	4.1	4.1	7220	4.3
11	13	15	54	25	19	45	318	19	3.8	3.5	599	4.3
12	10	16	796	25	19	37	126	19	3.3	3.5	219	2.9
13	8.4	17	496	25	19	33	88	18	3.0	3.5	140	2.3
14	7.2	21	144	26	20	30	74	16	2.9	2.9	95	2.2
15	6.2	26	87	24	190	27	71	17	3.0	2.5	64	1.7
16	6.5	27	64	20	188	25	87	16	4.4	2.1	44	1.7
17	7.5	232	53	20	345	25	67	14	4.7	2.3	30	1.7
18	6.6	808	43	19	1380	672	127	14	3.5	1.9	21	1.9
19	6.2	190	37	18	295	2290	683	13	2.8	1.7	16	1.5
20	6.7	117	45	19	148	855	448	12	2.1	1.4	13	2.1
21	6.4	132	184	20	103	262	245	10	2.1	1.2	10	2.3
22	5.8	81	136	22	82	375	137	12	1.9	1.4	8.1	1.9
23	5.5	56	830	72	70	214	100	42	1.8	1.6	5.5	1.4
24	6.4	42	391	78	62	132	82	14	1.7	1.3	4.8	1.3
25	6.3	33	151	51	70	100	68	11	1.6	1.3	4.5	1.3
26	6.1	28	105	35	69	85	60	9.8	1.5	1.3	4.0	1.4
27	6.0	27	82	30	62	70	55	9.3	1.3	1.3	3.9	1.4
28	9.4	26	70	27	52	61	49	8.9	1.2	1.2	3.6	1.3
29	15	27	62	26	44	62	45	8.2	1.1	.99	3.5	1.2
30	15	113	55	24	---	146	42	7.4	1.1	.88	3.3	1.6
31	14	---	49	25	---	100	---	6.9	---	.79	3.1	---
MEAN	26.3	84.5	163	31.5	118	205	147	18.2	3.32	21.0	275	2.20
MAX	288	808	830	78	1380	2290	1010	42	6.1	437	7220	4.3
MIN	4.4	15	37	18	16	25	35	6.9	1.1	.79	.47	1.2
IN.	.15	.46	.91	.18	.62	1.15	.80	.10	.02	.12	1.54	.01

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	47.3	185	219	77.6	226	280	225	264	97.4	185	51.3	44.4
MAX	376	1310	985	274	766	738	777	795	451	1788	275	196	
(WY)	1987	1986	1983	1982	1985	1978	1983	1991	1982	1981	1992	1977	
MIN	.22	.48	1.67	2.58	3.40	9.23	26.6	15.1	2.23	.84	1.17	.32	
(WY)	1989	1990	1990	1980	1980	1981	1986	1988	1988	1988	1984	1988	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

	193	91.6	156
ANNUAL MEAN			239
HIGHEST ANNUAL MEAN			36.5
LOWEST ANNUAL MEAN			1981
HIGHEST DAILY MEAN	6930	Jul 11	7220
LOWEST DAILY MEAN	1.0	Aug 29	Aug 10
INSTANTANEOUS PEAK FLOW	---		Aug 7
INSTANTANEOUS PEAK STAGE	---		Aug 10
INSTANTANEOUS LOW FLOW	---		Aug 10
ANNUAL SEVEN-DAY MINIMUM	1.2	Aug 24	Aug 7
ANNUAL RUNOFF (INCHES)	12.75		Aug 3
10 PERCENT EXCEEDS	327		10.26
50 PERCENT EXCEEDS	36		220
90 PERCENT EXCEEDS	5.4		25
			1.1

CUIVRE RIVER BASIN

05514500 CUIVRE RIVER NEAR TROY, MO

LOCATION.--Lat 39°00'59", long 90°59'00", in SE ¼ 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 2.0 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 sea level. 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.--No estimated daily discharges. Water-discharge records good. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height telemark and U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1895 was 5 to 6 ft lower at Frenchmens Bluff, 3.0 mi downstream, than the October 1941 flood, which is the highest flood since 1888.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	65	841	79	28	153	806	175	36	9.4	7.6	17
2	6.4	291	376	71	26	139	495	160	34	11	6.6	16
3	6.4	272	421	65	25	129	365	142	31	104	6.6	14
4	8.6	141	552	59	23	120	304	127	31	182	6.8	13
5	43	86	303	55	21	114	259	114	31	118	6.4	12
6	147	61	204	51	20	109	226	103	30	60	6.2	12
7	78	50	205	47	19	108	204	97	30	33	6.2	12
8	49	38	330	47	18	103	187	92	28	24	6.6	13
9	29	28	363	42	16	129	178	88	29	18	6.6	70
10	18	25	243	38	15	136	3080	84	32	15	2120	38
11	12	22	166	34	15	109	1730	80	31	17	3640	28
12	8.5	19	137	32	15	99	681	81	31	464	306	25
13	6.7	19	1150	30	15	92	385	81	29	418	179	23
14	5.5	19	864	30	21	88	295	76	27	141	96	23
15	4.4	19	347	29	1540	80	294	74	25	90	61	21
16	3.7	19	203	28	1340	73	620	71	23	58	41	18
17	3.7	20	149	24	533	71	413	70	20	38	31	16
18	3.5	269	114	20	4660	123	386	66	18	26	27	15
19	3.3	892	95	18	2120	4600	2690	63	18	20	23	14
20	3.4	708	89	17	791	4920	3190	60	17	16	21	20
21	3.6	407	390	17	457	1500	1560	93	16	15	18	275
22	3.9	302	777	17	335	1690	824	351	15	14	17	252
23	3.9	203	1340	24	274	1280	519	187	15	14	16	113
24	8.1	136	2700	75	239	659	405	120	15	13	15	91
25	8.7	98	805	87	224	438	331	97	15	12	14	61
26	5.0	78	276	76	223	348	283	77	14	11	12	49
27	4.1	67	167	63	219	288	250	65	12	11	40	41
28	4.2	60	125	49	196	246	225	54	11	10	43	33
29	13	52	108	41	172	250	208	49	10	9.7	34	27
30	24	112	98	36	---	3790	191	44	9.9	9.0	23	24
31	17	---	89	32	---	1740	---	40	---	8.2	19	---
MEAN	17.5	153	452	43.0	469	765	719	99.4	22.8	64.2	221	46.2
MAX	147	892	2700	87	4660	4920	3190	351	36	464	3640	275
MIN	3.3	19	89	17	15	71	178	40	9.9	8.2	6.2	12
IN.	.02	.19	.58	.05	.56	.98	.89	.13	.03	.08	.28	.06

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	439	487	528	477	820	988	1135	979	698	526	272	369
MAX	6704	4503	5924	2465	4250	3596	5549	6311	4735	4366	1994	5509	
(WY)	1942	1986	1983	1949	1962	1922	1922	1929	1970	1981	1923	1926	
MIN	.10	1.30	1.11	1.63	1.80	2.51	25.8	17.1	11.0	.44	.23	.24	
(WY)	1965	1954	1964	1954	1954	1954	1954	1934	1936	1934	1936	1964	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	503	255	641
HIGHEST ANNUAL MEAN			1821
LOWEST ANNUAL MEAN			27.3
HIGHEST DAILY MEAN	25000	Jul 11	4920
LOWEST DAILY MEAN	3.3	Oct 19	3.3
INSTANTANEOUS PEAK FLOW	--		8150
INSTANTANEOUS PEAK STAGE	--		17.69
INSTANTANEOUS LOW FLOW	--		3.2
ANNUAL SEVEN-DAY MINIMUM	3.6	Oct 16	3.6
ANNUAL RUNOFF (INCHES)	7.56		3.85
10 PERCENT EXCEEDS	875		502
50 PERCENT EXCEEDS	109		56
90 PERCENT EXCEEDS	12		10
			5.4

CUIVRE RIVER BASIN

05514500 CUIVRE RIVER NEAR TROY, MO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1983 to current year.

REMARKS.--National stream-quality accounting network station since October 1986.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (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- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV											
06...	0800	169	275	7.9	4.0	22	11.6	87	5100	2400	130
JAN											
23...	0700	169	415	7.7	2.5	6.0	14.2	105	50	250	200
MAR											
03...	1430	129	393	8.0	12.0	13	12.8	137	K15	31	170
MAY											
06...	1500	100	406	8.2	18.0	4.0	14.5	150	40	K16	200
JUL											
14...	1430	126	265	7.1	27.0	50	6.2	77	3000	640	99
SEP											
09...	1400	66	318	7.7	23.5	7.2	8.3	97	170	290	130

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

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- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)
NOV											
06...	39	7.0	7.8	8.1	121	20	14	0.20	7.1	178	178
JAN											
23...	63	10	11	4.6	166	37	19	0.20	5.9	238	256
MAR											
03...	54	8.9	11	5.3	145	36	16	0.20	5.3	241	230
MAY											
06...	62	9.9	11	4.2	152	34	18	0.20	2.7	233	233
JUL											
14...	31	5.3	10	7.7	92	20	18	0.30	7.9	155	162
SEP											
09...	39	7.7	11	6.1	138	16	13	0.20	6.1	183	182

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)
NOV											
06...	0.24	81.2	0.010	0.41	0.110	0.100	0.80	0.230	0.060	0.040	10
JAN											
23...	0.32	109	<0.010	1.20	0.020	0.020	0.30	0.060	<0.010	<0.010	<10
MAR											
03...	0.33	83.9	<0.010	1.30	0.010	0.010	0.60	0.100	0.020	0.010	--
MAY											
06...	0.32	62.9	<0.010	0.25	0.020	0.010	0.30	0.020	<0.010	<0.010	<10
JUL											
14...	0.21	52.7	0.080	1.20	0.100	0.120	1.2	0.230	0.080	0.080	170
SEP											
09...	0.25	32.4	<0.010	0.077	0.020	0.030	0.60	0.090	0.020	0.020	--

CUIVRE RIVER BASIN

05514500 CUIVRE RIVER NEAR TROY, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	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)
NOV 06...	77	<3	47	4	140	<10	2	<1	<1.0	87	<6
JAN 23...	91	<3	16	5	340	<10	1	<1	<1.0	120	<6
MAY 06...	100	<3	20	<4	210	<10	2	<1	<1.0	130	<6
JUL 14...	85	<3	260	<4	85	<10	3	<1	<1.0	87	<6

MISSISSIPPI RIVER MAIN STEM

05587450 MISSISSIPPI RIVER AT GRAFTON, IL

LOCATION.--Lat 38°58'05", long 90°25'42", in NE 1/4 sec.15, T.6 N., R.12 W., Jersey County, Hydrologic Unit 07110009, on left bank 0.2 mi downstream from the mouth of Illinois River, 15.3 mi above Lock and Dam 26, 23.0 mi above mouth of Missouri River and at mile 218.6 upstream of the mouth of Ohio River.

DRAINAGE AREA.--171,300 mi², approximately.

PERIOD OF RECORD.--Gage height: August 1879 through September 1892, 1929 to September 1986, October 1986 to current year. Stages also available from reports of National Weather Service.

Discharge: Intermittently from 1880 to 1928, computed daily 1928 to 1932 by National Weather Service and/or U.S. Army Corps of Engineers. Discharge previously published as "Mississippi River at Alton, Illinois" 1927 to September 1986.

GAGE.--Water-stage recorder. Datum of gage is 403.79 ft above sea level. Auxiliary water-stage recorder 15.3 mi downstream.

REMARKS.--Estimated daily discharges: Mar. 4-21. Records fair. Natural flow of river affected by many navigation dams in upper Mississippi River basin. Flood water from Missouri River overtops or breaches the levees at extremely high stages. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1844 reached an elevation of 435.89 ft, present datum.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71700	68700	158000	129000	89100	131000	205000	232000	87900	66800	155000	53500
2	71100	67500	179000	128000	89800	127000	202000	234000	87700	66600	151000	51100
3	74500	71600	177000	121000	86400	124000	195000	235000	84600	79100	150000	48600
4	79000	80400	172000	118000	84900	125000	188000	234000	81200	88100	148000	52000
5	103000	93000	159000	109000	81600	127000	187000	231000	74700	76400	134000	56600
6	83000	107000	137000	104000	83000	133000	182000	225000	74900	71900	122000	46700
7	79300	115000	121000	106000	81700	140000	167000	214000	69000	79600	116000	52000
8	78900	113000	117000	107000	84500	150000	154000	206000	70900	84500	104000	57700
9	73400	114000	119000	107000	89900	159000	153000	199000	71200	91900	101000	60500
10	69900	111000	134000	101000	91700	169000	149000	194000	70200	102000	98600	80600
11	62800	116000	141000	105000	88400	178000	141000	192000	71000	93700	112000	93800
12	57000	111000	149000	107000	86900	186000	137000	177000	68200	94500	105000	108000
13	64200	113000	157000	106000	80300	192000	128000	150000	66900	92500	88600	107000
14	52500	119000	167000	107000	78400	199000	129000	131000	55100	95900	76700	101000
15	52700	113000	175000	103000	75600	199000	126000	117000	54100	118000	72000	94900
16	54200	108000	174000	106000	82200	200000	123000	107000	57600	153000	67900	95500
17	57800	101000	172000	83800	89600	200000	126000	97800	52400	173000	66800	90900
18	45100	100000	180000	71100	93100	201000	136000	94100	70900	162000	66100	109000
19	51900	105000	178000	64500	106000	209000	150000	95200	68000	146000	66500	110000
20	54900	120000	174000	59700	110000	218000	187000	99800	70700	144000	64700	114000
21	52100	113000	168000	65000	117000	221000	211000	103000	62800	144000	62700	120000
22	52600	118000	158000	73500	133000	232000	219000	105000	75400	138000	60900	141000
23	56000	126000	143000	71800	142000	230000	224000	102000	71400	127000	61900	157000
24	54900	132000	145000	73300	148000	224000	218000	102000	72200	126000	55200	151000
25	50000	140000	151000	71500	147000	220000	213000	98300	76800	118000	50800	144000
26	56100	152000	154000	79300	147000	218000	212000	104000	79000	118000	46600	138000
27	64500	167000	155000	85700	146000	213000	216000	99900	73900	148000	50300	140000
28	71500	169000	163000	92000	140000	211000	225000	98900	72200	164000	58900	139000
29	69200	159000	168000	90800	134000	209000	227000	93900	67700	163000	62200	133000
30	64900	152000	161000	90200	---	212000	229000	85900	62600	151000	50700	119000
31	74700	---	141000	87400	---	211000	---	84600	---	149000	53800	---
MEAN	64630	115800	156400	94310	103700	186100	178600	146500	70710	117000	86450	98850
MAX	103000	169000	180000	129000	148000	232000	229000	235000	87900	173000	155000	157000
MIN	45100	67500	117000	59700	75600	124000	123000	84600	52400	66600	46600	46700
IN.	.44	.75	1.05	.63	.65	1.25	1.16	.99	.46	.79	.58	.64

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)**

	MEAN	MAX	(WY)	MIN	(WY)
1987	98970	334900	1987	28050	1989
1988	82190	171300	1988	33270	1990
1989	90920	156400	1989	31810	1990
1990	73920	98820	1990	34800	1990
1991	83320	106600	1991	40940	1989
1992	133900	186100	1992	72220	1989
1993	148400	247700	1993	82570	1990
1994	135000	248000	1994	69140	1988
1995	121200	235900	1995	36310	1988
1996	98620	199500	1996	30420	1988
1997	76670	134000	1997	37230	1988
1998	73550	98850	1998	37850	1988

SUMMARY STATISTICS**

	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	143100	118400	101500
HIGHEST ANNUAL MEAN			134500
LOWEST ANNUAL MEAN			53860
HIGHEST DAILY MEAN	293000	May 8	419000
LOWEST DAILY MEAN	45100	Oct 18	20100
INSTANTANEOUS PEAK FLOW	---		535000
INSTANTANEOUS PEAK ELEVATION	---		436.99
INSTANTANEOUS LOW FLOW	---		20100
ANNUAL SEVEN-DAY MINIMUM	52500	Oct 18	23600
ANNUAL RUNOFF (INCHES)	11.34		8.05
10 PERCENT EXCEEDS	245000		207000
50 PERCENT EXCEEDS	116000		84100
90 PERCENT EXCEEDS	68900		35100

**Statistics based only on years with complete discharge record.

MISSISSIPPI RIVER MAIN STEM

05587455 MISSISSIPPI RIVER BELOW GRAFTON, IL

WATER-QUALITY RECORDS

LOCATION.--Lat. 38°57'04", long. 90°22'16", in sec. 24, T.6N., R.11W., Jersey County, Hydrologic Unit 07110009, 11.3 mi above Lock and Dam 26, 19.0 mi above mouth of Missouri River, at mile 214.6 upstream of the mouth of the Ohio River.

DRAINAGE AREA.--171,300 mi², approximately.

PERIOD OF RECORD.--March 1989 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT: October 1989 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,910 mg/L, May 23, 1990; minimum daily mean, 1 mg/L, Sept. 10, 1991.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 1,090,000 tons, May 23, 1990; minimum daily, 186 tons, Sept. 10, 1991.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,190 mg/L, Apr. 21; minimum daily mean, 15 mg/L, Feb. 7.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 676,000 tons, Apr. 21; minimum daily, 2,490 tons, Oct. 23.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (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-TOCOCCHI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)
NOV 26...	1100	152000	467	7.7	4.0	94	11.2	83	1000	1800	200	50
JAN 22...	1330	75800	529	8.0	0.5	9.0	13.7	95	56	K24	260	66
MAR 24...	1030	224000	463	7.9	5.0	47	13.4	103	500	230	220	55
MAY 20...	1100	97900	459	8.5	22.0	15	8.2	91	K10	K2	220	54
JUL 14...	1200	95800	422	7.2	25.5	44	6.2	74	210	130	190	44
SEP 09...	1130	62900	490	7.7	24.5	17	10.4	123	K14	66	220	49

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

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CaCO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)
NOV 26...	19	15	3.5	152	41	24	0.30	9.3	269	268	0.37	110000
JAN 22...	23	17	2.8	194	49	30	0.30	12	330	340	0.45	67500
MAR 24...	19	13	3.1	165	38	25	0.20	10	270	283	0.37	163000
MAY 20...	20	12	2.3	159	44	25	0.30	0.95	281	270	0.38	74300
JUL 14...	19	13	3.3	142	43	27	0.30	6.2	236	241	0.32	61000
SEP 09...	24	16	2.8	179	51	26	0.20	2.9	283	285	0.38	48100

MISSISSIPPI RIVER MAIN STEM

05587455 MISSISSIPPI RIVER BELOW GRAFTON, IL--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDEED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)
NOV 26...	0.020	3.00	0.160	0.150	1.7	0.460	0.120	0.100	480	89	<10
JAN 22...	0.040	5.10	0.110	0.120	0.80	0.160	0.090	0.100	36	59	<10
MAR 24...	0.030	4.60	0.080	0.090	1.2	0.330	0.100	0.090	--	--	--
MAY 20...	0.030	3.30	0.020	0.020	0.50	0.100	0.050	0.040	--	--	20
JUL 14...	0.120	2.60	0.010	0.030	0.70	0.190	0.100	0.110	--	--	<10
SEP 09...	0.040	1.20	0.020	0.030	0.70	0.180	0.110	0.090	--	--	--

DATE	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	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)
NOV 26...	53	<3	29	6	65	<10	2	<1	<1.0	110	<6
JAN 22...	53	<3	19	10	18	<10	1	<1	<1.0	140	<6
MAY 20...	56	<3	5	9	1	<10	2	1	<1.0	130	<6
JUL 14...	68	<3	38	8	2	<10	3	<1	<1.0	120	<6

MISSISSIPPI RIVER MAIN STEM

05587455 MISSISSIPPI RIVER BELOW GRAFTON, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	71700	41	7720	68700	68	12500	158000	174	74200
2	71100	42	8100	67500	69	12700	179000	208	101000
3	74500	43	8740	71600	70	13500	177000	205	98000
4	79000	58	12800	80400	70	15200	172000	196	91000
5	103000	174	48500	93000	70	17200	159000	175	75100
6	83000	233	51500	107000	99	28600	137000	141	52200
7	79300	264	56500	115000	109	33800	121000	118	38600
8	78900	205	43700	113000	107	32600	117000	112	35400
9	73400	151	29900	114000	108	33200	119000	158	51700
10	69900	107	20100	111000	104	31200	134000	197	71800
11	62800	74	12600	116000	111	34800	141000	160	60900
12	57000	51	7910	111000	104	31200	149000	175	70600
13	64200	43	7480	113000	107	35100	157000	195	83100
14	52500	37	4510	119000	115	36900	167000	214	96900
15	52700	32	4590	113000	107	32600	175000	248	117000
16	54200	30	4370	108000	100	29200	174000	387	181000
17	57800	25	3930	101000	91	24800	172000	279	129000
18	45100	24	2930	100000	89	24000	180000	187	91100
19	51900	23	3280	105000	96	27200	178000	164	78600
20	54900	25	3710	120000	116	37600	174000	150	70300
21	52100	22	3060	113000	107	32600	168000	137	62000
22	52600	19	2680	118000	114	36300	158000	125	53400
23	56000	16	2490	126000	125	42500	143000	119	45800
24	54900	17	2530	132000	134	47800	145000	113	44100
25	50000	18	2490	140000	146	55200	151000	105	42600
26	56100	21	3220	152000	164	67300	154000	121	50300
27	64500	25	4300	167000	188	84800	155000	128	53600
28	71500	29	5560	169000	191	87200	163000	118	52100
29	69200	37	6840	159000	175	75100	168000	106	48300
30	64900	44	7690	152000	164	67300	161000	95	41300
31	74700	53	10800	---	---	---	141000	79	30200
JANUARY			FEBRUARY			MARCH			
1	129000	64	22400	89100	27	6550	131000	88	31300
2	128000	56	19100	89800	27	6440	127000	85	29100
3	121000	49	16000	86400	29	6700	124000	111	37200
4	118000	39	12300	84900	22	5000	125000	73	25500
5	109000	36	10500	81600	17	3840	127000	71	25700
6	104000	28	7890	83000	17	3730	133000	60	24000
7	106000	27	7740	81700	15	3390	140000	68	31200
8	107000	27	7840	84500	16	3740	150000	67	34400
9	107000	28	8140	89900	18	4300	159000	175	75100
10	101000	26	7080	91700	19	4760	169000	500	228000
11	105000	26	7340	88400	21	4980	178000	800	384000
12	107000	27	7730	86900	22	5160	186000	408	220000
13	106000	26	7410	80300	22	4870	192000	158	87000
14	107000	25	7130	78400	21	4370	199000	132	74000
15	103000	24	6560	75600	21	4350	199000	126	71100
16	106000	23	6440	82200	20	4490	200000	121	69000
17	83800	22	4850	89600	25	6010	200000	117	67200
18	71100	21	3940	93100	29	7420	201000	113	65600
19	64500	20	3430	106000	38	10800	209000	113	67000
20	59700	19	3030	110000	50	14900	218000	190	118000
21	65000	19	3300	117000	78	24700	221000	220	138000
22	73500	23	4610	133000	99	35500	232000	198	124000
23	71800	28	5500	142000	115	44300	230000	176	109000
24	73300	27	5280	148000	113	45000	224000	171	103000
25	71500	27	5200	147000	110	43600	220000	193	115000
26	79300	28	6010	147000	119	47000	218000	202	118000
27	85700	29	6670	146000	113	44500	213000	132	76000
28	92000	28	6950	140000	102	38500	211000	119	68000
29	90800	26	6450	134000	95	34600	209000	116	65500
30	90200	26	6370	---	---	---	212000	113	64600
31	87400	28	6680	---	---	---	211000	110	62800

MISSISSIPPI RIVER MAIN STEM

05587455 MISSISSIPPI RIVER BELOW GRAFTON, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	205000	118	65400	232000	211	132000	87900	77	18200
2	202000	110	60200	234000	204	128000	87700	73	17300
3	195000	97	51300	235000	192	121000	84600	72	16400
4	188000	91	46200	234000	190	120000	81200	69	15200
5	187000	84	42600	231000	211	132000	74700	62	12600
6	182000	77	37900	225000	171	104000	74900	45	9220
7	167000	75	33600	214000	168	97300	69000	47	8650
8	154000	86	35600	206000	162	89900	70900	46	8890
9	153000	60	24900	199000	155	83500	71200	46	8930
10	149000	73	29300	194000	150	78300	70200	48	9130
11	141000	87	33200	192000	144	74500	71000	51	9750
12	137000	76	28000	177000	139	66000	68200	56	10300
13	128000	65	22600	150000	134	54100	66900	58	10500
14	129000	63	21900	131000	130	46100	55100	48	7130
15	126000	80	27200	117000	111	35400	54100	41	5960
16	123000	106	35100	107000	92	26700	57600	42	6580
17	126000	76	26000	97800	78	20600	52400	45	6430
18	136000	92	33600	94100	74	18800	70900	59	11300
19	150000	109	44600	95200	71	18200	68000	88	16200
20	187000	303	158000	99800	62	16600	70700	62	11900
21	211000	1190	676000	103000	66	18300	62800	56	9520
22	219000	443	262000	105000	79	22300	75400	59	12100
23	224000	175	106000	102000	102	28200	71400	64	12500
24	218000	267	157000	102000	99	27100	72200	78	15100
25	213000	393	226000	98300	90	23800	76800	61	12600
26	212000	309	176000	104000	88	24500	79000	58	12300
27	216000	241	141000	99900	86	23300	73900	63	12500
28	225000	235	142000	98900	85	22700	72200	75	14500
29	227000	240	147000	93900	84	21300	67700	67	12300
30	229000	233	145000	85900	84	19500	62600	44	7410
31	---	---	---	84600	81	18500	---	---	---
JULY			AUGUST			SEPTEMBER			
1	66800	48	8850	155000	234	97700	53500	32	4620
2	66600	49	8810	151000	256	104000	51100	27	3690
3	79100	77	16600	150000	281	114000	48600	23	2880
4	88100	66	15700	148000	294	117000	52000	26	3620
5	76400	66	13600	134000	278	100000	56600	30	4590
6	71900	72	14000	122000	282	93000	46700	36	4550
7	79600	78	16700	116000	232	72900	52000	49	6940
8	84500	79	18100	104000	179	50200	57700	42	6570
9	91900	79	19700	101000	169	46100	60500	50	7990
10	102000	99	27400	98600	163	43400	80600	82	18100
11	93700	108	27100	112000	146	44100	93800	104	26500
12	94500	111	28200	105000	126	35700	108000	169	49600
13	92500	114	28400	88600	129	30800	107000	238	68800
14	95900	121	31600	76700	107	22200	101000	312	85100
15	118000	151	48800	72000	62	12100	94900	206	52800
16	153000	191	79800	67900	43	7960	95500	147	38000
17	173000	231	108000	66800	44	7970	90900	149	36800
18	162000	244	106000	66100	30	5310	109000	152	44600
19	146000	239	94100	66500	33	5900	110000	140	41500
20	144000	219	85400	64700	31	5390	114000	355	110000
21	144000	222	86300	62700	30	5060	120000	421	137000
22	138000	165	61300	60900	29	4750	141000	365	140000
23	127000	139	48000	61900	26	4280	157000	417	177000
24	126000	120	40800	55200	22	3350	151000	373	152000
25	118000	110	35100	50800	22	3360	144000	322	125000
26	118000	104	33200	46600	29	3650	138000	281	105000
27	148000	147	59300	50300	27	3860	140000	244	91900
28	164000	238	106000	58900	33	5210	139000	282	106000
29	163000	294	129000	62200	28	4700	133000	249	91900
30	151000	258	105000	50700	27	3680	119000	200	64300
31	149000	222	89200	53800	32	4580	---	---	---

MISSOURI RIVER MAIN STEM

06813500 MISSOURI RIVER AT RULO, NE

LOCATION.--Lat 40°03'13", long 95°25'19", in NW 1/4 NW 1/4 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 U.S. 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 sea level. 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: Nov. 7-11. Records good except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. Flow regulated by upstream main-stem reservoirs. U.S. Army Corps of Engineers satellite data collection platform at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33800	27700	21300	21400	23800	22500	36500	42100	36400	38100	47100	37500
2	34200	24200	20800	21300	23200	22800	35800	41300	35900	37700	41000	45900
3	34000	21100	19200	21700	22600	23400	35400	40200	37500	39000	40700	43600
4	34500	18500	18600	22300	22500	24700	35200	39300	36000	38600	40100	41800
5	34600	16600	19600	22600	22600	26700	35400	38000	35700	38100	40700	41500
6	34100	15700	17700	23700	23200	31000	35700	37100	37900	39400	41300	50400
7	34000	15500	16200	23700	23600	32700	35700	36300	37500	40000	41100	51000
8	33800	15300	15400	23600	23600	30500	36400	36100	36300	42000	47400	48100
9	33300	14600	17900	23300	23300	28800	36200	35800	39600	43600	44500	45000
10	33400	14000	21200	23600	23100	27900	35700	35400	39700	42400	46700	44800
11	33400	14600	22600	24600	22700	29400	36300	35300	37100	42200	46400	42500
12	33000	15300	23700	23200	23300	32800	35800	35500	39100	43300	43900	40200
13	33100	16000	25200	23800	24600	35400	35000	37000	37100	73400	45300	38700
14	33200	17900	28100	25700	23700	32800	34500	36400	37800	78600	43600	37700
15	32900	21700	29500	25800	22700	30900	34300	35100	39200	63600	41900	42000
16	33100	23000	27000	23800	24900	29900	35200	36500	40500	54900	40500	43800
17	33500	20900	23300	20200	24700	29100	35600	36100	41100	47800	40500	45000
18	33400	19700	21400	18300	25500	34300	35200	38300	56500	44500	40200	42400
19	33100	19500	22700	18300	27400	38500	35600	52000	52100	43700	38500	42400
20	32700	19000	22600	22400	26600	33400	36400	48400	43600	43200	37500	39600
21	33000	19100	21000	23000	27000	32500	38800	43800	41300	40800	36700	37800
22	33300	18900	19500	22500	26900	33200	40300	44900	40800	39500	35900	37000
23	33600	18700	21000	26600	26100	34800	47700	43700	38400	40100	35500	36700
24	33300	18500	24700	28900	25600	36300	51800	43300	37000	38500	34900	36100
25	33600	18400	24900	26100	24900	37300	47600	42400	38400	61100	34000	35400
26	33700	18000	22900	25000	24400	37400	46000	39900	37200	79800	33400	35500
27	33700	17400	21300	23700	23900	36600	45300	38300	36900	62500	34900	35800
28	33800	17700	21000	23100	23400	36800	45000	39200	38400	51900	37600	36000
29	33600	19000	20700	23500	23400	40800	44100	37400	38800	44700	39900	35700
30	30800	20400	20400	24200	---	38700	43300	36700	38000	76600	39100	35200
31	28700	---	20900	23400	---	37300	---	37500	---	65200	38100	---
MEAN	33300	18560	21690	23330	24250	32230	38730	39330	39390	49510	40290	40840
MAX	34600	27700	29500	28900	27400	40800	51800	52000	56500	79800	47400	51000
MIN	28700	14000	15400	18300	22500	22500	34300	35100	35700	37700	33400	35200
IN.	.09	.05	.06	.06	.06	.09	.10	.11	.11	.14	.11	.11

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	43320	38650	24460	20870	26880	40640	55830	50710	54910	47660	43580	44000
MAX	77770	69430	55240	42280	52560	79590	205400	94370	130600	77010	70030	71920
(WY)	1987	1976	1987	1973	1983	1979	1952	1984	1984	1984	1951	1951
MIN	25580	17000	9953	10800	13220	15380	21820	33790	33710	33860	29820	34200
(WY)	1962	1962	1956	1957	1957	1957	1957	1956	1956	1963	1955	1963

SUMMARY STATISTICS

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FOR PERIOD OF RECORD

ANNUAL MEAN	31950	33490	40980
HIGHEST ANNUAL MEAN			65930
LOWEST ANNUAL MEAN			26340
HIGHEST DAILY MEAN	94600	Jun 15	79800
LOWEST DAILY MEAN	14000	Nov 10	14000
INSTANTANEOUS PEAK FLOW	--		87200
INSTANTANEOUS PEAK STAGE	--		20.51
INSTANTANEOUS LOW FLOW	--		14000
ANNUAL SEVEN-DAY MINIMUM	15000	Nov 6	15000
10 PERCENT EXCEEDS	48000		44500
50 PERCENT EXCEEDS	32700		35200
90 PERCENT EXCEEDS	18900		20600
			17300

*Backwater from the Big Nemaha River.

**May have been less during period of estimated record, Nov. 7-11.

NODAWAY RIVER BASIN

06817700 NODAWAY RIVER NEAR GRAHAM, MO

LOCATION.--Lat 40°12'08", long 95°04'07", NE 1/4 NE 1/4 NE 1/4 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 sea level.

REMARKS.--Estimated daily discharges: Nov. 3-10 and Nov. 30 to Dec. 6. Records fair 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	500	300	571	490	662	1190	1550	443	176	2220	201
2	59	323	250	634	488	626	1010	1380	446	170	1050	2390
3	56	250	200	674	473	606	924	1210	423	165	737	942
4	90	200	180	679	453	591	886	1090	413	169	640	516
5	112	250	250	768	437	612	840	1010	387	191	602	702
6	88	220	350	933	423	706	783	942	429	236	510	1040
7	87	180	479	919	406	808	747	884	420	305	520	1880
8	86	150	520	887	388	961	749	843	376	296	906	2050
9	83	180	447	870	350	941	801	813	1150	225	749	708
10	77	200	413	849	306	835	762	775	1050	243	640	516
11	69	217	391	727	347	837	787	745	570	237	491	406
12	66	215	394	709	419	759	696	727	461	252	425	355
13	65	253	448	728	375	732	650	695	405	857	389	324
14	64	268	703	703	364	691	620	656	370	1160	361	303
15	64	255	640	488	578	662	661	627	345	723	342	4700
16	65	262	398	641	582	642	1630	605	858	536	320	16200
17	65	309	394	709	670	612	1450	607	545	502	312	10200
18	63	324	378	758	1690	1570	1170	663	376	739	303	4500
19	62	299	281	904	2580	2690	1920	630	345	441	280	5250
20	63	341	202	838	1850	1380	5750	568	328	784	240	2500
21	64	346	284	740	1290	1000	10600	614	293	745	228	1810
22	66	325	613	653	1080	878	6540	1040	275	486	217	1520
23	65	288	911	673	959	820	7030	683	267	456	210	1250
24	72	196	2210	656	898	764	5560	618	251	1130	204	1030
25	73	303	1500	624	846	712	3840	613	242	6260	204	893
26	88	256	917	537	795	670	3020	593	231	4740	197	818
27	86	291	765	533	752	637	2500	565	213	1050	195	775
28	120	349	678	491	730	657	2140	554	198	660	187	720
29	178	386	617	459	699	1770	1910	512	191	572	187	667
30	145	350	586	486	---	2290	1730	479	185	1770	184	611
31	155	---	575	510	---	1580	---	451	---	2120	178	---
MEAN	82.5	276	557	689	749	958	2297	766	416	916	459	2193
MAX	178	500	2210	933	2580	2690	10600	1550	1150	6260	2220	16200
MIN	56	150	180	459	306	591	620	451	185	165	178	201
IN.	.07	.22	.47	.58	.59	.80	1.86	.64	.34	.77	.38	1.77

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	496	427	550	394	752	956	1662	1599	1504	981	567	838
MEAN	496	427	550	394	752	956	1662	1599	1504	981	567	838
MAX	2313	1058	1758	1199	1839	1717	3614	3899	4936	2681	2758	2738
(WY)	1987	1987	1983	1983	1983	1983	1984	1984	1984	1986	1987	1989
MIN	47.2	77.1	69.7	67.4	82.2	315	58.8	48.6	68.5	75.1	46.2	50.1
(WY)	1989	1989	1989	1989	1989	1989	1989	1989	1988	1988	1988	1988

SUMMARY STATISTICS

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FOR PERIOD OF RECORD

ANNUAL MEAN	871		859		851	
HIGHEST ANNUAL MEAN					1516	1987
LOWEST ANNUAL MEAN					320	1985
HIGHEST DAILY MEAN	13100	Jun 15	16200	Sep 16	23600	Sep 9 1989
LOWEST DAILY MEAN	50	Jan 16	56	Oct 3	28	Jun 9 1989
INSTANTANEOUS PEAK FLOW	--		17900	Sep 16	26600	Sep 10 1989
INSTANTANEOUS PEAK STAGE	--		18.76	Sep 16	23.34	Sep 10 1989
INSTANTANEOUS LOW FLOW	--		56	Oct 3	23	Sep 9 1985
ANNUAL SEVEN-DAY MINIMUM	56	Jan 14	64	Oct 14	33	May 24 1989
ANNUAL RUNOFF (INCHES)	8.57		8.48		8.38	
10 PERCENT EXCEEDS	2300		1570		2120	
50 PERCENT EXCEEDS	333		573		396	
90 PERCENT EXCEEDS	65		178		64	

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO

LOCATION.--Lat 39°45'12", long 94°51'28", in NW 1/4 SW 1/4 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 and at 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 sea level. Prior to Oct. 21, 1931, nonrecording gage and from Oct. 21, 1931 to Dec. 31, 1933, water-stage recorder at same site at datum 5.50 ft higher.

REMARKS.--No estimated daily discharges. Water-discharge records good. Some regulation from many upstream reservoirs. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34900	30700	21900	22900	24300	24500	43100	48100	39800	39400	81800	39400
2	35500	28800	22400	23400	24400	24000	41900	46800	38500	38800	64700	49800
3	35700	24300	21700	23400	23800	24300	40800	45800	39600	39500	57000	54900
4	36600	21900	19700	23900	23300	25000	39900	44200	39900	40900	51800	45500
5	36500	19800	20000	24300	23400	26700	39300	43200	37700	39900	48100	43900
6	36000	18300	20200	25100	23400	30700	39100	41900	39800	41000	45200	53600
7	35500	17900	19000	25700	24100	36800	39000	41000	42400	42500	44500	58800
8	35500	17300	18100	25500	24200	33200	39100	40200	39600	43700	48200	65900
9	34800	17100	17900	25200	24100	30900	39300	39800	40700	47100	51000	50300
10	34400	16900	20300	24900	24000	29800	39500	39000	45600	48300	48100	49700
11	34500	16100	22900	25500	23800	29900	40800	38700	41700	46200	51500	47800
12	34200	16100	24300	25600	23700	31900	40100	38700	41200	47100	46600	44100
13	33700	16700	25400	24800	24800	36600	38800	39600	40700	47300	47100	41800
14	34000	17500	27600	25900	25700	36100	38400	40800	38500	102000	47000	40200
15	33900	19600	30900	27200	24500	32900	37800	38500	40600	78000	44300	42400
16	33900	22700	30800	26300	25000	31300	38600	38700	40600	66900	42300	64500
17	34200	23100	27600	24000	26700	30400	40400	39700	44200	57500	41200	64700
18	34400	21500	24400	21200	26900	33500	39700	39700	51300	51700	41900	52000
19	34500	20900	23900	20400	31500	52000	39800	53700	61500	50000	40100	51100
20	34200	20700	25200	21600	30600	41000	44500	58100	49400	50700	38800	47900
21	34200	20500	24200	24600	28800	35300	58500	49700	45100	48700	37800	44500
22	34400	20500	22600	24700	28700	35100	53600	49800	44200	45100	37400	40600
23	34900	20300	22500	25500	28200	35700	57000	49500	43000	48000	36800	40000
24	35200	19800	25500	30100	27500	37500	65500	48300	40100	44000	36800	39400
25	35100	19500	29000	29600	27000	38600	58800	47100	40800	69100	36300	38300
26	35500	19300	26900	27200	26300	39300	55100	45000	40500	121000	35500	37900
27	35300	18900	24400	25700	25800	38100	53200	41800	38500	84000	36000	38100
28	35400	18700	23300	24500	25200	37900	52000	41800	38900	68800	38400	38300
29	36200	19400	23000	24200	24900	43300	50300	41300	39700	57000	41300	38200
30	34400	20500	22700	24700	---	51700	49400	39300	39700	110000	42800	37600
31	31400	---	22400	24800	---	44900	---	39900	---	119000	40800	---
MEAN	34800	20180	23570	24920	25680	34800	45110	43540	42130	60430	45200	46710
MAX	36600	30700	30900	30100	31500	52000	65500	58100	61500	121000	81800	65900
MIN	31400	16100	17900	20400	23300	24000	37800	38500	37700	38800	35500	37600
IN.	.10	.05	.06	.07	.07	.10	.12	.12	.11	.17	.12	.12

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	38420	34860	22170	19560	26420	44160	56970	51430	64660	53450	40960	40140
MAX	87650	70980	61820	45740	60570	96800	203000	104800	144700	101400	74110	75230	
(WY)	1987	1976	1987	1973	1983	1979	1952	1984	1984	1944	1951	1951	
MIN	11840	12510	7600	5026	8400	15650	22570	21910	34830	26250	11680	11040	
(WY)	1940	1937	1938	1940	1940	1957	1957	1931	1956	1934	1934	1934	

SUMMARY STATISTICS

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FOR PERIOD OF RECORD

ANNUAL MEAN	33640		37300		41120	
HIGHEST ANNUAL MEAN					72080	1984
LOWEST ANNUAL MEAN					20490	1940
HIGHEST DAILY MEAN	111000	Jun 16	121000	Jul 26	380000	Apr 22 1952
LOWEST DAILY MEAN	16100	Nov 11-12	16100	Nov 11-12	2300	Jan 9 1937
INSTANTANEOUS PEAK FLOW	--		133000	Jul 31	397000	Apr 22 1952
INSTANTANEOUS PEAK STAGE	--		21.83	Jul 31	26.82	Apr 22 1952
INSTANTANEOUS LOW FLOW	--		15900	Nov 11, 12	2300	Jan 9 1937
ANNUAL SEVEN-DAY MINIMUM	16800	Nov 8	16800	Nov 8	3330	Jan 7 1937
ANNUAL RUNOFF (INCHES)	1.09		1.21		1.33	
10 PERCENT EXCEEDS	51000		51700		69300	
50 PERCENT EXCEEDS	33300		37800		37000	
90 PERCENT EXCEEDS	19700		21900		15000	

MISSOURI RIVER MAIN STEM

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1969 to July 1992 (discontinued).

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.--Discontinued as National stream-quality accounting network station, September 1986.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (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-TOCOCCHI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
NOV 05...	0730	20100	728	8.3	2.0	42	12.5	91	K6600	7700	190	--
JAN 14...	0820	25500	711	8.1	2.5	38	12.6	93	K940	K570	260	69
MAR 10...	0830	30000	560	8.1	9.0	130	8.8	78	510	870	210	57
MAY 05...	1315	43200	698	8.2	15.5	42	9.0	90	K1600	79	260	66
JUL 07...	0745	42300	712	8.4	24.0	110	6.7	79	K12000	1800	250	63

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

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)
NOV 05...	--	--	--	184	190	23	0.50	10	477	453	0.65
JAN 14...	21	52	6.3	197	140	23	0.50	18	416	459	0.57
MAR 10...	17	34	5.7	160	93	21	0.40	15	348	351	0.47
MAY 05...	23	46	4.8	189	140	21	0.40	10	436	424	0.59
JUL 07...	22	55	6.5	176	160	20	0.60	11	454	441	0.62

MISSOURI RIVER MAIN STEM

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 05..	25900	<0.010	0.460	0.100	0.090	0.40	0.090	0.040	0.050	367	43
JAN 14..	28600	0.020	2.10	0.130	0.130	<0.20	0.240	0.120	0.110	425	38
MAR 10..	28200	0.060	2.50	0.100	0.100	1.9	0.640	0.100	0.090	686	81
MAY 05...	50900	<0.010	3.00	0.050	0.010	0.7	0.230	0.070	0.060	--	--
JUL 07...	51900	<0.010	1.60	0.030	0.040	0.30	0.110	0.110	0.090	--	--

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 05...	20	<1	58	<0.5	<1.0	<1	<3	3	14	<1
JAN 14...	20	2	120	<0.5	<1.0	<1	<3	3	5	<1
MAR 10...	40	--	--	--	--	--	--	--	--	--
MAY 05...	20	2	160	<0.5	<1.0	<1	<3	3	7	<1
JUL 07...	20	3	110	<0.5	<1.0	<1	<3	3	8	<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 05...	36	17	0.2	<10	2	1	<1.0	400	<6	11
JAN 14...	37	3	<0.1	<10	3	2	<1.0	480	<6	11
MAR 10...	--	--	--	--	--	--	--	--	--	--
MAY 05...	36	6	<0.1	<10	1	2	<1.0	450	<6	17
JUL 07...	42	2	3.3	<10	1	2	<1.0	500	<6	10

PLATTE RIVER BASIN

06820500 PLATTE RIVER NEAR AGENCY, MO

LOCATION.--Lat 39°41'20", long 94°42'15", in NE 1/4 NW 1/4 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 sea level. 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; Nov. 15, 1965 to Oct. 25, 1989, water-stage recorder at site 150 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 7-9 and Dec. 4-8. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	189	575	384	292	566	1420	1320	375	133	1950	122
2	16	279	561	457	282	529	1070	1190	364	122	1270	149
3	43	386	363	607	280	484	916	1050	352	113	836	1010
4	194	135	140	629	273	464	835	950	338	106	654	857
5	105	194	130	624	273	500	770	872	320	118	583	457
6	153	151	140	1160	268	843	709	808	329	123	502	317
7	135	100	160	1450	260	1910	650	771	416	150	647	446
8	87	80	155	965	249	1650	612	727	659	287	560	823
9	70	90	160	770	227	1210	606	693	459	295	942	997
10	51	82	148	681	215	902	657	664	890	460	864	568
11	40	67	131	572	195	842	2320	646	1040	272	570	365
12	34	65	149	489	195	745	1060	619	700	415	441	256
13	29	66	137	479	230	650	738	590	518	5790	364	191
14	26	70	416	500	241	603	630	561	416	7690	317	147
15	21	67	479	355	320	553	587	542	356	2840	289	123
16	19	64	336	235	1270	519	981	523	324	1390	261	3040
17	20	107	229	342	1580	497	3790	501	987	2410	241	8050
18	20	91	175	395	5020	1930	1900	473	778	1520	226	6530
19	20	158	122	342	5660	10000	4730	479	435	1350	210	3760
20	19	283	222	354	2850	5990	13600	494	320	3560	195	3060
21	27	185	258	339	1650	2520	20900	543	267	1430	179	2090
22	30	125	288	336	1190	1550	22200	923	242	883	164	1160
23	30	116	461	371	965	1200	20100	906	233	760	150	934
24	45	85	901	331	1070	1030	15800	790	213	668	138	725
25	39	62	908	367	888	901	8360	589	204	6860	129	597
26	30	67	720	344	766	807	3420	540	185	14200	128	524
27	46	81	566	356	697	722	2420	497	169	11800	119	474
28	96	86	480	353	645	682	1940	473	159	3530	113	433
29	86	126	428	318	608	1410	1650	466	148	1190	112	404
30	66	320	396	289	---	3810	1460	436	142	3220	109	381
31	87	---	384	285	---	2320	---	387	---	2770	116	---
MEAN	54.9	133	346	499	988	1559	4561	678	411	2466	432	1300
MAX	194	386	908	1450	5660	10000	22200	1320	1040	14200	1950	8050
MIN	16	62	122	235	195	464	587	387	142	106	109	122
IN.	.04	.08	.23	.33	.61	1.02	2.89	.44	.26	1.62	.28	.82

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	666	515	338	385	811	1371	1435	1446	1931	899	455	884
MAX	8584	4620	3248	3714	4912	6345	6835	6815	13640	7553	2935	7853
(WY)	1974	1962	1983	1974	1973	1979	1973	1982	1947	1965	1987	1926
MIN	.016	6.14	5.59	2.72	14.0	12.7	9.89	26.9	41.7	10.2	2.62	6.76
(WY)	1957	1956	1939	1940	1940	1938	1956	1956	1988	1936	1934	1955

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	721	1114	928
HIGHEST ANNUAL MEAN			2671
LOWEST ANNUAL MEAN			67.4
HIGHEST DAILY MEAN	13200	Apr 19	50800
LOWEST DAILY MEAN	15	Sep 29	.00
INSTANTANEOUS PEAK FLOW	--		53000
INSTANTANEOUS PEAK STAGE	--		26.94
INSTANTANEOUS LOW FLOW	--		15**
ANNUAL SEVEN-DAY MINIMUM	17	Sep 26	21
ANNUAL RUNOFF (INCHES)	5.57		8.62
10 PERCENT EXCEEDS	1530		1990
50 PERCENT EXCEEDS	222		451
90 PERCENT EXCEEDS	32		86

**Minimum observed. May have been less during period of doubtful gage-height record, Oct. 16-20.

PLATTE RIVER BASIN

06821140 SMITHVILLE RESERVOIR NEAR SMITHVILLE, MO

LOCATION.--Lat 39°23'50", long 94°33'25", SW 1/4 sec.13, T.53 N., R.33 W., Clay County, Hydrologic Unit 10240012, in control tower at outlet works on the Little Platte River, 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 sea level.

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 182,209 ac-ft (elevation 876.2 ft to 891.1 ft); of flood control pool 101,800 ac-ft (elevation 864.2 to 876.2 ft); and of multipurpose pool 144,600 ac-ft (elevation 799.0 ft to 864.2 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 ac-ft, Nov. 15-17, 1985, maximum elevation 873.17 ft, Nov. 16, 17, 1985; minimum, 2,360 ac-ft, Jan. 13, 1980, elevation, 819.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 175,000 ac-ft, Apr. 28, elevation, 868.63 ft; minimum, 130,000 ac-ft, Nov. 12, elevation, 862.55 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	862.96	862.68	862.67	862.88	862.96	863.42	864.86	868.40	865.09	864.81	868.43	863.86
2	862.94	862.64	862.65	862.90	862.96	863.43	864.85	868.18	865.08	864.75	868.51	863.87
3	863.01	862.61	862.63	862.91	862.96	863.44	864.79	867.89	865.08	864.67	868.60	863.87
4	863.00	862.59	862.60	862.93	862.98	863.44	864.81	867.66	865.07	864.61	868.61	863.86
5	862.94	862.58	862.61	862.94	862.94	863.48	864.83	867.44	865.07	864.57	868.37	863.85
6	862.92	862.59	862.63	862.96	862.92	863.53	864.82	867.13	865.09	864.55	868.05	864.16
7	862.91	862.60	862.65	862.97	862.92	863.59	864.83	866.87	865.08	864.51	867.63	864.18
8	862.90	862.56	862.65	862.98	862.90	863.64	864.84	866.70	865.04	864.50	867.51	864.19
9	862.90	862.56	862.66	862.97	862.89	863.69	864.85	866.56	865.08	864.47	867.25	864.27
10	862.90	862.56	862.65	862.95	862.88	863.69	865.12	866.38	865.13	865.09	866.96	864.34
11	862.88	862.55	862.66	862.95	862.89	863.63	865.23	866.26	865.19	865.12	866.67	864.33
12	862.88	862.55	862.71	862.98	862.91	863.65	865.25	866.09	865.19	865.13	866.36	864.32
13	862.87	862.56	862.71	863.02	862.89	863.61	865.23	865.95	865.20	865.20	866.03	864.29
14	862.84	862.58	862.68	862.99	862.91	863.62	865.23	865.83	865.20	866.05	865.70	864.29
15	862.82	862.63	862.67	863.01	862.94	863.62	865.27	865.63	865.18	866.55	865.35	864.30
16	862.78	862.62	862.66	862.91	862.95	863.62	865.30	865.57	865.17	866.60	865.07	864.28
17	862.77	862.66	862.67	862.95	863.07	863.65	865.31	865.56	865.18	866.63	864.75	864.27
18	862.78	862.67	862.66	862.94	863.22	863.67	865.31	865.51	865.17	866.44	864.41	864.31
19	862.72	862.68	862.64	862.94	863.26	864.30	865.43	865.46	865.15	866.34	864.23	864.27
20	862.69	862.68	862.68	862.94	863.26	864.45	865.84	865.41	865.15	866.18	864.17	864.31
21	862.68	862.67	862.72	862.95	863.31	864.50	867.59	865.35	865.10	866.23	864.14	864.43
22	862.68	862.66	862.72	862.96	863.31	864.52	867.89	865.30	865.07	866.27	864.11	864.44
23	862.69	862.67	862.83	862.97	863.32	864.54	868.14	865.27	865.10	866.17	864.09	864.42
24	862.71	862.63	862.83	862.96	863.35	864.56	868.51	865.17	865.10	866.18	864.05	864.41
25	862.70	862.63	862.85	862.96	863.37	864.57	868.56	865.15	865.16	865.98	864.04	864.39
26	862.68	862.61	862.86	862.95	863.37	864.57	868.59	865.15	865.15	867.23	864.05	864.38
27	862.67	862.63	862.87	862.95	863.38	864.56	868.61	865.10	865.04	867.60	864.01	864.39
28	862.68	862.64	862.86	862.95	863.39	864.54	868.63	865.09	864.99	867.66	863.98	864.39
29	862.70	862.66	862.86	862.94	863.41	864.61	868.62	865.08	864.93	867.67	863.94	864.11
30	862.67	862.69	862.86	862.95	---	864.89	868.59	865.08	864.87	868.26	863.92	863.82
31	862.63	---	862.86	862.95	---	864.89	---	865.08	---	868.42	863.90	---
MAX	863.01	862.69	862.87	863.02	863.41	864.89	868.63	868.40	865.20	868.42	868.61	864.44
MIN	862.63	862.55	862.60	862.88	862.88	863.42	864.79	865.08	864.87	864.47	863.90	863.82
(-)	131000	131000	132000	133000	136000	147000	175000	148000	146000	174000	139000	139000
(=)	-2000	0	+1000	+1000	+3000	+11000	+28000	-27000	-2000	+28000	-35000	0

CAL YR 1991. . . .-3000

WTR YR 1992. . . .+6000

(-) Contents, in acre-feet, at end of month.

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

PLATTE RIVER BASIN

06821150 LITTLE PLATTE RIVER AT SMITHVILLE, MO

LOCATION.--Lat 39°23'17", long 94°34'44", in NW 1/4 SW 1/4 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 169, 0.5 mi downstream from Wilkerson Creek, 2.4 mi 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 sea level (levels by U.S. Army Corps of Engineers). Prior to March 23, 1966, nonrecording gage at site 1,500 ft downstream at same datum.

REMARKS.--No estimated daily discharges. 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.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.3	17	12	13	13	12	216	1000	14	199	69	31
2	10	11	12	20	13	11	160	998	14	199	92	10
3	277	10	11	16	13	11	69	991	13	198	59	9.6
4	11	9.9	11	14	13	12	15	991	13	197	543	9.1
5	9.0	10	12	13	13	22	14	986	13	208	1620	94
6	8.5	9.8	12	14	13	33	13	978	13	206	1610	524
7	8.3	9.9	12	14	13	23	13	862	12	136	1330	54
8	8.2	10	12	13	13	17	13	639	13	106	1110	60
9	8.4	10	12	13	13	16	36	638	14	406	1250	18
10	8.5	10	11	12	13	14	357	637	152	1650	1240	13
11	8.6	11	11	12	13	13	410	637	34	30	1230	12
12	8.6	11	24	13	14	12	50	633	17	24	1210	11
13	8.7	11	16	15	13	12	29	631	14	23	1210	11
14	8.8	12	13	14	17	12	24	636	13	1580	1200	11
15	9.0	13	12	13	20	11	21	419	13	76	1190	11
16	8.7	13	12	13	17	11	19	219	13	100	1190	10
17	9.0	25	12	14	252	11	18	218	12	360	1180	14
18	9.2	18	11	14	201	483	44	217	12	953	947	26
19	8.8	14	11	14	54	708	159	216	12	1010	374	12
20	8.8	13	35	14	15	211	1600	216	12	448	76	146
21	9.3	12	26	14	14	24	1680	216	12	17	74	33
22	9.2	12	17	15	12	20	912	221	13	433	73	17
23	9.3	13	23	15	14	14	485	218	14	1190	72	13
24	10	12	18	14	21	12	200	97	81	504	72	12
25	10	12	15	14	17	46	110	15	119	770	72	12
26	10	12	13	13	14	71	51	14	202	2560	76	13
27	11	12	13	13	13	68	35	14	200	273	76	13
28	12	13	12	13	12	54	147	14	200	60	72	548
29	12	13	12	13	12	62	362	13	200	40	70	979
30	11	13	12	13	---	123	681	13	200	2310	69	975
31	12	---	11	13	---	219	---	13	---	131	68	---
MEAN	18.1	12.4	14.4	13.8	30.2	76.4	265	439	55.5	529	630	123
MAX	277	25	35	20	252	708	1680	1000	202	2560	1620	979
MIN	8.2	9.8	11	12	12	11	13	13	12	17	59	9.1
IN.	.09	.06	.07	.07	.14	.38	1.26	2.16	.26	2.61	3.10	.59

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	151	113	70.6	76.1	98.4	168	221	296	244	234	106	196
MAX	1108	755	274	318	322	1261	640	1583	1289	2126	663	1006	
(WY)	1974	1978	1986	1983	1973	1973	1978	1974	1967	1965	1981	1977	
MIN	.35	.60	.052	.074	9.47	4.73	9.85	11.4	13.3	1.08	.19	.11	
(WY)	1967	1967	1977	1977	1967	1981	1981	1988	1988	1976	1976	1976	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	83.5		185		156	
HIGHEST ANNUAL MEAN					403	
LOWEST ANNUAL MEAN					35.4	
HIGHEST DAILY MEAN	638	May 27	2560	Jul 26	41000	Jul 20 1965
LOWEST DAILY MEAN	7.9	Several Days	8.2	Oct 8	.00	Many Years
INSTANTANEOUS PEAK FLOW	---		5770	Jul 10	76600	Jul 20 1965
INSTANTANEOUS PEAK STAGE	---		29.93	Jul 10	44.8	Jul 20 1965
INSTANTANEOUS LOW FLOW	---		7.9	Oct 1	.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	8.0	Sep 21	8.4	Oct 6	.00	Many Years
ANNUAL RUNOFF (INCHES)	4.85		10.79		9.08	
10 PERCENT EXCEEDS	220		652		361	
50 PERCENT EXCEEDS	14		14		25	
90 PERCENT EXCEEDS	8.8		11		4.6	

PLATTE RIVER BASIN

06821190 PLATTE RIVER AT SHARPS STATION, MO

LOCATION.--Lat 39°24'03", long 94°43'36", in NW 1/4 SE 1/4 SW 1/4 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 sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--Estimated daily discharges: July 15-20. Water-discharge records poor. Some regulation from Smithville Lake (station 06821140) 17.0 mi upstream. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	110	298	364	289	644	2920	3230	388	345	5230	339
2	35	175	653	420	295	579	1930	2980	380	334	2610	278
3	463	198	620	519	293	527	1420	2740	366	321	2070	300
4	94	343	313	723	285	472	1140	2540	352	307	1120	1830
5	176	183	179	716	279	488	1010	2370	327	363	2190	1650
6	132	219	185	752	276	676	930	2290	316	399	2200	3070
7	106	173	246	1910	272	1550	844	2210	340	491	2550	1030
8	121	124	238	1890	263	2460	775	1620	416	371	2680	1100
9	102	81	204	1230	255	2000	736	1470	713	729	2150	1980
10	79	104	179	952	237	1400	1310	1440	945	6060	2540	1720
11	67	102	167	806	221	1040	2110	1400	1770	1390	2270	932
12	58	91	196	647	218	974	3240	1350	1310	708	1930	622
13	49	87	228	546	203	810	1490	1340	842	1950	1780	471
14	45	88	186	526	233	683	1050	1350	598	11600	1710	379
15	42	93	381	502	311	611	909	1250	472	13000	1690	313
16	39	94	492	363	456	541	856	771	402	7870	1680	268
17	37	126	358	228	2090	499	2760	680	369	3590	1670	6250
18	34	178	240	373	3530	1140	4320	654	1200	4190	1610	9470
19	33	152	173	449	7070	7450	3150	626	855	4190	1150	7470
20	31	142	189	369	5710	10200	9720	643	469	4640	741	6210
21	28	276	380	365	3010	7970	14200	676	330	4590	844	4460
22	28	213	351	368	1880	3170	17400	771	272	2480	767	2570
23	29	164	435	376	1360	1870	21800	1260	281	3940	694	1680
24	36	140	749	383	1190	1380	22200	1180	337	1930	652	1360
25	40	106	1330	351	1390	1160	20300	848	411	3520	614	990
26	50	80	1150	358	1070	1040	17000	620	429	12700	628	805
27	52	92	833	355	889	915	11300	553	399	13700	640	695
28	44	113	619	370	774	815	4360	506	381	13100	536	801
29	65	109	496	355	699	1110	3350	484	366	10900	465	1630
30	94	149	424	331	---	4190	3030	468	355	10800	411	1610
31	81	---	375	297	---	4710	---	432	---	10700	370	---
MEAN	75.0	143	415	587	1209	2035	5919	1315	546	4878	1555	2076
MAX	463	343	1330	1910	7070	10200	22200	3230	1770	13700	5230	9470
MIN	28	80	167	228	203	472	736	432	272	307	370	268
IN.	.04	.07	.20	.28	.55	.99	2.78	.64	.26	2.36	.75	.97

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	1306	691	1023	588	1297	2326	2472	2849	2630	2258	1129	1432
MEAN	1306	691	1023	588	1297	2326	2472	2849	2630	2258	1129	1432
MAX	6847	2081	4555	2153	3980	8745	5919	7688	10790	8740	3535	4410
(WY)	1986	1986	1983	1983	1982	1979	1992	1982	1984	1986	1987	1982
MIN	25.1	61.9	46.1	50.1	37.6	110	93.0	157	75.2	52.5	47.7	56.7
(WY)	1989	1989	1989	1989	1989	1989	1989	1989	1988	1988	1988	1991

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	1032		1727		1660	
HIGHEST ANNUAL MEAN					3376	1982
LOWEST ANNUAL MEAN					464	1989
HIGHEST DAILY MEAN	11500	Apr 21	22200	Apr 24	28300	Jun 11 1984
LOWEST DAILY MEAN	28	Oct 21-22	28	Oct 21-22	12	Aug 7-8,13-14 1989
INSTANTANEOUS PEAK FLOW	--		22600	Apr 23	29000	Jun 10 1984
INSTANTANEOUS PEAK STAGE	--		32.67	Apr 23	34.55	Jun 10 1984
INSTANTANEOUS LOW FLOW	--		28	Oct 21-23	12	Aug 7-8,13-14 1989
ANNUAL SEVEN-DAY MINIMUM	31	Oct 18	31	Oct 18	14	Aug 7 1989
ANNUAL RUNOFF (INCHES)	5.89		9.88		9.47	
10 PERCENT EXCEEDS	2460		4190		4190	
50 PERCENT EXCEEDS	324		627		580	
90 PERCENT EXCEEDS	58		105		63	

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 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (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-TOCOCCHI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
NOV 05...	1100	182	403	8.2	0.0	74	14.1	97	K14000	K22000	130	--
JAN 14...	1100	524	398	7.8	1.5	62	16.0	114	K180	520	170	51
MAY 05...	0915	2380	349	7.9	16.0	96	9.5	96	K180	240	160	48
JUL 07...	1150	452	368	8.0	24.0	64	6.6	79	2400	3600	170	50

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

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)
NOV 05...	8.9	14	4.7	174	34	17	0.30	7.6	236	233	0.32	116
JAN 14...	11	15	4.8	151	35	15	0.30	13	236	256	0.32	334
MAY 05...	9.3	10	4.6	129	32	12	0.70	7.4	206	202	0.28	1320
JUL 07...	10	12	5.1	154	26	12	0.20	4.5	216	214	0.29	264

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
NOV 05...	<0.010	0.590	0.120	0.110	0.90	0.200	0.070	0.040	161	94	60
JAN 14...	0.030	4.30	0.160	0.120	3.3	0.310	0.110	0.100	191	78	40
MAY 05...	0.020	2.30	0.070	0.060	0.70	0.120	0.080	0.040	--	--	10
JUL 07...	0.010	0.270	0.060	0.060	0.60	0.090	0.020	0.040	--	--	30

PLATTE RIVER BASIN

06821190 PLATTE RIVER AT SHARPS STATION, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	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)
NOV 05...	120	<3	84	8	170	<10	4	<1	<1.0	170	<6
JAN 14...	140	<3	28	5	49	<10	3	1	<1.0	200	<6
MAY 05...	180	<3	6	<4	81	<10	2	1	<1.0	220	<6
JUL 07...	160	<3	22	6	37	<10	<1	<1	<1.0	250	<6

KANSAS RIVER BASIN

06892350 KANSAS RIVER AT DESOTO, KS

LOCATION.--Lat 38°59'00", long 94°57'52", in SE 1/4 NE 1/4 NE 1/4 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.

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 sea level. 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: Oct. 1-6. Records good except for estimated daily discharges, which are poor. Natural flow of stream affected by lakes 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.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	980	1010	769	880	989	1140	4490	5890	1120	3060	24700	4310
2	980	1560	836	984	947	841	3840	4270	985	2880	24600	3990
3	1400	945	773	1370	913	789	3300	3500	1440	2800	30300	3690
4	1350	504	816	877	1020	782	2860	3160	1340	2710	30100	4280
5	1500	670	686	693	805	1170	2690	2640	1440	2350	30400	4430
6	1500	1120	730	1280	1390	2400	2500	2150	1320	15700	34800	5430
7	1510	1120	1240	804	526	8480	2660	1870	1580	14000	37000	8170
8	1510	966	1130	955	840	7450	2040	1750	1010	6480	37300	7680
9	1550	622	825	1150	807	4550	2360	1670	1850	4390	36500	7790
10	1550	801	692	1160	770	3340	2290	1650	2510	3820	35900	8860
11	1790	838	752	892	905	2760	2240	1600	3920	5260	34900	11000
12	1880	873	892	784	1000	2560	3300	1610	5240	5150	32200	11500
13	1790	842	1100	1070	949	1680	2900	1480	5390	5250	29800	10900
14	1580	763	849	1120	1130	1610	2910	1580	5550	9950	30200	8690
15	1720	756	778	727	1320	1770	2500	2130	5950	14800	28600	5300
16	1740	773	767	618	1480	1740	2230	1790	6430	23900	25100	3930
17	1740	1020	628	640	1560	1580	2360	1710	10400	34900	21000	3620
18	1680	1740	593	668	2100	2250	2280	1580	11900	28400	18800	3520
19	1740	1220	611	685	2550	26300	3190	1090	8760	24300	17900	3060
20	1650	1120	1030	991	2340	20200	7230	998	7240	21300	15300	3250
21	1710	787	1800	1090	2170	12600	12000	1500	6970	24500	11700	5170
22	1720	558	1710	1690	1650	9680	10700	1600	7450	23300	8990	3480
23	1700	1100	1250	776	1310	8340	8420	1570	7640	30700	7550	2860
24	1770	917	1340	955	1350	7610	8140	1450	7680	46300	6820	2940
25	1740	659	1490	1380	1480	6660	10500	1210	7800	35300	6390	3050
26	1360	555	1190	1410	1330	6130	7990	1170	5530	34900	6250	3030
27	1310	828	1080	1170	1270	5850	6890	1550	4220	44500	5780	3140
28	1360	822	1050	1220	1220	4700	6380	1570	3510	40900	5170	2890
29	1270	674	1000	920	1190	4130	6180	1580	3360	36100	4820	2790
30	1080	751	775	1090	---	5350	6080	1700	3130	34500	4680	2700
31	889	---	659	1090	---	4780	---	1440	---	34000	4530	---
MEAN	1518	897	963	1004	1287	5459	4782	1950	4755	19880	20910	5182
MAX	1880	1740	1800	1690	2550	26300	12000	5890	11900	46300	37300	11500
MIN	889	504	593	618	526	782	2040	998	985	2350	4530	2700
IN.	.03	.02	.02	.02	.02	.11	.09	.04	.09	.38	.40	.10

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	5715	4192	3167	2760	4285	6987	9312	10360	14640	11150	6220	6512
MAX	51630	42320	21940	15990	20800	36560	43570	39040	78870	133200	23390	44660	
(WY)	1974	1974	1974	1973	1949	1973	1973	1945	1951	1951	1951	1951	
MIN	365	504	465	364	635	632	845	953	1188	1106	455	525	
(WY)	1957	1957	1957	1957	1957	1967	1956	1989	1989	1936	1934	1956	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	2486	5760	7119
HIGHEST ANNUAL MEAN			1951
LOWEST ANNUAL MEAN			1956
HIGHEST DAILY MEAN	21600	Apr 28	486000 Jul 14 1951
LOWEST DAILY MEAN	641	Sep 14	160 Oct 11 1956
INSTANTANEOUS PEAK FLOW	--		510000 Jul 13 1951
INSTANTANEOUS PEAK STAGE	--		37.30 Jul 13 1951
INSTANTANEOUS LOW FLOW	--		160 Oct 11 1956
ANNUAL SEVEN-DAY MINIMUM	723	Nov 25	195 Oct 9 1956
10 PERCENT EXCEEDS	5780		16800
50 PERCENT EXCEEDS	1380		3230
90 PERCENT EXCEEDS	824		1070

MISSOURI RIVER MAIN STEM

06893000 MISSOURI RIVER AT KANSAS CITY, MO

LOCATION.--Lat 39°06'43", long 94°35'16", in sec.32, T.50 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on downstream side of right pier of Chicago, Burlington 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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1897 to current year. Prior to August 1928 monthly discharge only, published in WSP 1310. Gage-height records 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 706.40 ft above sea level. Prior to May 4, 1931, nonrecording gage; 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. Feb. 29, 1948 to Oct. 1, 1989 at datum 10.00 ft higher.

REMARKS.--No estimated daily discharges. Water-discharge records good. 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.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33500	32200	21300	23200	26000	26400	51800	56600	40900	41200	136000	44100
2	33700	30900	22900	23900	25600	26100	48700	54400	40100	40700	104000	43200
3	35800	28800	24100	24600	25400	25500	46400	51500	38700	39700	96600	56200
4	36000	24300	23400	24900	24700	25700	44800	49800	40200	40700	90000	56300
5	35800	21800	21500	25400	24200	27200	43100	47900	39800	42300	84100	49700
6	35400	20100	21100	25900	24200	29100	42200	46300	38000	44500	83900	53500
7	35100	19100	21300	27000	24600	36300	41700	44400	40700	58800	87400	64600
8	34600	18400	20500	28400	24700	46200	41200	43300	42600	50100	87700	71800
9	34500	17700	19500	27900	25000	41200	40700	42300	40500	48500	90800	69300
10	34100	17200	18900	27300	24900	35900	40900	41500	45400	62100	89500	59600
11	34000	17300	20600	26900	24700	33600	42500	40700	51100	54300	88900	61100
12	34200	16800	23800	27200	24700	33200	44900	40500	46000	52200	87900	58900
13	34000	16600	25100	27200	24400	35300	43800	40400	46200	66800	80700	55300
14	33400	17000	26200	26500	25800	39400	40800	41900	44700	119000	81400	50800
15	33700	17800	28300	27500	26800	38200	40000	42500	43400	103000	80000	46100
16	33900	19400	31800	28100	25600	34800	39400	40100	45700	101000	74900	49200
17	34000	23300	31600	27300	27500	33300	40600	39800	47300	98100	68900	71100
18	34400	24500	27800	24700	30000	35500	45300	40400	54400	90900	64900	72400
19	34600	23500	24300	22200	33100	59500	46100	41500	63900	83100	63500	60100
20	34600	22000	24900	21600	38500	72400	54400	56300	62900	78900	59000	60500
21	34200	21700	25900	22600	35300	56800	74600	56400	53400	80300	53300	60300
22	34000	21500	25300	25800	32000	48100	76700	49800	50600	77400	48700	51000
23	34100	21500	24000	26700	31000	44700	75100	50900	50800	79300	45800	44700
24	34700	21400	23300	26800	30500	44400	85700	50700	49000	96100	44000	43200
25	35100	21000	26200	31200	29900	45500	87400	49200	47000	89700	43100	42100
26	35200	20500	30200	31400	29200	45700	80600	47600	46300	147000	42600	40900
27	35400	20200	28200	29000	28100	45700	73800	45400	43900	150000	41100	40400
28	35500	20100	25300	27000	27500	44200	65700	42800	40900	131000	40700	40400
29	35800	19900	23900	25800	26800	44400	60900	43200	41000	116000	42600	40700
30	36300	20300	23600	25200	---	55000	58100	41700	41400	135000	45500	41300
31	34600	---	23300	25800	---	58400	---	39900	---	165000	46400	---
MEAN	34650	21230	24450	26290	27610	40890	53930	45800	45890	83310	70770	53290
MAX	36300	32200	31800	31400	38500	72400	87400	56600	63900	165000	136000	72400
MIN	33400	16600	18900	21600	24200	25500	39400	39800	38000	39700	40700	40400
IN.	.08	.05	.06	.06	.06	.10	.12	.11	.11	.20	.17	.12

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)**

MEAN	45770	41000	26670	22990	31870	53100	68630	64430	82330	67230	47940	48330
MAX	135200	93340	75370	60980	77690	133700	215000	138500	193000	222900	99160	121300
(WY)	1974	1974	1987	1973	1973	1979	1952	1984	1947	1951	1951	1951
MIN	12360	13230	7906	5010	9308	16090	26030	26420	37280	28210	12480	13200
(WY)	1940	1937	1938	1940	1940	1957	1957	1934	1956	1934	1934	1934

SUMMARY STATISTICS**

	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	36260	44100	50050
HIGHEST ANNUAL MEAN			90840
LOWEST ANNUAL MEAN			22300
HIGHEST DAILY MEAN	110000	Jun 16	558000
LOWEST DAILY MEAN	16600	Nov 13	1500
INSTANTANEOUS PEAK FLOW	--		167000
INSTANTANEOUS PEAK STAGE	--		29.49
INSTANTANEOUS LOW FLOW	--		16400
ANNUAL SEVEN-DAY MINIMUM	17200	Nov 9	17200
ANNUAL RUNOFF (INCHES)	1.01		1.24
10 PERCENT EXCEEDS	61500		76900
50 PERCENT EXCEEDS	33700		40400
90 PERCENT EXCEEDS	20800		23300

**Statistics based only on years with complete daily discharge record.

BLUE RIVER BASIN

06893500 BLUE RIVER NEAR KANSAS CITY, MO

LOCATION.--Lat 38°57'26", long 94°33'31", in SE 1/4 NE 1/4 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 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 sea level (levels by U.S. Army Corps of Engineers). Prior to July 1, 1939, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records fair. 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.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	175	30	89	28	55	120	89	69	23	40	34
2	22	47	29	130	33	53	103	79	48	22	63	59
3	177	36	26	67	32	50	94	67	80	20	54	37
4	37	32	24	60	31	54	86	62	45	29	34	26
5	32	28	25	52	30	299	79	58	37	133	28	33
6	22	26	24	64	30	282	74	57	33	39	26	549
7	19	31	23	54	28	170	68	52	32	35	213	62
8	16	27	26	51	29	117	65	54	31	29	70	45
9	15	23	25	46	29	104	67	51	46	24	70	115
10	13	21	22	45	30	87	67	53	66	68	56	40
11	14	24	21	45	30	77	184	71	60	40	39	31
12	14	24	170	66	55	74	104	55	40	39	31	32
13	16	23	54	74	44	69	81	47	32	27	28	27
14	14	23	37	49	268	64	69	215	30	323	27	27
15	18	76	32	44	191	61	65	113	34	70	25	26
16	16	55	33	40	98	57	66	72	25	133	25	23
17	16	329	32	41	445	53	64	68	27	53	25	164
18	7.6	76	29	38	205	808	159	54	23	58	29	121
19	12	49	29	37	126	481	401	51	25	35	27	49
20	16	37	289	37	95	290	2960	46	23	32	23	528
21	17	30	139	38	82	219	829	46	22	31	24	212
22	15	27	83	55	73	183	285	47	21	152	24	62
23	16	48	155	67	67	151	369	69	26	53	25	44
24	39	36	91	46	135	139	239	45	67	40	28	38
25	33	29	69	40	95	172	191	39	91	32	108	35
26	23	25	60	41	72	118	158	40	32	127	255	121
27	20	32	55	40	66	96	136	38	26	64	85	64
28	77	26	50	37	62	89	120	34	24	40	45	42
29	37	35	46	38	59	267	109	32	25	32	34	35
30	24	40	45	34	---	222	99	33	25	121	30	32
31	101	---	45	35	---	149	---	31	---	83	29	---
MEAN	29.5	49.7	58.6	51.6	88.6	165	250	60.3	38.8	64.7	52.3	90.4
MAX	177	329	289	130	445	808	2960	215	91	323	255	549
MIN	7.6	21	21	34	28	50	64	31	21	20	23	23
IN.	.18	.29	.36	.32	.51	1.01	1.49	.37	.23	.40	.32	.54

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	131	91.1	80.7	93.3	120	192	261	229	275	150	79.3	160
MAX	790	771	472	445	740	1407	1279	1457	1285	1616	431	1395
(WY)	1987	1962	1974	1941	1985	1973	1944	1990	1967	1951	1982	1986
MIN	.000	.000	.000	.000	2.66	4.36	6.41	17.8	7.44	1.72	.94	.047
(WY)	1940	1940	1940	1940	1940	1957	1954	1956	1953	1946	1947	1939

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	91.5		83.0		156
HIGHEST ANNUAL MEAN					365
LOWEST ANNUAL MEAN					12.8
HIGHEST DAILY MEAN	4070	Apr 18	2960	Apr 20	20000
LOWEST DAILY MEAN	7.6	Oct 18	7.6	Oct 18	.00
INSTANTANEOUS PEAK FLOW	---		6550	Apr 20	41000
INSTANTANEOUS PEAK STAGE	---		20.25	Apr 20	44.46
INSTANTANEOUS LOW FLOW	---		3.0	Oct 18	.00
ANNUAL SEVEN-DAY MINIMUM	14	Oct 13	14	Oct 13	.00
ANNUAL RUNOFF (INCHES)	6.61		6.01		11.26
10 PERCENT EXCEEDS	155		160		261
50 PERCENT EXCEEDS	34		45		41
90 PERCENT EXCEEDS	18		23		4.9

LITTLE BLUE RIVER BASIN

06893791 LONGVIEW RESERVOIR AT KANSAS CITY, MO

LOCATION.--Lat 38°55'29", long 94°27'35", SE 1/4 NE 1/4 NW 1/4 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 mi 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 sea level (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 35,370 ac-ft (909.0 ft to 922.9 ft); of flood control pool 24,800 ac-ft (elevation 891.0 ft to 909.0 ft); and of multipurpose pool 22,100 ac-ft (elevation 816.0 ft to 891.0 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 PERIOD OF RECORD.--Maximum contents, 37,100 ac-ft, May 16, 1990, elevation, 903.36 ft; minimum, 2,680 ac-ft, Oct. 1, 1985, elevation, 849.40 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 24,600 ac-ft, Apr. 21, elevation, 893.52 ft; minimum, 20,900 ac-ft, Nov. 14, elevation, 889.69 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	890.05	890.05	890.11	890.52	890.41	891.12	891.39	891.40	890.97	890.44	890.41	890.21
2	890.04	889.92	890.09	890.57	890.40	891.11	891.35	891.34	890.96	890.39	890.38	890.21
3	890.16	889.89	890.09	890.58	890.39	891.10	891.29	891.28	890.96	890.37	890.39	890.20
4	890.20	889.86	890.07	890.58	890.37	891.09	891.28	891.38	890.95	890.32	890.37	890.18
5	890.21	889.82	890.03	890.58	890.36	891.20	891.25	891.34	890.93	890.36	890.36	890.16
6	890.18	889.81	890.03	890.58	890.35	891.41	891.22	891.30	890.92	890.34	890.32	890.45
7	890.22	889.80	890.02	890.59	890.33	891.42	891.18	891.26	890.89	890.33	890.30	890.46
8	890.21	889.77	890.02	890.59	890.31	891.38	891.20	891.24	890.88	890.30	890.57	890.44
9	890.20	889.74	890.01	890.59	890.29	891.35	891.17	891.21	890.87	890.27	890.56	890.41
10	890.17	889.72	890.01	890.58	890.27	891.30	891.16	891.20	890.89	890.26	890.55	890.37
11	890.15	889.71	889.99	890.57	890.26	891.27	891.21	891.20	890.95	890.26	890.52	890.34
12	890.14	889.70	890.05	890.57	890.25	891.24	891.45	891.19	890.97	890.25	890.49	890.31
13	890.11	889.70	890.08	890.57	890.27	891.20	891.41	891.17	890.94	890.23	890.47	890.30
14	890.09	889.69	890.08	890.57	890.29	891.17	891.38	891.23	890.90	890.20	890.43	890.27
15	890.06	889.73	890.06	890.56	890.58	891.15	891.33	891.34	890.90	890.43	890.39	890.25
16	890.01	889.74	890.05	890.53	890.61	891.13	891.31	891.32	890.90	890.48	890.37	890.23
17	890.00	889.95	890.03	890.52	890.75	891.11	891.28	891.29	890.87	890.47	890.31	890.20
18	889.96	890.15	890.01	890.51	891.07	891.21	891.26	891.27	890.81	890.45	890.30	890.27
19	889.93	890.17	889.98	890.50	891.12	892.03	891.36	891.25	890.78	890.43	890.27	890.26
20	889.92	890.18	890.00	890.48	891.13	892.05	891.95	891.22	890.74	890.40	890.23	890.28
21	889.88	890.17	890.28	890.47	891.12	891.88	893.52	891.20	890.71	890.37	890.20	890.41
22	889.85	890.16	890.31	890.46	891.13	891.78	892.84	891.18	890.67	890.34	890.17	890.41
23	889.84	890.17	890.39	890.49	891.13	891.69	892.49	891.16	890.64	890.42	890.14	890.40
24	889.82	890.17	890.54	890.49	891.13	891.58	892.25	891.13	890.60	890.40	890.11	890.36
25	889.86	890.15	890.51	890.46	891.16	891.54	892.01	891.10	890.62	890.38	890.08	890.34
26	889.86	890.12	890.52	890.46	891.16	891.45	891.83	891.09	890.60	890.42	890.25	890.35
27	889.86	890.12	890.52	890.45	891.16	891.43	891.72	891.06	890.55	890.45	890.32	890.37
28	889.85	890.11	890.52	890.44	891.15	891.36	891.62	891.04	890.53	890.42	890.31	890.35
29	889.84	890.12	890.52	890.44	891.14	891.34	891.54	891.01	890.51	890.41	890.28	890.32
30	889.83	890.12	890.52	890.43	---	891.44	891.48	890.98	890.47	890.41	890.25	890.30
31	889.82	---	890.52	890.42	---	891.43	---	890.95	---	890.43	890.23	---
MAX	890.22	890.18	890.54	890.59	891.16	892.05	893.52	891.40	890.97	890.48	890.57	890.46
MIN	889.82	889.69	889.98	890.59	890.25	891.09	891.16	890.95	890.47	890.20	90.31	890.16
(-)	21100	21300	21700	21600	22300	22500	22600	22100	21600	21600	21400	21500
(=)	-200	+200	+400	-100	+700	+200	+100	-500	-500	0	-200	+100
CAL YR 1991.	+1600											
WTR YR 1992.	+ 200											

(-) Contents, in acre-feet, at end of month.

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

LITTLE BLUE RIVER BASIN

06893793 LITTLE BLUE RIVER BELOW LONGVIEW DAM AT KANSAS CITY, MO

LOCATION.--Lat 38°55'26", long 94°28'05", in NE 1/4 SW 1/4 NW 1/4 sec.4, T.47 N., R.32 W., Jackson County, Hydrologic Unit 10300101, on right bank 300 ft downstream from Longview Dam.

DRAINAGE AREA.--50.3 mi².

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

REVISED RECORDS.--WDR MO-77-1: 1975-76. WDR MO-86-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 793.55 ft above sea level. Aug. 1, 1966 to Oct. 24, 1974, at site 0.7 mi upstream at datum 24.90 ft higher; Oct. 25, 1974 to Sept. 30, 1985, at site 0.5 mi downstream at present datum; Oct. 1, 1985 to July 24, 1990, at present site at datum 5.05 ft higher.

REMARKS.--No estimated daily discharges. Records fair. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	14	7.1	6.7	11	20	35	38	8.3	9.7	7.5	4.3
2	5.1	14	6.9	7.2	11	20	30	31	8.3	9.4	7.9	4.7
3	5.8	13	6.9	7.5	11	22	28	27	8.3	9.1	7.8	4.6
4	5.9	12	6.8	7.6	11	24	25	23	8.3	9.0	7.7	5.9
5	6.1	11	6.5	7.4	11	40	22	20	7.2	9.2	7.3	6.2
6	6.0	10	6.3	7.4	11	53	21	17	7.4	8.9	7.1	8.7
7	6.1	9.6	6.1	7.4	11	53	20	16	7.4	8.9	8.6	5.8
8	6.3	8.7	5.8	7.5	11	50	19	14	7.1	8.9	7.6	5.4
9	6.1	8.6	6.0	7.5	11	43	18	13	6.8	8.9	7.1	5.4
10	5.8	8.4	6.3	7.7	10	38	18	13	7.2	8.9	6.8	5.6
11	5.9	8.2	6.5	7.1	10	35	39	13	7.3	8.7	6.8	5.7
12	6.1	7.8	6.9	6.5	10	32	47	12	7.4	8.9	6.2	5.5
13	6.2	8.0	6.9	6.1	10	30	40	11	7.5	8.9	5.7	5.2
14	6.4	8.2	7.0	7.1	12	29	36	16	7.5	10	5.6	5.4
15	6.5	7.6	7.1	7.2	12	28	33	21	7.7	9.9	5.5	5.1
16	6.4	7.1	6.9	7.2	11	29	30	20	8.0	8.9	5.2	5.1
17	6.9	7.2	6.8	7.2	13	26	27	17	7.9	8.9	5.0	5.4
18	7.2	6.6	6.6	7.2	13	73	29	16	7.7	8.7	5.1	5.7
19	7.2	6.2	6.5	6.9	14	142	65	14	7.7	8.2	5.0	5.5
20	7.8	6.2	6.8	6.9	15	134	354	13	7.7	8.3	5.0	6.5
21	8.5	6.1	6.8	7.2	15	110	460	13	7.7	8.3	5.1	6.8
22	9.3	6.5	6.6	7.5	15	90	276	12	7.8	8.6	5.4	6.1
23	9.7	7.2	7.0	10	16	73	209	10	8.2	8.6	5.5	5.5
24	11	7.3	6.9	10	17	60	166	9.8	8.3	8.3	5.8	5.7
25	11	7.1	6.8	11	19	54	125	9.6	8.3	8.3	4.5	5.6
26	11	6.9	6.6	11	20	46	94	8.9	8.5	9.2	7.1	6.0
27	11	6.8	6.5	11	20	39	74	8.9	8.8	8.6	6.4	5.9
28	13	7.0	6.5	11	20	34	60	8.6	9.2	8.4	6.4	5.9
29	14	7.2	6.5	11	19	35	50	8.6	9.2	8.3	6.6	5.9
30	14	7.2	6.4	10	---	42	44	8.5	9.5	7.6	6.7	5.7
31	14	---	6.7	11	---	39	---	8.3	---	7.0	7.0	---
MEAN	8.11	8.39	6.65	8.19	13.4	49.8	83.1	15.2	7.94	8.76	6.35	5.69
MAX	14	14	7.1	11	20	142	460	38	9.5	10	8.6	8.7
MIN	5.0	6.1	5.8	6.1	10	20	18	8.3	6.8	7.0	4.5	4.3
IN.	.19	.19	.15	.19	.29	1.14	1.84	.35	.18	.20	.15	.13

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	41.7	24.4	22.7	24.4	30.6	54.4	59.5	69.2	77.8	13.8	14.9	33.4
MAX	283	87.2	108	113	245	480	232	378	366	57.3	119	225	
(WY)	1987	1985	1974	1974	1985	1973	1973	1990	1967	1981	1982	1986	
MIN	2.86	3.58	1.96	.70	5.56	5.64	4.98	5.56	4.85	2.65	.24	2.13	
(WY)	1979	1967	1977	1977	1986	1986	1986	1986	1986	1975	1984	1978	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	22.1		18.4		39.0	
HIGHEST ANNUAL MEAN					108	1973
LOWEST ANNUAL MEAN					11.0	1976
HIGHEST DAILY MEAN	530	May 25	460	Apr 21	3940	Sep 22 1970
LOWEST DAILY MEAN	4.5	Sep 19	4.3	Sep 1	.00	At Times
INSTANTANEOUS PEAK FLOW	--		601	Apr 20	18700	Jul 13 1982
INSTANTANEOUS PEAK STAGE	--		11.40	Apr 20	21.24	Jul 13 1982
INSTANTANEOUS LOW FLOW	--		.00	Aug 25	.00	At Times
ANNUAL SEVEN-DAY MINIMUM	4.8	Sep 19	5.1	Aug 16	.04	Aug 23 1984
ANNUAL RUNOFF (INCHES)	5.96		4.98		10.53	
10 PERCENT EXCEEDS	46		35		55	
50 PERCENT EXCEEDS	6.4		8.3		9.0	
90 PERCENT EXCEEDS	5.5		5.8		2.8	

LITTLE BLUE RIVER BASIN

06893885 BLUE SPRINGS RESERVOIR NEAR BLUE SPRINGS, MO

LOCATION.--Lat 39°01'03", long 94°20'06", sec.33, T.49 N., R.31 W., Jackson County, Hydrologic Unit 10300101, in maintenance building at right end of dam on East Fork Little Blue River, 2.2 mi west of Blue Springs and 2.5 mi upstream from mouth.

DRAINAGE AREA.--32.8 mi².

PERIOD OF RECORD.--August 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--Lake is formed by a rolled earthfill type dam. An uncontrolled limited service type spillway 300 ft wide is located on left abutment. Capacity of surcharge pool, 3,310 ac-ft (elevation 820.3 to 823.6 ft); of flood control pool, 1,590 ac-ft (elevation 802.0 to 820.3 ft); and of multi-purpose pool, 10,640 ac-ft (elevation 760.0 to 802.0 ft).

COOPERATION.--Records provided by the U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 22,800 ac-ft, May 17, 1990, elevation, 816.37 ft; minimum contents, 142 ac-ft, Oct. 22, 29, 30, and Nov. 1-11, 1988, elevation, 773.10 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 12,300 ac-ft, Apr. 22, elevation, 804.04 ft; minimum contents, 10,700 ac-ft, Oct. 21, elevation, 801.92 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	801.94	802.10	802.29	802.39	802.20	802.41	802.62	802.87	802.18	802.08	802.27	802.20
2	801.94	802.01	802.28	802.39	802.20	802.41	802.60	802.83	802.18	802.08	802.25	802.21
3	802.07	802.00	802.27	802.39	802.20	802.43	802.57	802.76	802.17	802.04	802.26	802.22
4	802.12	801.99	802.24	802.39	802.20	802.41	802.56	802.72	802.17	802.02	802.25	802.22
5	802.10	802.00	802.23	802.39	802.17	802.42	802.55	802.66	802.16	802.03	802.23	802.20
6	802.09	802.00	802.24	802.39	802.16	802.48	802.54	802.60	802.16	802.04	802.20	802.32
7	802.07	802.00	802.25	802.39	802.16	802.49	802.52	802.56	802.14	802.04	802.18	802.33
8	802.07	801.99	802.26	802.39	802.14	802.50	802.50	802.54	802.14	802.03	802.28	802.33
9	802.07	801.99	802.26	802.36	802.14	802.52	802.48	802.50	802.14	802.02	802.29	802.33
10	802.07	801.99	802.26	802.35	802.14	802.44	802.47	802.48	802.13	802.08	802.28	802.30
11	802.07	801.99	802.26	802.33	802.14	802.42	802.47	802.46	802.24	802.08	802.26	802.28
12	802.07	801.99	802.29	802.34	802.13	802.41	802.47	802.45	802.25	802.08	802.24	802.26
13	802.06	802.00	802.29	802.34	802.14	802.38	802.46	802.43	802.25	802.09	802.22	802.26
14	802.04	802.01	802.29	802.30	802.14	802.39	802.46	802.44	802.26	802.19	802.20	802.24
15	802.01	802.07	802.26	802.27	802.25	802.38	802.47	802.44	802.25	802.21	802.17	802.22
16	802.00	802.09	802.25	802.26	802.27	802.37	802.49	802.43	802.24	802.23	802.15	802.22
17	801.99	802.19	802.25	802.27	802.33	802.37	802.47	802.42	802.27	802.20	802.13	802.19
18	801.99	802.29	802.24	802.25	802.37	802.39	802.46	802.39	802.26	802.19	802.12	802.23
19	801.95	802.30	802.21	802.25	802.37	802.63	802.47	802.38	802.24	802.19	802.15	802.20
20	801.93	802.30	802.22	802.25	802.38	802.70	802.72	802.37	802.23	802.19	802.13	802.18
21	801.92	802.30	802.31	802.25	802.40	802.74	804.01	802.35	802.19	802.15	802.11	802.32
22	801.93	802.31	802.32	802.25	802.40	802.79	804.04	802.35	802.17	802.14	802.10	802.33
23	801.95	802.31	802.36	802.25	802.40	802.79	803.89	802.36	802.16	802.17	802.08	802.30
24	801.95	802.29	802.39	802.24	802.40	802.78	803.71	802.34	802.16	802.17	802.07	802.27
25	801.98	802.29	802.41	802.22	802.42	802.77	803.53	802.32	802.14	802.17	802.06	802.25
26	801.95	802.28	802.41	802.22	802.40	802.76	803.29	802.30	802.14	802.23	802.23	802.23
27	801.95	802.30	802.41	802.21	802.41	802.69	803.15	802.24	802.12	802.33	802.28	802.23
28	801.95	802.30	802.40	802.21	802.42	802.67	803.08	802.23	802.11	802.32	802.27	802.23
29	802.01	802.31	802.40	802.20	802.41	802.63	802.99	802.22	802.10	802.31	802.27	802.21
30	801.98	802.34	802.39	802.20	---	802.67	802.94	802.20	802.09	802.30	802.23	802.17
31	801.94	---	802.39	802.20	---	802.66	---	802.18	---	802.30	802.22	---
MAX	802.12	820.30	802.41	802.39	802.42	802.79	804.04	802.87	802.27	802.33	802.29	802.33
MIN	801.92	801.99	802.21	802.20	802.13	802.37	802.46	802.18	802.09	802.02	802.06	802.17
(-)	10700	11000	11000	10900	11000	11200	11400	10900	10800	11000	10900	10900
(=)	0	+300	0	-100	+100	+200	+200	-500	-100	+300	-100	0

CAL YR 1991. . . .+400
WTR YR 1992. . . .+300

(-) Contents, in acre-feet, at end of month.
(=) Change in contents, in acre-feet.

LITTLE BLUE RIVER BASIN

06893890 EAST FORK LITTLE BLUE RIVER NEAR BLUE SPRINGS, MO

LOCATION.--Lat 39°01'32", long 94°20'37", in NE 1/4 NE 1/4 NW 1/4 sec.33, T.49 N., R.31 W., Jackson County, Hydrologic Unit 10300101, on left downstream side of bridge on east bound lane of U.S. Highway 40, 2.6 mi west of Blue Springs and 1.5 mi 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 sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--Estimated daily discharges: Apr. 20 to May 7. Records fair except for estimated daily discharges, which are 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	1.6	12	16	4.7	16	46	62	5.7	2.4	11	7.0
2	.07	.86	11	17	4.5	15	43	57	5.3	2.0	10	8.0
3	.89	.57	9.9	17	4.4	15	40	50	4.9	.99	10	8.0
4	.77	.42	9.1	17	4.1	15	38	42	4.5	.70	9.1	7.3
5	.73	.74	8.5	16	3.9	20	35	37	4.7	.90	7.9	6.9
6	.57	.43	7.9	16	3.8	22	32	35	5.2	.55	6.7	15
7	.53	.41	8.0	17	3.6	23	29	30	6.0	2.8	10	14
8	.63	.45	7.9	18	3.3	23	28	26	6.3	2.3	11	14
9	.41	.78	7.6	15	3.1	22	27	23	7.8	1.5	11	13
10	.33	.59	7.1	14	2.7	21	26	22	12	4.1	11	12
11	.33	.39	6.5	13	2.1	19	28	22	14	4.0	9.5	10
12	.27	.39	10	12	2.6	18	28	20	13	4.8	8.3	9.3
13	.44	.87	10	13	2.8	17	27	20	13	4.5	7.4	8.3
14	.24	1.4	9.2	12	7.5	15	28	21	11	9.4	6.3	7.5
15	.13	3.3	8.5	10	10	14	28	20	11	9.7	5.3	6.8
16	.09	4.0	8.0	9.5	10	13	27	20	12	9.9	4.4	6.1
17	.28	11	7.4	8.4	16	13	25	18	11	9.1	3.5	7.5
18	.18	11	6.6	7.8	16	37	26	17	8.6	8.7	2.9	8.3
19	.06	11	6.0	7.6	16	53	45	16	7.5	8.3	3.9	7.0
20	.00	11	12	7.3	17	55	121	16	6.1	6.8	3.2	11
21	.01	12	14	6.9	17	60	238	15	5.2	7.0	2.4	15
22	.24	12	14	6.9	17	62	222	14	4.7	8.1	1.9	13
23	.30	13	18	7.0	17	63	181	15	3.9	8.6	1.6	12
24	.52	13	18	7.0	18	61	162	13	4.1	8.4	1.2	10
25	.31	13	18	6.7	19	59	144	11	4.7	7.2	2.2	8.9
26	.23	12	18	6.6	18	56	112	9.6	3.7	15	11	8.8
27	.16	11	18	6.3	17	52	95	8.5	2.8	15	11	8.9
28	.67	11	17	5.3	17	48	83	7.3	2.4	13	10	7.6
29	.53	12	17	5.2	16	52	73	6.2	1.8	12	9.4	6.1
30	.16	12	16	4.9	---	53	67	5.8	3.0	13	8.2	6.0
31	.43	---	16	4.7	---	50	---	4.9	---	12	7.6	---
MEAN	.34	6.07	11.5	10.7	10.1	34.3	70.1	22.1	6.86	6.86	7.06	9.44
MAX	.89	13	18	18	19	63	238	62	14	15	11	15
MIN	.00	.39	6.0	4.7	2.1	13	25	4.9	1.8	.55	1.2	6.0
IN.	.01	.20	.39	.36	.32	1.15	2.28	.74	.22	.23	.24	.31

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	25.1	13.6	12.0	10.6	14.4	31.3	45.6	48.7	45.0	14.7	22.9	22.5
MEAN	276	47.8	43.2	43.7	51.7	107	204	273	174	45.1	230	179
MAX	1987	1986	1983	1985	1975	1978	1984	1990	1984	1981	1982	1977
(WY)	.007	.12	.029	.000	.037	.37	.46	.20	.17	.049	.000	.000
MIN	1989	1977	1977	1977	1989	1989	1989	1989	1989	1989	1988	1976
(WY)												

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	14.5	16.2	25.5
HIGHEST ANNUAL MEAN			58.3
LOWEST ANNUAL MEAN			.31
HIGHEST DAILY MEAN	192	May 26	238
LOWEST DAILY MEAN	.00	Many Days	.00
INSTANTANEOUS PEAK FLOW	---		270
INSTANTANEOUS PEAK STAGE	---		9.0
INSTANTANEOUS LOW FLOW	---		.00
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 18	.11
ANNUAL RUNOFF (INCHES)	5.73		6.43
10 PERCENT EXCEEDS	39		54
50 PERCENT EXCEEDS	5.0		7.7
90 PERCENT EXCEEDS	.04		.03

LITTLE BLUE RIVER BASIN

06894000 LITTLE BLUE RIVER NEAR LAKE CITY, MO

LOCATION.--Lat 39°06'02", long 94°18'01", in SW 1/4 SE 1/4 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, 3.0 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 sea level. Prior to July 24, 1957, nonrecording gage at site 50 ft downstream at same datum; July 24, 1957 to Apr. 28, 1977, water-stage recorder; Apr. 29, 1977 to May 10, 1979, nonrecording gage; May 11, 1979 to Sept. 12, 1983, water-stage recorder at site 50 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Nov. 17-19. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.1	216	38	57	22	56	167	168	44	17	32	24
2	9.9	52	35	98	23	56	145	149	37	18	34	50
3	336	29	34	66	22	54	133	130	35	20	34	28
4	68	23	29	53	21	53	124	117	33	17	28	23
5	54	22	30	50	21	140	106	104	28	28	23	20
6	27	22	30	57	21	225	99	93	26	44	21	294
7	20	22	30	51	21	179	92	86	24	19	138	114
8	18	23	29	47	20	135	86	80	23	19	80	74
9	16	21	27	42	20	117	107	73	47	17	35	50
10	15	22	26	39	20	99	88	69	175	85	30	34
11	14	22	29	38	20	85	344	78	134	63	26	29
12	13	22	87	40	21	80	267	70	75	44	23	26
13	13	22	62	48	24	74	148	61	42	22	21	23
14	13	21	38	39	133	70	126	121	34	123	20	22
15	12	80	32	33	185	64	115	117	33	71	18	21
16	12	54	31	30	76	60	115	76	33	50	18	23
17	9.2	114	30	32	251	60	103	70	30	41	18	52
18	8.2	86	29	29	170	701	120	65	27	34	17	63
19	8.9	61	26	27	94	681	640	58	24	33	31	39
20	9.2	50	171	28	76	419	2560	64	23	24	18	339
21	9.9	56	152	29	70	355	1700	57	22	21	17	505
22	12	41	77	30	64	308	955	48	23	45	15	74
23	12	48	161	36	61	248	1090	70	25	82	14	47
24	22	47	136	30	73	205	656	49	24	33	13	38
25	17	38	78	28	85	198	481	42	28	25	42	32
26	16	35	66	25	69	169	373	39	25	476	250	56
27	14	51	59	25	66	145	298	36	22	116	89	53
28	21	41	54	25	61	133	253	33	19	52	40	34
29	22	39	53	24	58	406	217	30	18	39	30	27
30	15	52	50	24	---	325	190	29	17	101	25	25
31	26	---	47	23	---	201	---	27	---	53	23	---
MEAN	28.1	47.7	57.3	38.8	64.4	197	397	74.5	38.3	59.1	39.5	74.6
MAX	336	216	171	98	251	701	2560	168	175	476	250	505
MIN	8.2	21	26	23	20	53	86	27	17	17	13	20
IN.	.18	.29	.36	.24	.38	1.23	2.41	.47	.23	.37	.25	.45

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	137	93.2	78.2	85.8	119	196	223	229	254	123	94.3	150
MAX	983	854	368	347	576	1153	1069	1299	1216	928	1455	1018
(WY)	1987	1962	1983	1982	1985	1973	1983	1990	1967	1951	1982	1961
MIN	.13	.49	1.36	1.36	3.09	4.15	11.3	27.9	10.3	.26	.016	.20
(WY)	1954	1957	1956	1957	1957	1956	1954	1988	1953	1954	1953	1953

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	100		92.6		149	
HIGHEST ANNUAL MEAN					369	
LOWEST ANNUAL MEAN					11.5	
HIGHEST DAILY MEAN	2300		2560		27700	
LOWEST DAILY MEAN	7.9		8.2		.00	
INSTANTANEOUS PEAK FLOW	---		4930		42300	
INSTANTANEOUS PEAK STAGE	---		15.81		27.94	
INSTANTANEOUS LOW FLOW	---		7.8		.00	
ANNUAL SEVEN-DAY MINIMUM	---		9.9		.00	
ANNUAL RUNOFF (INCHES)	7.41		6.85		10.99	
10 PERCENT EXCEEDS	232		176		278	
50 PERCENT EXCEEDS	32		40		45	
90 PERCENT EXCEEDS	11		18		6.8	

MISSOURI RIVER MAIN STEM

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 sea level. 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.--No estimated daily discharges. Records good. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34000	36000	19500	23600	25300	26900	59800	59800	41700	42900	164000	46600
2	34200	33600	20400	23700	25600	26300	53500	58500	42800	42700	124000	44900
3	36200	31400	21900	24500	25300	25900	50400	55400	41600	42100	103000	46000
4	38200	28700	23300	25000	25100	25200	47700	53000	40700	41200	94800	59100
5	36900	24800	23100	25200	24400	25400	46100	51100	42100	42800	87800	54900
6	36600	22300	21400	25500	23900	27400	44600	49200	41000	44000	83600	53000
7	36000	20600	20500	26000	23800	30200	43800	47600	39700	51300	87600	61800
8	35800	19300	20900	27100	24200	38500	43600	45800	42700	59500	90100	74000
9	35400	18500	20300	28600	24300	46900	42900	44600	44100	50900	90200	76600
10	35100	18000	19300	28400	24900	41400	44000	43900	43200	57900	93500	67600
11	34800	17500	18600	27600	25000	36000	45200	43300	51700	68100	89900	61600
12	34700	17500	20000	27100	24900	33800	47300	42600	53600	55200	90800	62000
13	34800	17000	23700	27400	24900	33600	47800	42100	48000	56100	84900	58900
14	34600	16400	25800	27600	24900	36300	45600	42200	48100	118000	80900	55200
15	34000	16600	26700	27000	26700	40500	42700	44300	45600	141000	82200	51100
16	34100	17200	29100	27500	28700	39200	41600	44100	45300	119000	78200	47000
17	34400	18700	33200	28300	27400	35300	40900	41800	47600	109000	72500	57400
18	34400	23500	33400	27500	30400	34200	42900	42000	51100	102000	67400	75500
19	34700	25000	29300	24900	33600	48600	47900	42200	58300	90300	64900	68300
20	35100	23500	25900	22100	36400	88400	56600	45900	70500	83200	62500	60000
21	35400	21600	26600	21100	41400	76200	90000	61500	61700	81200	57000	67400
22	34800	21000	28100	21800	37700	58700	97200	57500	53500	82500	51900	59800
23	34600	20800	27200	24800	33600	49400	87300	52200	52200	81200	48000	50100
24	34700	20600	26300	26400	32300	46100	92400	53800	52600	93900	45400	45900
25	35300	20500	25100	26800	31600	46100	97100	53100	50600	98300	44000	44800
26	35800	20200	27300	30500	31000	47000	90000	51200	48800	123000	44600	43900
27	35800	19700	31300	31700	30100	46900	81000	49400	47600	176000	44700	43100
28	35800	19400	29700	29100	28800	46300	73500	46800	44800	158000	42300	42400
29	36200	19400	26300	26900	27700	45400	65700	44700	42300	134000	42000	42500
30	36400	19400	24600	25500	---	50300	62300	45200	42700	122000	43900	43000
31	36700	---	24000	24900	---	63200	---	43000	---	159000	46500	---
MEAN	35340	21620	24930	26260	28410	42440	59050	48320	47870	87950	74290	55480
MAX	38200	36000	33400	31700	41400	88400	97200	61500	70500	176000	164000	76600
MIN	34000	16400	18600	21100	23800	25200	40900	41800	39700	41200	42000	42400
IN.	.08	.05	.06	.06	.06	.10	.14	.11	.11	.21	.18	.13

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	45810	40980	27280	23490	32480	53090	70870	65660	83450	69080	48050	47800
MAX	141900	96020	74470	65720	79780	133500	220600	136000	192100	246400	100400	126600	
(WY)	1974	1974	1987	1973	1973	1979	1952	1984	1947	1951	1951	1951	
MIN	12430	13290	7903	5023	9224	16850	25860	26160	35830	28840	12790	13430	
(WY)	1940	1937	1938	1940	1940	1957	1957	1934	1956	1934	1934	1934	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	36850		46090		50640	
HIGHEST ANNUAL MEAN					94120	1951
LOWEST ANNUAL MEAN					22410	1934
HIGHEST DAILY MEAN	122000	Jun 17	176000	Jul 27	538000	Jul 16 1951
LOWEST DAILY MEAN	15000	Jan 1	16400	Nov 14	1700	Jan 9 1940
INSTANTANEOUS PEAK FLOW	--		180000	Jul 27	549000	Jul 16 1951
INSTANTANEOUS PEAK STAGE	--		25.32	Jul 27	29.22	Jun 23 1984
INSTANTANEOUS LOW FLOW	--		16300	Nov 14, 15	1700	Jan 9 1940
ANNUAL SEVEN-DAY MINIMUM	17200	Nov 10	17200	Nov 10	2070	Jan 5 1940
ANNUAL RUNOFF (INCHES)	1.03		1.29		1.41	
10 PERCENT EXCEEDS	63800		82300		92000	
50 PERCENT EXCEEDS	34200		42100		42000	
90 PERCENT EXCEEDS	20400		23200		17500	

GRAND RIVER BASIN

06897500 GRAND RIVER NEAR GALLATIN, MO

LOCATION.--Lat 39°55'37", long 93°56'33", in SW 1/4 NW 1/4 sec.16, T.59 N., R.27 W., Daviess 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 Company Bridge, 1.0 mi northeast of Gallatin, 6.0 mi upstream from Honey Creek and at mile 90.0.

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. WDR MO-92-1: 1992(M).

GAGE.--Water-stage recorder. Datum of gage is 717.56 ft above sea level. Prior to Jan. 31, 1922, nonrecording gage at site 100 ft upstream at datum 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; 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: Dec. 4, 16-19 and Jan. 16-20, 26. 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.

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

REVISION.--The maximum stage for 1991 water year revised to 28.94 ft on May 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	114	1330	478	333	1000	1570	1180	219	101	4430	113
2	34	711	917	658	317	883	1040	1020	210	97	2010	113
3	38	853	555	1370	315	803	804	879	203	91	1690	4500
4	149	419	270	1840	306	743	691	762	198	88	1580	4270
5	333	268	219	2040	297	742	613	676	187	91	1190	1080
6	644	264	303	3090	286	1760	525	610	178	93	816	631
7	418	123	342	3470	273	4760	457	555	171	99	825	633
8	233	107	264	1910	257	3400	416	516	174	100	1220	872
9	140	109	270	1360	226	2090	391	486	178	143	861	912
10	89	123	263	1100	186	1640	758	462	196	131	1020	720
11	63	109	222	820	178	1320	3130	438	232	115	648	462
12	51	101	214	676	205	1060	2750	415	239	119	511	352
13	44	98	257	885	213	935	1120	395	218	11100	430	285
14	41	109	539	1150	215	809	631	372	180	20400	377	241
15	38	139	545	861	1610	720	507	350	161	9080	345	204
16	38	153	360	340	4820	625	585	342	157	2590	315	3970
17	37	159	225	295	5620	566	5320	333	2970	2400	295	8710
18	35	231	175	435	18600	4080	3170	310	1490	1600	285	6290
19	32	421	85	470	13100	25800	6240	294	571	5660	248	2680
20	31	573	180	460	4930	13100	24900	283	319	7530	231	2650
21	32	416	236	411	2950	5120	33400	275	228	5960	214	1710
22	34	287	399	400	2220	2810	30200	274	187	1760	196	2520
23	35	231	1550	461	1820	1820	9580	451	169	1540	186	1340
24	37	163	4220	482	2060	1340	7780	443	157	1270	173	890
25	37	86	2290	522	2680	1070	4690	368	146	19700	174	698
26	38	101	1290	435	1970	883	3160	306	134	24900	188	585
27	43	138	924	420	1510	742	2340	280	123	12600	156	501
28	114	197	752	387	1290	628	1850	271	115	4070	147	446
29	126	450	632	357	1140	1050	1550	260	110	2110	140	422
30	122	1170	547	326	---	4640	1350	258	104	2940	129	373
31	94	---	502	325	---	2770	---	234	---	7550	120	---
MEAN	104	281	673	911	2411	2894	5051	455	331	4711	682	1639
MAX	644	1170	4220	3470	18600	25800	33400	1180	2970	24900	4430	8710
MIN	31	86	85	295	178	566	391	234	104	88	120	113
IN.	.05	.14	.35	.47	1.16	1.48	2.51	.23	.16	2.41	.35	.81

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	830	844	484	501	944	1725	1874	1700	2291	1219	547	1058
MAX	8965	8613	5463	4212	6196	8760	7906	7703	22670	7499	4136	11610	
(WY)	1974	1929	1983	1932	1962	1979	1927	1945	1947	1958	1987	1926	
MIN	3.09	8.18	6.15	3.94	5.61	18.7	12.0	15.4	51.9	13.3	7.05	10.2	
(WY)	1957	1939	1939	1940	1939	1938	1956	1956	1988	1936	1936	1955	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	1410	1673	1166
HIGHEST ANNUAL MEAN			3045
LOWEST ANNUAL MEAN			129
HIGHEST DAILY MEAN	32700	Apr 19	33400
LOWEST DAILY MEAN	31	Oct 20	31
INSTANTANEOUS PEAK FLOW	--		35600
INSTANTANEOUS PEAK STAGE	--		29.60
INSTANTANEOUS LOW FLOW	--		31
ANNUAL SEVEN-DAY MINIMUM	34	Oct 17	34
ANNUAL RUNOFF (INCHES)	8.51		10.12
10 PERCENT EXCEEDS	3240		4000
50 PERCENT EXCEEDS	297		436
90 PERCENT EXCEEDS	55		106

GRAND RIVER BASIN

06899500 THOMPSON RIVER AT TRENTON, MO

LOCATION.--Lat 40°04'45", long 93°38'39" in NE 1/4 SW 1/4 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 sea level. 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. 3-5, 10, 11, 24, Dec. 16, 18, and Jan. 15. 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.

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, determined by U.S. Army Corps of Engineers, occurred before new channel was dredged.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	127	1180	453	282	744	1170	1270	293	146	3070	126
2	51	201	657	826	293	681	915	1130	282	140	2170	5140
3	58	250	517	1320	291	631	796	1000	266	142	1570	4030
4	367	200	292	1530	291	591	737	898	256	146	1360	1410
5	460	190	305	1480	314	674	691	813	240	150	1070	855
6	259	184	333	2850	306	2880	627	743	245	149	872	2760
7	150	91	318	2240	286	4440	580	688	244	152	776	1730
8	114	109	317	1350	260	2420	550	648	228	163	818	1840
9	90	139	292	1110	244	1850	531	616	238	179	1410	1520
10	75	145	246	886	221	1590	709	584	241	193	1140	911
11	68	155	223	725	218	1200	1920	565	250	165	747	713
12	63	120	256	661	229	1060	1340	543	230	178	587	564
13	59	113	363	842	241	946	789	508	205	14600	493	473
14	59	114	383	959	265	849	691	478	193	13400	430	423
15	59	145	333	675	495	789	620	480	189	3300	387	6380
16	57	148	300	486	1530	735	8470	459	840	2760	355	32300
17	56	216	263	690	3500	691	4950	422	1900	2910	327	59900
18	51	427	260	710	7790	2570	3220	404	586	1490	307	63100
19	49	452	195	645	5560	5280	20200	386	323	966	283	35700
20	49	338	257	616	3350	3440	19500	374	241	2760	254	13300
21	52	262	412	611	2150	2060	15100	368	207	1360	233	5020
22	55	210	401	463	1570	1390	8030	451	191	985	215	3100
23	51	188	2710	430	1260	1100	7310	548	188	871	197	2360
24	47	140	2640	381	1730	973	5160	411	176	725	183	1950
25	46	121	1390	414	1870	866	3530	382	167	6340	176	1680
26	56	142	1120	429	1310	769	2600	365	157	14200	268	1490
27	118	218	771	385	1050	694	2090	370	155	4630	192	1370
28	121	345	619	345	927	650	1790	352	151	1810	156	1210
29	113	671	561	318	827	799	1570	351	154	1570	142	1030
30	95	1450	504	312	---	1370	1420	339	150	10700	130	908
31	89	---	460	300	---	1520	---	308	---	7790	123	---
MEAN	99.5	254	609	821	1333	1492	3920	557	306	3067	659	8443
MAX	460	1450	2710	2850	7790	5280	20200	1270	1900	14600	3070	63100
MIN	46	91	195	300	218	591	531	308	150	140	123	126
IN.	.07	.17	.42	.57	.86	1.03	2.62	.38	.20	2.12	.46	5.64

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)**

	606	656	454	468	899	1606	1679	1553	1777	832	532	735
MEAN	606	656	454	468	899	1606	1679	1553	1777	832	532	735
MAX	4678	6280	4209	3682	4377	5765	5580	5494	16460	4567	3990	8443
(WY)	1974	1962	1983	1946	1962	1979	1973	1935	1947	1969	1959	1992
MIN	11.1	9.53	6.48	4.74	13.0	17.6	10.7	10.2	13.9	6.00	9.32	12.9
(WY)	1957	1956	1956	1956	1956	1938	1956	1956	1956	1934	1936	1955

SUMMARY STATISTICS**

	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	1280	1784	981
HIGHEST ANNUAL MEAN			2315
LOWEST ANNUAL MEAN			117
HIGHEST DAILY MEAN	41900	May 5	73800
LOWEST DAILY MEAN	46	Oct 25	1.0
INSTANTANEOUS PEAK FLOW	---		70600
INSTANTANEOUS PEAK STAGE	---		20.3
INSTANTANEOUS LOW FLOW	---		43
ANNUAL SEVEN-DAY MINIMUM	50	Oct 19	50
ANNUAL RUNOFF (INCHES)	10.40		14.54
10 PERCENT EXCEEDS	2780		2240
50 PERCENT EXCEEDS	300		494
90 PERCENT EXCEEDS	69		129

**Statistics based only on years with complete daily discharge record.

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO

LOCATION.--Lat 39°38'25", long 93°16'25", in NE 1/4 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, 2.0 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 sea level. 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 sea level; Mar. 15, 1939 to Aug. 4, 1942, auxiliary nonrecording gage at various sites; Aug. 5, 1942 to Dec. 14, 1956, auxiliary nonrecording gage at present site.

REMARKS.--Estimated daily discharges: Nov. 8, 25 and Sept. 16, 17. Water-discharge records fair except for estimated daily discharges, which are poor. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	101	228	5930	1430	902	2610	6750	4800	750	363	20300	571
2	104	650	3700	1410	904	2270	4610	4130	699	344	9810	552
3	124	749	2280	2910	877	2030	3510	3560	669	323	6840	6280
4	1350	1040	1140	4150	885	1870	3000	3100	635	309	4900	8810
5	4100	676	741	4420	890	1880	2690	2700	609	305	3860	5650
6	2090	493	906	4360	858	2550	2420	2410	583	314	2990	7470
7	1210	432	963	7870	826	12400	2180	2180	577	323	2880	9340
8	842	345	959	6500	785	15800	1990	1990	572	345	8320	11900
9	555	312	940	4030	731	8630	1850	1860	607	494	5180	9650
10	378	302	864	3170	645	5910	1920	1750	998	814	3480	7300
11	275	285	761	2550	618	4520	3310	1640	705	629	2990	4080
12	210	274	708	2020	601	3480	9940	1570	648	470	2020	2660
13	170	260	1310	1850	621	3000	6830	1490	635	7470	1570	1880
14	141	258	1630	2400	684	2660	3620	1390	615	38600	1330	1440
15	120	280	1390	2620	710	2350	2700	1320	537	42400	1170	1230
16	114	309	1190	1370	3200	2120	10100	1270	480	23400	1070	11400
17	120	495	941	1260	7210	1900	25000	1220	2520	11600	984	31000
18	101	1150	805	1140	25000	2210	16900	1150	6410	8180	927	43100
19	98	1940	520	1370	32200	31000	26400	1070	2980	5130	882	48100
20	95	1370	511	1450	20200	38200	45200	1010	1590	10500	827	43300
21	93	1110	1050	1300	10100	25300	59000	979	1050	15900	774	25700
22	99	880	1920	1280	6390	11800	70200	1500	801	8380	735	13100
23	92	691	4450	1210	4720	7110	63600	1380	671	4660	695	9560
24	91	570	13000	1180	4160	5160	45700	1480	596	4060	660	6420
25	91	445	10100	1110	8350	4110	26600	1280	544	12500	633	4730
26	88	358	5110	1150	7180	3420	14500	1100	490	42700	731	3900
27	88	395	3320	1120	4650	2930	9840	973	449	47800	1350	3410
28	92	1320	2510	1060	3560	2560	8050	904	418	31300	1580	3030
29	127	1530	2020	1030	3000	2590	6670	859	394	12300	931	2680
30	160	3440	1760	973	---	8690	5580	819	375	11000	723	2320
31	179	---	1570	909	---	11100	---	797	---	32000	625	---
MEAN	435	753	2419	2277	5223	7489	16360	1732	987	12090	2960	11020
MAX	4100	3440	13000	7870	32200	38200	70200	4800	6410	47800	20300	48100
MIN	88	228	511	909	601	1870	1850	797	375	305	625	552
IN.	.07	.12	.41	.38	.82	1.26	2.65	.29	.16	2.03	.50	1.79

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	2715	2869	1905	1990	3641	6067	6803	5527	7233	3569	1738	3056
MAX	20630	29030	15440	14750	19250	34220	26680	23750	67270	23000	9194	28090	
(WY)	1974	1932	1983	1932	1962	1979	1973	1935	1947	1958	1987	1926	
MIN	37.1	40.3	53.0	32.1	57.0	79.5	67.3	130	176	52.8	41.0	62.5	
(WY)	1957	1957	1956	1940	1939	1957	1956	1956	1988	1934	1936	1955	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	4665	5291	3917
HIGHEST ANNUAL MEAN			10020
LOWEST ANNUAL MEAN			367
HIGHEST DAILY MEAN	73800	May 7	166000
LOWEST DAILY MEAN	88	Oct 26-27	10
INSTANTANEOUS PEAK FLOW	---		180000
INSTANTANEOUS PEAK STAGE	---		39.5
INSTANTANEOUS LOW FLOW	---		10
ANNUAL SEVEN-DAY MINIMUM	92	Oct 22	12
ANNUAL RUNOFF (INCHES)	9.21	10.47	7.73
10 PERCENT EXCEEDS	12600	12000	9900
50 PERCENT EXCEEDS	1190	1490	933
90 PERCENT EXCEEDS	171	320	122

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 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED SATUR-ATION (00301)	COLI-FORM, FECAL, UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCHI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
NOV 06...	0800	500	318	7.8	1.0	140	13.7	96	K70000	K83000	140	41
JAN 15...	0800	2720	382	7.9	0.0	91	10.9	74	K900	K750	170	53
MAY 06...	0830	2460	434	7.9	16.0	43	9.3	93	480	K100	210	66
JUL 08...	0845	340	510	8.2	25.5	16	7.3	90	K16	52	250	77

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

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)
NOV 06...	8.1	8.8	4.7	116	30	8.3	0.20	9.7	186	181	0.25	251
JAN 15...	10	11	3.8	145	45	9.3	0.30	11	237	238	0.32	1740
MAY 06...	12	11	3.9	185	45	12	0.20	12	272	274	0.37	1810
JUL 08...	15	14	4.4	224	41	9.4	0.20	12	305	308	0.41	280

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
NOV 06...	0.010	0.600	0.100	0.100	1.1	0.310	0.060	0.040	237	95	140
JAN 15...	0.020	1.50	0.090	0.070	0.20	0.340	0.080	0.060	384	91	40
MAY 06...	<0.010	0.74	0.040	0.010	0.50	0.130	0.100	0.060	--	--	10
JUL 08...	<0.010	<0.050	0.030	0.020	0.50	0.110	0.050	0.040	75	--	20

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	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)
NOV 06...	110	<3	130	4	61	<10	4	<1	<1.0	150	<6
JAN 15...	180	<3	97	4	8	<10	3	1	<1.0	170	<6
MAY 06...	150	<3	7	<4	31	<10	2	2	<1.0	240	<6
JUL 08...	140	<3	10	10	60	<10	2	<1	<1.0	300	<6

CHARITON RIVER BASIN

06904050 CHARITON RIVER AT LIVONIA, MO

LOCATION.--Lat 40°29'00", long 92°41'10", in NW 1/4 SE 1/4 NW 1/4 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, 1.0 mi upstream from Shoal Creek, 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 sea level.

REMARKS.--Estimated daily discharges: Nov. 7, 9, Dec. 4-6, Jan. 21, 22, and June 2-7. Records poor. Several observations of water temperature and specific conductance were made during the year. Considerable regulation by Rathbun Lake (station 06903880) 51.0 mi upstream. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	73	633	99	77	980	499	956	863	414	1300	449
2	32	87	268	110	76	970	463	942	871	414	868	452
3	33	98	154	179	75	814	352	932	873	427	1090	454
4	67	88	130	224	76	459	142	926	873	440	1150	470
5	107	68	115	212	75	324	107	918	879	425	1140	538
6	113	55	110	182	72	259	95	910	879	418	1160	546
7	86	53	101	162	71	998	87	900	884	413	1230	556
8	57	52	108	192	66	449	83	892	881	415	1110	680
9	45	50	104	375	51	282	79	889	876	370	962	381
10	42	49	93	411	65	246	101	884	858	417	1150	558
11	40	46	85	449	73	581	2000	876	595	426	1150	238
12	38	42	89	518	63	683	3500	873	208	428	1140	161
13	34	43	107	521	63	654	3720	871	209	456	1140	140
14	32	44	120	513	68	483	2200	868	824	708	1130	129
15	31	44	111	516	126	210	771	866	842	1090	1130	130
16	30	46	77	386	183	165	1240	863	844	1230	1120	1890
17	31	74	83	525	355	151	1270	860	841	1760	1120	2340
18	31	169	94	523	1680	168	692	858	753	766	1130	2120
19	31	148	91	208	1230	415	1210	855	533	559	1130	2010
20	32	107	98	138	931	620	3060	855	514	543	1120	1620
21	32	77	96	120	1080	464	3390	857	509	768	1120	1620
22	34	59	115	110	1070	462	2660	866	507	532	1120	1650
23	35	55	440	102	1040	402	1180	863	510	475	1110	1640
24	33	49	468	114	1110	362	1050	858	488	611	1110	1670
25	29	47	274	88	1340	343	1030	852	424	881	1120	1650
26	32	50	216	115	1220	359	892	858	419	904	1040	1650
27	33	97	183	89	1100	430	924	855	416	373	545	1660
28	35	178	140	88	1030	431	934	852	415	406	492	1670
29	37	304	122	78	994	452	940	850	415	902	470	1650
30	37	1090	116	78	---	515	950	852	416	883	458	1620
31	39	---	105	76	---	539	---	858	---	1990	452	---
MEAN	42.6	115	163	242	533	473	1187	878	647	672	1016	1078
MAX	113	1090	633	525	1680	998	3720	956	884	1990	1300	2340
MIN	29	42	77	76	51	151	79	850	208	370	452	129
IN.	.06	.15	.22	.32	.67	.63	1.53	1.17	.84	.90	1.36	1.39

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	405	460	618	311	499	857	863	781	804	964	588	526
MEAN	1219	1527	2005	1679	1956	1890	1898	1897	1839	3481	1765	1413
MAX	1986	1978	1983	1983	1983	1982	1983	1978	1980	1982	1982	1982
(WY)	27.2	26.2	19.9	13.6	23.0	58.6	31.1	52.1	33.6	23.6	32.3	29.6
MIN	1977	1990	1977	1977	1989	1989	1989	1980	1988	1988	1988	1976
(WY)												

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	653		586		639	
HIGHEST ANNUAL MEAN					1253	1982
LOWEST ANNUAL MEAN					69.3	1989
HIGHEST DAILY MEAN	4800	May 5	3720	Apr 13	8960	Jul 18 1982
LOWEST DAILY MEAN	29	Oct 25	29	Oct 25	13	Jan 11 1977
INSTANTANEOUS PEAK FLOW	---		3860	Apr 20	9200	Jul 18 1982
INSTANTANEOUS PEAK STAGE	---		17.50	Apr 20	28.33	Jul 18 1982
INSTANTANEOUS LOW FLOW	---		26	Jan 24	13	Jan 11 1977
ANNUAL SEVEN-DAY MINIMUM	31	Oct 14	31	Oct 14	13	Jan 11 1977
ANNUAL RUNOFF (INCHES)	10.26		9.23		10.06	
10 PERCENT EXCEEDS	1250		1150		1440	
50 PERCENT EXCEEDS	675		449		335	
90 PERCENT EXCEEDS	44		50		32	

CHARITON RIVER BASIN

06904500 CHARITON RIVER AT NOVINGER, MO

LOCATION.--Lat 40°14'05", long 92°41'14", on south line of SE 1/4 NE 1/4 sec.28, T.63 N., R.16 W., Adair County, Hydrologic Unit 10280202, on downstream side of center pier of bridge on State Highway 6, 0.6 mi east of Novinger, 1.0 mi downstream from Rye Creek, 2.0 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 sea level. 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: Nov. 7-9, Dec. 5, 20, 21, Jan. 16-19, and Aug. 28-30. Records poor. Several observations of water temperature and specific conductance were made during the year. Some regulation by Rathbun Lake (Iowa station 06903880). U.S. Army Corps of Engineers satellite telemeter at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	487	1740	222	145	1330	830	1320	930	405	2520	446
2	40	248	734	348	150	1300	721	1260	927	408	1140	440
3	60	169	443	482	149	1210	642	1190	921	413	1170	440
4	590	127	191	490	143	765	346	1140	920	440	1170	430
5	308	123	300	423	141	515	219	1110	920	426	1160	502
6	197	78	316	438	136	1150	183	1070	931	416	1160	576
7	134	75	303	402	128	4880	164	1060	945	409	1180	569
8	89	73	279	352	118	1550	153	1040	934	409	1390	1460
9	64	75	244	461	103	906	145	1030	925	407	924	739
10	50	85	210	524	115	672	164	1020	922	367	1170	837
11	46	78	182	527	121	829	2210	1000	827	427	1140	459
12	42	74	342	641	111	1160	6310	997	329	446	1120	262
13	40	72	388	657	109	1070	5120	977	136	607	1110	211
14	36	70	302	621	128	952	3430	994	601	2760	1100	177
15	34	85	239	576	554	501	834	1040	908	1450	1100	162
16	34	85	177	450	530	351	3590	1020	913	1320	1110	1370
17	34	571	166	400	1340	320	2260	1010	916	2580	1110	3280
18	32	921	128	450	6390	731	1140	990	891	1170	1130	3960
19	32	413	156	550	3370	2690	1950	978	633	6380	1130	3340
20	33	256	180	443	1780	1790	8210	978	553	2690	1130	2190
21	35	179	250	347	1720	1170	9510	996	538	1350	1130	1970
22	35	136	361	327	1630	960	5270	1030	530	934	1130	1880
23	36	127	2720	243	1500	806	2900	1050	533	691	1140	1850
24	38	111	1660	174	1890	700	2090	997	528	602	1140	1880
25	36	102	711	255	2300	636	1840	970	456	1350	1160	1860
26	35	109	424	155	1900	577	1430	964	422	5040	1260	1850
27	37	434	338	168	1590	665	1400	955	415	1250	1100	1870
28	38	564	294	147	1470	668	1350	949	412	572	605	1870
29	40	1340	261	149	1380	735	1400	943	412	1010	519	1860
30	39	4950	248	144	---	947	1380	941	408	2810	494	1810
31	45	---	228	145	---	960	---	934	---	5610	461	---
MEAN	75.7	407	468	378	1074	1081	2240	1031	688	1456	1107	1352
MAX	590	4950	2720	657	6390	4880	9510	1320	945	6380	2520	3960
MIN	32	70	128	144	103	320	145	934	136	367	461	162
IN.	.06	.33	.39	.32	.85	.91	1.82	.87	.56	1.23	.93	1.10

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	504	555	525	488	774	1415	1395	1211	1443	805	513	511
MEAN	504	555	525	488	774	1415	1395	1211	1443	805	513	511
MAX	3352	5051	3318	3074	2889	4101	5302	4846	9687	5205	3614	3380
(WY)	1974	1932	1983	1946	1962	1979	1973	1973	1947	1982	1932	1965
MIN	1.04	3.09	3.85	3.43	6.99	8.97	6.06	7.91	24.9	3.32	1.29	4.56
(WY)	1957	1957	1957	1956	1957	1957	1956	1956	1934	1936	1936	1937

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	1078	943	844
HIGHEST ANNUAL MEAN			2191
LOWEST ANNUAL MEAN			81.6
HIGHEST DAILY MEAN	18300	May 5	21700
LOWEST DAILY MEAN	32	Oct 18-19	.10
INSTANTANEOUS PEAK FLOW	--		22900
INSTANTANEOUS PEAK STAGE	--		28.50
INSTANTANEOUS LOW FLOW	--		.10
ANNUAL SEVEN-DAY MINIMUM	33	Oct 15	.27
ANNUAL RUNOFF (INCHES)	10.68		8.37
10 PERCENT EXCEEDS	1650		2150
50 PERCENT EXCEEDS	809		190
90 PERCENT EXCEEDS	55		17

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO

LOCATION.--Lat 39°32'25", long 92°47'23", in NW 1/4 SW 1/4 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.

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 sea level (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: Nov. 7-10 and Jan. 18-20. Records poor. Several observations of water temperature and specific conductance were made during the year. Some regulation by Rathbun Lake (Iowa station 06903880). National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	559	4070	492	261	1300	1150	1430	951	462	4170	583
2	49	1450	1800	482	256	1260	1040	1360	949	460	2140	573
3	131	567	993	658	256	1240	961	1300	945	460	1240	575
4	214	347	660	772	255	1180	906	1230	941	456	1210	572
5	289	245	392	747	251	909	716	1180	940	465	1260	572
6	287	231	453	683	243	891	575	1150	936	471	1210	869
7	286	196	660	690	236	3370	525	1130	960	461	1500	1110
8	273	130	635	687	218	3820	501	1110	963	452	1430	788
9	212	130	548	614	197	1670	484	1100	955	459	1420	1740
10	163	150	474	647	183	1130	740	1090	946	601	1030	1080
11	133	171	423	711	180	902	850	1080	944	472	1170	1060
12	111	166	660	710	210	941	3120	1070	910	461	1150	766
13	98	166	1250	796	207	1150	5870	1060	616	477	1130	527
14	90	186	839	808	202	1110	5430	1030	386	3400	1110	429
15	83	195	598	753	407	1030	3390	1030	388	4240	1110	383
16	78	231	482	501	991	753	4350	1070	902	1870	1100	350
17	73	461	413	450	846	617	5940	1050	977	1550	1100	856
18	70	4490	375	400	4080	838	3140	1040	915	2210	1100	2830
19	66	1950	297	450	5190	4000	2620	1030	898	2190	1120	3970
20	66	1030	259	625	2770	3730	8350	1010	740	6560	1110	2890
21	66	731	811	515	1710	2140	13100	1010	612	3790	1110	2280
22	68	511	878	472	1590	1440	7800	1110	592	1680	1100	1990
23	69	409	1850	429	1500	1180	5130	1110	587	1460	1100	1840
24	71	372	3700	374	1440	1030	3450	1070	580	1090	1100	1780
25	70	307	1940	329	3100	933	2550	1020	571	1030	1100	1780
26	72	267	1100	308	2460	866	2170	996	539	5230	1150	1770
27	74	357	818	297	1840	813	1740	982	486	4400	1200	1770
28	74	893	702	296	1540	847	1630	973	475	1640	1060	1770
29	77	934	635	281	1390	898	1510	964	471	931	734	1760
30	74	6220	571	264	---	1080	1490	957	467	1190	648	1750
31	80	---	527	268	---	1200	---	954	---	3540	604	---
MEAN	117	802	962	533	1173	1428	3041	1087	751	1747	1249	1367
MAX	289	6220	4070	808	5190	4000	13100	1430	977	6560	4170	3970
MIN	49	130	259	264	180	617	484	954	386	452	604	350
IN.	.07	.48	.59	.33	.68	.88	1.81	.67	.45	1.08	.77	.82

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	728	793	726	705	1092	1907	2013	1842	2016	1222	667	700
MEAN	728	793	726	705	1092	1907	2013	1842	2016	1222	667	700
MAX	5695	6574	5449	4516	4102	5724	8981	7800	14830	9206	4856	4615
(WY)	1974	1962	1983	1946	1937	1973	1973	1973	1947	1981	1932	1965
MIN	9.59	9.77	13.0	12.9	18.1	37.3	45.9	84.1	25.8	13.4	7.97	13.6
(WY)	1957	1957	1957	1957	1957	1957	1956	1956	1934	1934	1936	1953

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	1355		1185		1197	
HIGHEST ANNUAL MEAN					3353	1973
LOWEST ANNUAL MEAN					166	1989
HIGHEST DAILY MEAN	16000	May 6	13100	Apr 21	30000	Apr 23 1973
LOWEST DAILY MEAN	49	Sep 30-Oct 2	49	Oct 1-2	4.6	Aug 7 1934
INSTANTANEOUS PEAK FLOW	--		14000	Apr 21	31900	Apr 23 1973
INSTANTANEOUS PEAK STAGE	--		15.22	Apr 21	21.96	Apr 23 1973
INSTANTANEOUS LOW FLOW	--		46	Oct 2	4.6	Aug 7 1934
ANNUAL SEVEN-DAY MINIMUM	52	Sep 26	68	Oct 18	4.8	Aug 4 1934
ANNUAL RUNOFF (INCHES)	9.84		8.63		8.70	
10 PERCENT EXCEEDS	2350		2570		3080	
50 PERCENT EXCEEDS	993		898		337	
90 PERCENT EXCEEDS	102		197		36	

LITTLE CHARITON RIVER BASIN

06906190 LONG BRANCH RESERVOIR NEAR MACON, MO

LOCATION.--Lat 39°45'05", long 92°30'20", NW 1/4 sec.10, T.57 N., R.14 W., Macon County, Hydrologic Unit 10280203, in Administration Building at left end of dam on East Fork Little Chariton River, 2.0 mi west of junction U.S. Highway 63 and 36 in Macon and 2.0 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 are available from U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--Lake is formed by a rolled earthfill type dam. Closure began on Sept. 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 98,590 ac-ft (elevation 801.1 ft to 820.7 ft); of flood control pool 30,600 ac-ft (elevation 791.1 ft to 801.0 ft); and of multipurpose pool 34,640 ac-ft (elevation 751.1 ft to 791.0 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 ac-ft, July 28, 1981, elevation, 799.56 ft; minimum, 14,300 ac-ft, Dec. 5, 1980, elevation, 780.21 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 40,700 ac-ft, Dec. 1, elevation, 793.53 ft; minimum, 30,500 ac-ft, Sept. 30, elevation, 789.42 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	791.00	791.60	793.53	792.26	790.86	791.35	791.69	792.36	791.34	790.21	792.15	790.50
2	790.97	792.07	793.42	792.19	790.81	791.33	791.64	792.31	791.33	790.14	792.06	790.44
3	791.09	792.08	793.32	792.13	790.78	791.32	791.59	792.21	791.31	790.15	792.02	790.41
4	791.21	792.04	793.18	792.10	790.76	791.29	791.56	792.11	791.28	790.08	791.94	790.35
5	791.93	791.99	793.03	792.04	790.70	791.27	791.51	792.07	791.27	790.02	791.85	790.27
6	792.02	791.96	792.94	791.97	790.66	791.30	791.46	792.01	791.25	789.97	791.78	790.26
7	792.09	791.96	792.85	791.91	790.64	791.83	791.43	791.97	791.26	789.88	791.70	790.24
8	792.03	791.91	792.80	791.87	790.61	791.90	791.41	791.93	791.22	789.84	791.72	790.23
9	792.00	791.87	792.76	791.80	790.57	791.94	791.39	791.89	791.21	789.81	791.66	790.18
10	791.96	791.85	792.68	791.74	790.51	791.95	791.41	791.85	791.19	789.93	791.61	791.19
11	791.92	791.82	792.58	791.70	790.46	791.83	791.47	791.81	791.17	789.89	791.56	790.15
12	791.89	791.80	792.55	791.65	790.43	791.81	791.49	791.79	791.15	789.83	791.49	790.10
13	791.83	791.76	792.80	791.61	790.39	791.73	791.44	791.78	791.14	789.83	791.43	790.04
14	791.81	791.76	792.83	791.56	790.34	791.67	791.41	791.73	791.11	790.02	791.35	789.98
15	791.76	791.78	792.75	791.56	790.44	791.61	791.38	791.71	791.12	790.61	791.29	789.95
16	791.71	791.79	792.61	791.43	790.54	791.56	791.51	791.69	791.06	790.67	791.23	789.89
17	791.64	791.81	792.54	791.40	790.64	791.56	791.66	791.66	790.99	790.66	791.19	789.83
18	791.64	792.44	792.45	791.36	790.71	791.52	791.70	791.65	790.96	790.63	791.13	789.85
19	791.59	792.99	792.34	791.30	790.98	791.74	791.72	791.63	790.91	790.60	791.09	789.81
20	791.57	793.03	792.27	791.26	791.02	792.02	791.74	791.60	790.86	790.80	791.03	789.78
21	791.54	793.05	792.36	791.22	791.03	792.14	793.06	791.57	790.79	790.81	790.98	789.80
22	791.51	793.01	792.37	791.19	791.03	792.15	793.23	791.56	790.71	790.74	790.93	789.82
23	791.50	792.94	792.48	791.18	791.02	792.07	793.15	791.58	790.67	790.76	790.87	789.78
24	791.47	792.87	792.74	791.14	791.00	792.01	793.08	791.52	790.62	790.77	790.82	789.73
25	791.49	792.78	792.78	791.12	791.20	791.97	792.99	791.49	790.57	790.77	790.77	789.67
26	791.47	792.70	792.68	791.09	791.38	791.91	792.89	791.48	790.51	791.30	790.76	789.62
27	791.40	792.65	792.60	791.03	791.41	791.86	792.78	791.43	790.44	792.04	790.77	789.58
28	791.43	792.60	792.55	790.99	791.39	791.82	792.67	791.42	790.37	792.08	790.71	789.55
29	791.45	792.54	792.48	790.97	791.39	791.76	792.56	791.40	790.32	792.00	790.64	789.47
30	791.46	793.06	792.37	790.92	---	791.76	792.45	791.38	790.27	791.96	790.59	789.42
31	791.43	---	792.30	790.89	---	791.71	---	791.36	---	792.16	790.54	---
MAX	792.09	793.06	793.53	792.26	791.41	792.15	793.23	792.36	791.34	792.16	792.15	791.19
MIN	790.97	791.60	792.27	790.89	790.34	791.27	791.38	791.36	790.27	789.81	790.54	789.42
(-)	35200	39400	37400	33900	35100	35900	37800	35100	32400	39100	33100	30500
(=)	+1000	+4200	-2000	-3500	+1200	+800	+1900	-2700	-2700	+4700	-4000	-2600
CAL YR 1991.	+7400											
WTR YR 1992.	-3700											

(-) Contents, in acre-feet, 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", NW 1/4 NW 1/4 NW 1/4 sec.18, T.57 N., R.14 W., Macon County, Hydrologic Unit 10280203, on right bank 250 ft downstream from Long Branch Lake and 3.0 mi west of Macon.

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 sea level. Sept. 8, 1971 to Aug. 1, 1985, water-stage recorder at site 400 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. Complete regulation by Long Branch Reservoir (station 06906190) 250 ft upstream. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	33	213	119	48	55	76	136	12	55	106	64
2	8.3	48	207	115	48	54	72	131	14	55	98	64
3	11	48	198	109	48	54	68	125	14	55	89	64
4	15	46	187	104	48	53	66	79	12	55	79	64
5	39	44	178	97	48	52	63	43	12	55	71	64
6	47	43	170	93	48	72	60	40	12	55	65	64
7	46	43	165	87	48	91	59	38	12	55	65	64
8	44	40	161	83	48	100	57	36	12	55	65	64
9	44	38	155	79	48	103	56	34	11	55	64	64
10	42	37	148	74	48	100	58	32	10	56	64	64
11	40	36	142	71	48	90	60	31	9.6	55	63	64
12	39	35	147	68	48	87	62	30	9.1	55	62	64
13	36	34	161	67	48	81	60	29	9.0	55	62	64
14	35	34	159	63	47	76	59	28	8.4	56	62	64
15	33	34	153	61	47	72	58	27	30	56	62	64
16	31	35	144	58	47	67	82	26	57	56	62	61
17	30	45	139	57	48	65	73	25	56	55	62	63
18	30	99	134	55	49	72	76	25	56	56	62	63
19	28	138	127	54	49	92	88	23	56	56	62	63
20	27	141	126	53	49	115	140	22	56	56	62	63
21	26	140	128	52	49	121	190	22	55	56	62	63
22	24	137	129	51	49	122	195	21	55	56	63	63
23	24	131	143	51	48	115	194	21	55	56	63	63
24	24	125	157	50	49	108	188	19	55	56	63	63
25	24	116	156	49	53	103	180	18	55	56	64	63
26	23	106	149	48	56	99	173	16	55	59	64	63
27	22	130	144	48	57	92	164	15	55	94	64	63
28	22	144	139	48	57	87	156	14	54	97	64	63
29	23	149	134	48	56	87	148	13	55	87	64	63
30	23	186	130	48	---	85	142	12	55	84	64	63
31	22	---	124	48	---	80	---	11	---	109	64	---
MEAN	28.7	80.5	153	68.0	49.4	85.5	104	36.8	33.9	61.8	67.3	63.4
MAX	47	186	213	119	57	122	195	136	57	109	106	64
MIN	7.6	33	124	48	47	52	56	11	8.4	55	62	61
IN.	.30	.80	1.58	.70	.48	.88	1.04	.38	.34	.64	.69	.63

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	69.9	70.4	89.8	59.8	59.1	144	184	172	97.7	73.4	56.8	77.8
MAX	425	354	298	299	205	688	939	511	349	340	401	727	
(WY)	1974	1986	1983	1974	1975	1973	1973	1973	1984	1981	1981	1973	
MIN	.000	.049	.000	.000	.000	7.30	7.27	7.21	.95	.097	.019	.000	
(WY)	1976	1976	1979	1979	1979	1989	1989	1988	1977	1977	1975	1976	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	78.6		69.5		96.4	
HIGHEST ANNUAL MEAN					317	
LOWEST ANNUAL MEAN					7.13	
HIGHEST DAILY MEAN					5460	
LOWEST DAILY MEAN	6.7		7.6		.00	
INSTANTANEOUS PEAK FLOW	---		213		8700	
INSTANTANEOUS PEAK STAGE	---		9.79		20.60	
INSTANTANEOUS LOW FLOW	---		2.3		.00	
ANNUAL SEVEN-DAY MINIMUM	7.6		9.9		.00	
ANNUAL RUNOFF (INCHES)	9.53		8.45		11.70	
10 PERCENT EXCEEDS	205		140		273	
50 PERCENT EXCEEDS	51		58		25	
90 PERCENT EXCEEDS	8.6		23		.72	

**Prior to and during construction of Long Branch Reservoir. Low flow now augmented by reservoir releases.

LITTLE CHARITON RIVER BASIN

06906300 EAST FORK LITTLE CHARITON RIVER NEAR HUNTSVILLE, MO

LOCATION.--Lat 39°27'18", long 92°34'07", in NW 1/4 NW 1/4 NW 1/4 sec.26, T.54 N., R.15 W., Randolph County, Hydrologic Unit 10280203, on right bank downstream end of bridge on State Highway C, 1.0 mi downstream from Sugar Creek and 1.5 mi northwest of Huntsville.

DRAINAGE AREA.--220 mi².

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 sea level (levels by Missouri State Highways and Transportation Commission). From July 18, 1972 to Sept. 23, 1974, at datum 0.63 ft higher.

REMARKS.--Estimated daily discharges: Nov. 8-10 and Jan. 15-21. Records fair except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. Some regulation by Long Branch Reservoir (station 06906190) 34 mi upstream since 1978. Low flow affected by operation of pumps 7 mi upstream. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	302	314	135	74	91	142	137	16	56	115	58
2	20	106	270	141	74	91	131	129	16	58	113	57
3	58	71	253	136	74	87	125	122	20	60	110	57
4	150	60	223	127	73	84	121	115	20	57	104	56
5	50	55	211	120	70	91	119	79	19	57	99	57
6	56	51	225	116	72	184	114	65	18	57	94	58
7	56	51	236	114	73	461	109	59	17	57	108	56
8	54	49	209	109	69	206	106	58	16	58	133	59
9	51	47	189	104	71	162	105	57	15	58	93	210
10	49	44	177	100	69	147	653	52	14	85	87	107
11	46	42	166	98	69	129	248	48	14	64	82	65
12	44	42	314	102	73	120	170	45	14	61	79	61
13	41	41	259	98	73	116	132	42	13	61	76	60
14	37	40	212	94	79	114	119	43	12	79	73	58
15	36	61	185	93	254	109	113	44	12	80	68	58
16	35	56	170	90	154	106	267	40	31	83	67	57
17	32	261	164	86	183	102	219	38	56	72	65	54
18	31	1140	151	79	321	499	175	37	55	64	63	61
19	31	290	141	74	155	861	582	33	55	66	62	59
20	31	296	193	79	119	380	1360	33	56	68	62	59
21	29	223	279	80	106	255	743	32	56	66	60	70
22	28	190	207	81	98	224	358	37	55	74	58	61
23	25	176	432	86	93	187	297	37	55	88	58	56
24	25	160	276	78	96	167	266	32	55	77	58	55
25	25	146	217	80	181	155	233	28	55	70	58	55
26	25	140	192	75	121	147	207	25	55	100	63	57
27	25	145	176	78	108	139	188	24	54	100	66	59
28	26	181	167	75	100	136	173	22	57	113	60	56
29	29	181	159	74	95	145	159	20	56	110	58	55
30	28	559	148	71	---	219	148	19	56	106	57	55
31	31	---	141	73	---	158	---	17	---	108	56	---
MEAN	39.4	174	215	95.0	110	196	263	50.6	34.8	74.6	77.6	64.9
MAX	150	1140	432	141	321	861	1360	137	57	113	133	210
MIN	17	40	141	71	69	84	105	17	12	56	56	54
IN.	.21	.88	1.13	.50	.54	1.03	1.33	.27	.18	.39	.41	.33

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	132	128	127	123	150	260	329	251	211	164	69.7	129
MAX	1019	756	666	527	732	1107	2079	705	1069	1191	400	783	
(WY)	1987	1986	1983	1965	1985	1973	1973	1973	1969	1969	1981	1973	
MIN	.22	1.65	.44	.46	.78	10.6	10.2	10.7	2.42	.045	.46	.037	
(WY)	1964	1964	1964	1964	1964	1989	1989	1965	1977	1977	1964	1976	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

	ANNUAL MEAN	125		116		173	
HIGHEST ANNUAL MEAN						510	1973
LOWEST ANNUAL MEAN						17.3	1989
HIGHEST DAILY MEAN	1860	Jul 11	1360	Apr 20	17000	Apr 21	1973
LOWEST DAILY MEAN	9.6	Sep 9	12	Jun 14-15	.00	Many Years	
INSTANTANEOUS PEAK FLOW	--		1910	Nov 18	30000	Apr 21	1973
INSTANTANEOUS PEAK STAGE	--		12.78	Nov 18	20.78	Apr 21	1973
INSTANTANEOUS LOW FLOW	--		11	Jun 15	.00	Many Years	
ANNUAL SEVEN-DAY MINIMUM	12	Jan 16	13	Jun 9	.00	Many Years	
ANNUAL RUNOFF (INCHES)	7.74		7.18		10.67		
10 PERCENT EXCEEDS	263		220		411		
50 PERCENT EXCEEDS	74		75		41		
90 PERCENT EXCEEDS	17		31		3.0		

LAMINE RIVER BASIN

06906800 LAMINE RIVER NEAR OTTERVILLE, MO

LOCATION.--Lat 38°42'09", long 92°58'42", in NE 1/4 NE 1/4 NW 1/4 sec.2, T.45 N., R.19 W., Cooper County, Hydrologic Unit 10300103, on left bank at the left downstream end of Highway A, 7.2 mi downstream from confluence of Flat Creek and Richland Creek, 2.2 mi upstream from Otter Creek and 1.1 mi east of Otterville.

DRAINAGE AREA.--543 mi².

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is 652.87 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	480	386	102	36	78	401	103	15	7.6	53	7.9
2	5.0	352	235	96	35	71	279	88	15	7.7	42	7.0
3	15	149	357	106	35	67	217	75	18	8.2	35	6.4
4	55	84	250	103	33	66	184	66	25	6.9	30	5.9
5	55	58	171	94	32	73	152	58	27	7.3	25	5.7
6	39	46	163	85	32	80	127	51	26	9.5	23	7.2
7	25	40	159	79	31	82	112	47	28	12	41	8.6
8	22	34	135	73	29	75	102	43	23	11	238	409
9	23	30	110	66	28	70	125	40	18	9.5	172	73
10	19	27	87	59	29	62	560	38	18	19	121	158
11	16	25	76	55	31	57	299	36	20	30	67	50
12	13	24	426	53	35	53	247	36	41	123	44	28
13	12	23	748	53	43	50	200	33	31	51	33	18
14	10	24	388	56	544	49	160	35	22	30	27	13
15	9.4	25	236	53	3650	46	195	38	19	22	22	10
16	8.5	26	171	46	1070	44	1080	37	17	18	19	9.3
17	7.0	397	138	43	593	43	805	37	16	20	17	8.5
18	6.4	1150	111	40	455	80	677	41	15	39	15	8.5
19	6.7	403	88	38	355	427	1300	38	14	37	14	7.8
20	7.1	276	1280	37	282	598	911	33	13	24	12	307
21	6.5	351	2290	38	226	425	1450	29	11	19	11	887
22	8.5	224	823	41	189	380	666	26	10	15	10	381
23	9.1	159	554	48	161	375	438	24	9.7	15	9.4	181
24	10	115	442	49	143	277	354	22	9.4	13	9.4	93
25	18	86	351	51	128	220	280	21	9.9	12	8.9	54
26	9.1	69	255	46	118	184	222	20	9.2	1990	8.1	37
27	6.3	65	199	43	110	152	182	19	8.7	1360	7.4	30
28	18	61	167	40	101	127	155	18	8.4	388	6.9	24
29	24	60	147	39	88	123	132	18	8.1	185	6.2	19
30	21	1190	132	39	---	747	117	17	7.9	108	6.1	16
31	30	---	115	37	---	703	---	16	---	70	6.6	---
MEAN	16.8	202	361	58.3	298	190	404	38.8	17.1	151	36.8	95.7
MAX	55	1190	2290	106	3650	747	1450	103	41	1990	238	887
MIN	5.0	23	76	37	28	43	102	16	7.9	6.9	6.1	5.7
IN.	.04	.41	.77	.12	.59	.40	.83	.08	.04	.32	.08	.20

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	16.6	79.9	327	155	355	576	601	1239	206	175	139	38.8
MAX	32.0	202	916	374	756	1580	1444	4718	597	673	420	95.7
(WY)	1991	1992	1988	1991	1988	1990	1988	1990	1990	1990	1989	1992
MIN	9.64	20.3	11.1	45.4	124	122	279	38.8	10.5	11.0	3.40	6.00
(WY)	1989	1990	1990	1990	1991	1991	1991	1992	1988	1988	1991	1988

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	248	155	326
HIGHEST ANNUAL MEAN			744
LOWEST ANNUAL MEAN			155
HIGHEST DAILY MEAN	19000	May 13	36800
LOWEST DAILY MEAN	1.3	Aug 26-27, 29	1.3
INSTANTANEOUS PEAK FLOW	--		50600
INSTANTANEOUS PEAK STAGE	--		26.55
INSTANTANEOUS LOW FLOW	--		1.2
ANNUAL SEVEN-DAY MINIMUM	1.4	Aug 23	1.4
ANNUAL RUNOFF (INCHES)	6.21		8.17
10 PERCENT EXCEEDS	403		481
50 PERCENT EXCEEDS	56		47
90 PERCENT EXCEEDS	5.2		7.9

LAMINE RIVER BASIN

06908000 BLACKWATER RIVER AT BLUE LICK, MO

LOCATION.--Lat 38°59'32", long 93°11'48", in SW 1/4 SW 1/4 SW 1/4 sec.26, T.49 N., R.21 W., Saline County, Hydrologic Unit 10300104, on left bank at upstream side of bridge on northbound lane of U.S. Highway 65, 1.2 mi downstream from Finney Creek, 1.8 mi southeast of Blue Lick and at mile 30.3.

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 sea level. 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. Dec. 4, 1956 to Oct. 1, 1986, at site 0.5 mi upstream at present datum.

REMARKS.--Estimated daily discharges: Oct. 5, 6 and Jan. 16. Records fair 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	35	1470	68	19	68	747	214	24	11	58	27
2	8.0	303	319	62	19	53	388	184	23	10	41	23
3	9.9	195	157	77	19	45	270	154	23	13	32	20
4	1330	76	102	83	18	41	215	127	22	14	27	19
5	471	35	68	73	18	42	182	107	22	21	25	18
6	102	23	49	62	18	59	148	94	23	21	22	19
7	51	19	42	55	17	106	122	82	23	16	35	419
8	30	16	40	56	17	102	110	74	20	14	559	5270
9	20	15	40	59	16	78	102	70	18	12	277	4030
10	16	15	37	55	16	57	182	66	17	17	132	738
11	13	14	31	47	16	47	358	63	147	89	71	182
12	12	14	45	41	16	38	2440	58	196	564	48	90
13	11	13	265	39	16	31	2320	54	130	211	36	56
14	10	13	293	37	28	29	613	55	79	73	29	39
15	9.7	13	155	37	309	27	347	57	47	275	24	30
16	9.4	13	89	32	842	26	675	113	62	168	21	26
17	9.2	17	58	28	382	24	728	104	58	79	20	22
18	9.0	312	44	26	441	57	458	72	32	36	18	20
19	8.9	468	37	23	489	1180	492	54	22	24	17	19
20	9.0	173	41	22	263	1710	1840	48	18	19	17	88
21	7.6	93	774	22	175	879	5050	45	16	15	16	1510
22	8.3	105	1130	23	130	490	5580	350	13	14	16	523
23	8.0	70	491	24	104	438	6130	144	12	23	14	152
24	7.6	43	883	26	88	294	5890	76	11	57	14	64
25	7.8	36	533	32	241	212	1890	53	10	60	15	34
26	7.7	32	263	32	232	199	679	44	9.6	3300	15	25
27	7.8	28	176	28	153	197	447	40	9.7	4920	194	21
28	8.5	25	134	25	111	150	338	35	11	1720	262	19
29	9.3	38	109	23	86	142	280	32	11	285	122	16
30	10	799	91	22	---	1720	239	29	11	144	59	15
31	12	---	79	21	---	2540	---	26	---	86	36	---
MEAN	72.3	102	260	40.6	148	357	1309	87.9	37.3	397	73.3	451
MAX	1330	799	1470	83	842	2540	6130	350	196	4920	559	5270
MIN	7.6	13	31	21	16	24	102	26	9.6	10	14	15
IN.	.07	.10	.27	.04	.14	.37	1.30	.09	.04	.41	.08	.45

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	567	558	414	448	671	1035	1361	1077	1215	722	275	550
MEAN	567	558	414	448	671	1035	1361	1077	1215	722	275	550
MAX	9500	6100	3359	2326	5206	4706	8473	7504	4416	8855	1668	5979
(WY)	1987	1929	1983	1974	1985	1973	1973	1990	1969	1951	1951	1961
MIN	.13	.32	1.66	1.55	5.54	9.50	29.6	9.93	18.4	1.78	1.61	.13
(WY)	1957	1957	1957	1957	1954	1956	1977	1932	1956	1933	1930	1956

SUMMARY STATISTICS

	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	314		276		743	
HIGHEST ANNUAL MEAN					1959	
LOWEST ANNUAL MEAN					95.8	
HIGHEST DAILY MEAN	7030		6130		48400	
LOWEST DAILY MEAN	4.8		7.6		.00	
INSTANTANEOUS PEAK FLOW	---		6370		54000	
INSTANTANEOUS PEAK STAGE	---		25.24		41.53	
INSTANTANEOUS LOW FLOW	---		6.6		.00	
ANNUAL SEVEN-DAY MINIMUM	6.9		7.8		.00	
ANNUAL RUNOFF (INCHES)	3.81		3.36		9.01	
10 PERCENT EXCEEDS	500		501		2130	
50 PERCENT EXCEEDS	39		45		82	
90 PERCENT EXCEEDS	8.0		13		4.0	

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 Company 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 sea level. 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 at 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. 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.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35300	37500	34000	29400	27600	34100	79900	68600	46100	45200	189000	51800
2	35300	37600	34300	29200	27600	32500	71000	65300	44400	45600	179000	52500
3	36000	35800	30300	29000	27900	31400	62900	62700	44900	45400	135000	51000
4	37000	32800	27200	30000	27800	31100	58500	59400	44300	44800	115000	55600
5	42700	30400	26000	32400	27400	31000	54900	56700	43100	44100	105000	68600
6	44400	27300	25400	33200	27000	31100	52000	54500	43900	44900	97400	65600
7	42400	25000	24800	33200	26200	33000	49700	52400	43900	46600	94200	65300
8	39300	23500	24200	34900	25700	46500	47700	50600	42400	51200	101000	80800
9	38500	22200	24100	35900	25800	56600	46600	48800	44100	60200	106000	94600
10	37800	21300	24200	34100	26000	55600	47100	47600	46000	55000	102000	92700
11	37300	20600	23500	33300	26100	49900	51900	46600	45600	60000	101000	78300
12	36800	20000	22700	32300	26600	44800	52900	45900	51400	69200	97500	70500
13	36600	19500	23600	31200	26500	41700	62500	44900	55200	58400	96400	68600
14	36600	19400	27200	30800	26500	40400	61000	44400	50300	73200	89800	64800
15	36400	19000	30100	31100	27800	41100	55300	44700	49400	150000	86200	60700
16	35800	18700	30700	30700	31600	43500	51300	46100	48200	149000	86000	57100
17	35500	20000	31300	29600	32800	43000	61900	46600	47700	134000	82300	67300
18	35700	23700	33500	29800	38300	40400	70500	44700	50900	119000	76600	87800
19	35600	30800	34900	29800	59600	47100	66400	44300	57600	107000	72100	103000
20	35800	32400	32700	28800	67400	85000	79200	45000	61800	96900	69600	98700
21	36200	29900	31200	27000	60600	107000	112000	47300	68800	97500	67300	100000
22	36400	27000	32600	26000	54300	89700	141000	60300	63300	98700	62800	102000
23	36100	25000	33900	26100	48900	70800	142000	61100	56300	91800	58600	82100
24	35800	24100	38000	27300	44000	59400	141000	55900	54700	90500	55200	66400
25	35800	23700	44500	29300	41600	54200	144000	56100	54900	104000	52700	57600
26	36100	23500	39800	29800	45000	52600	137000	55800	53300	125000	51600	53800
27	36700	23300	34800	30900	44000	52900	118000	54100	51400	182000	51800	51500
28	36800	23100	34800	32800	39100	53200	95900	52100	50300	202000	52500	49800
29	36900	23700	34300	31900	36000	53700	82200	49600	48100	186000	50700	48500
30	36500	26400	31900	29800	---	55900	73000	47500	45500	156000	49000	47700
31	36700	---	30000	28300	---	69400	---	47500	---	152000	49800	---
MEAN	37120	25570	30660	30580	36060	50920	78980	51840	50260	96300	86550	69820
MAX	44400	37600	44500	35900	67400	107000	144000	68600	68800	202000	189000	103000
MIN	35300	18700	22700	26000	25700	31000	46600	44300	42400	44100	49000	47700
IN.	.09	.06	.07	.07	.08	.12	.18	.12	.11	.22	.20	.16

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	52880	48330	32810	28550	40950	65250	86930	79310	98750	79590	53320	55140
MAX	187800	124500	106200	90150	106300	183900	229200	169200	283700	299700	114400	141800	
(WY)	1974	1929	1983	1973	1982	1973	1927	1927	1947	1951	1951	1951	
MIN	12920	14270	8050	4919	9693	16550	29800	26950	36540	30220	14320	17440	
(WY)	1940	1940	1938	1940	1940	1957	1957	1934	1956	1934	1934	1939	

SUMMARY STATISTICS

	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	45420	53790	60160
HIGHEST ANNUAL MEAN			107200
LOWEST ANNUAL MEAN			23730
HIGHEST DAILY MEAN	130000	May 6	534000
LOWEST DAILY MEAN	17000	Jan 4	1800
INSTANTANEOUS PEAK FLOW	---		205000
INSTANTANEOUS PEAK STAGE	---		24.53
INSTANTANEOUS LOW FLOW	---		18700
ANNUAL SEVEN-DAY MINIMUM	19600	Nov 11	19600
ANNUAL RUNOFF (INCHES)	1.23		1.46
10 PERCENT EXCEEDS	85000		97400
50 PERCENT EXCEEDS	36700		45700
90 PERCENT EXCEEDS	24400		26500

OSAGE RIVER BASIN

06918070 OSAGE RIVER ABOVE SCHELL CITY, MO

LOCATION.--Lat 38°03'20", long 94°08'44", in SE 1/4 SW 1/4 NW 1/4 sec.20, T.38 N., R.29 W., Bates County, Hydrologic Unit 10290105, on downstream side of left pier of bridge on State Highway M, 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 sea level.

REMARKS.--Estimated daily discharges: Oct. 1 to Nov. 18, Nov. 22 to Dec. 11, Dec. 17-19, and Jan. 16 to Feb. 14. Water-discharge records poor except for discharges greater than 400 ft³/s, which are fair. Periods of low flow could not be calculated using fall computations. Stage-discharge relation affected by backwater from Truman Reservoir. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 133,000 ft³/s, Oct. 5, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 24,500 ft³/s, Apr. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	55	363	409	185	495	3430	2520	295	657	12500	264
2	20	50	258	423	175	469	2870	2300	295	559	10400	213
3	20	40	200	437	170	417	2390	2050	441	484	6650	191
4	20	34	160	499	165	383	1880	1780	8110	468	4670	153
5	20	30	120	583	160	370	1450	1530	12900	3210	3950	147
6	20	28	100	658	155	636	1110	1360	8500	9230	4600	207
7	25	26	95	635	150	2540	931	1210	3730	13900	3970	319
8	35	26	90	564	145	4680	835	1110	2110	17500	3180	189
9	45	26	90	469	140	3550	755	1030	1970	19400	2870	641
10	50	26	85	408	140	2040	698	895	3400	17600	2160	3410
11	45	26	85	357	135	1380	654	662	7490	20600	1650	4890
12	42	26	144	331	135	1090	717	567	13800	21500	1380	4000
13	38	26	178	300	130	920	1340	528	12600	20400	1340	1900
14	36	28	265	288	130	795	1690	514	10300	17600	1110	872
15	36	30	343	251	1010	709	1490	563	7430	16800	915	519
16	32	40	296	230	3240	628	1560	592	4280	18400	750	389
17	30	50	240	220	2780	562	3460	711	2810	18600	616	298
18	28	80	200	205	1950	680	5390	833	2300	17200	543	248
19	28	131	175	195	1760	1310	4780	718	1880	16900	471	210
20	26	185	560	185	1490	3430	11200	800	1530	14900	420	309
21	26	200	2540	175	1200	5740	19300	915	1240	11800	388	658
22	26	160	4540	165	985	4330	22300	1130	1080	8350	352	1340
23	26	130	3710	160	844	2860	24500	1050	969	5790	324	1460
24	26	110	2270	160	716	2240	21900	808	1010	8640	274	1210
25	26	100	1450	180	630	1950	17300	1260	1560	13900	210	693
26	28	90	1090	190	586	2110	12400	1130	2850	18600	176	463
27	34	80	878	210	568	2690	7540	681	1760	21400	212	395
28	40	75	680	210	582	3010	4210	511	1180	22900	223	1540
29	54	100	555	200	552	2550	3180	420	882	22400	221	1310
30	60	188	486	195	---	2710	2770	364	742	19400	194	640
31	65	---	463	190	---	3630	---	329	---	15800	237	---
MEAN	33.1	73.2	733	312	724	1965	6134	996	3981	14030	2160	969
MAX	65	200	4540	658	3240	5740	24500	2520	13800	22900	12500	4890
MIN	20	26	85	160	130	370	654	329	295	468	176	147

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MAX	47040	8244	5212	8040	8960	18920	16190	17700	19800	14030	6925	2918
(WY)	1987	1987	1987	1985	1987	1987	1983	1990	1981	1992	1989	1986
MIN	.000	.000	.000	.000	.000	.000	.000	.996	.000	1553	3.35	.000
(WY)	1981	1980	1981	1981	1981	1981	1981	1992	1980	1982	1984	1982

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.

SUSPENDED-SEDIMENT: February 1991 to current year.

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 and Feb. 11-14, 1981.

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,760 mg/L Apr. 17, 1992; minimum daily mean, 24 mg/L, several days in 1992.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 75,400 tons, Apr. 21, 1992; minimum daily, 1.7 tons, several days in 1992.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean 2,760 mg/L, Apr. 17; minimum daily mean, 24 mg/L, several days.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 75,400 tons, Apr. 21; minimum daily, 1.7 tons, several days.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (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-TOCOCCHI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
NOV												
05...	0830	200	460	7.8	4.0	14	9.5	71	110	160	200	61
JAN												
09...	0830	720	513	8.2	5.5	19	11.2	87	540	840	240	73
MAR												
03...	0920	380	524	8.3	12.0	22	10.8	99	K24	60	230	71
MAY												
06...	0910	500	475	8.1	18.5	37	7.9	82	110	120	230	75
JUL												
09...	0800	16000	177	7.7	23.5	220	4.6	53	1000	1100	70	--
SEP												
02...	0700	300	489	7.9	24.0	29	7.2	85	K34	180	230	71

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

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3 (39086)	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 SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)
NOV												
05...	12	22	5.8	116	100	20	0.40	7.1	327	299	0.44	177
JAN												
09...	13	22	4.6	154	110	19	0.30	6.3	321	349	0.44	624
MAR												
03...	13	22	4.5	123	100	22	0.20	2.2	335	312	0.46	344
MAY												
06...	11	14	3.4	157	110	11	0.30	7.4	345	332	0.47	466
JUL												
09...	--	--	--	99	15	--	0.10	7.7	164	122	0.22	7080
SEP												
02...	12	18	3.5	167	78	15	0.30	6.1	310	304	0.42	251

OSAGE RIVER BASIN

06918070 OSAGE RIVER ABOVE SCHELL CITY, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDEED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)
NOV 05...	<0.010	0.061	0.060	0.060	0.60	0.070	0.030	<0.010	40	88	120
JAN 09...	0.030	1.80	0.090	0.090	0.60	0.100	0.040	0.030	63	94	<10
MAR 03...	0.020	0.860	0.020	0.020	0.60	0.100	<0.010	<0.010	--	--	--
MAY 06...	0.020	1.10	0.050	0.020	0.30	0.070	0.040	0.030	--	--	<10
JUL 09...	0.020	0.610	0.050	0.050	0.70	0.500	0.060	0.070	--	--	60
SEP 02...	<0.010	<0.050	0.010	0.020	0.50	0.070	0.040	0.030	--	--	--
DATE	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	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)
NOV 05...	110	<3	20	11	600	<10	5	<1	<1.0	340	<6
JAN 09...	78	<3	8	7	71	<10	2	4	<1.0	410	<6
MAY 06...	88	<3	21	<4	140	<10	4	1	<1.0	360	<6
JUL 09...	48	<3	47	<4	11	<10	2	<1	<1.0	110	<6

OSAGE RIVER BASIN

06918070 OSAGE RIVER ABOVE SCHELL CITY, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	20	58	3.1	55	38	5.6	363	150	147
2	20	60	3.2	50	33	4.5	258	140	98
3	20	66	3.6	40	27	2.9	200	130	70
4	20	79	4.3	34	25	2.3	160	120	52
5	20	102	5.5	30	24	2.0	120	110	36
6	20	73	4.0	28	26	2.0	100	100	27
7	25	55	3.7	26	24	1.7	95	90	23
8	35	65	6.1	26	24	1.7	90	80	19
9	45	47	5.8	26	24	1.7	90	70	17
10	50	61	8.2	26	24	1.7	85	60	14
11	45	87	11	26	24	1.7	85	50	11
12	42	84	9.5	26	24	1.7	144	75	29
13	38	80	8.3	26	24	1.7	178	100	48
14	36	80	7.8	28	24	3.4	265	125	89
15	36	62	6.8	30	49	4.0	343	140	130
16	32	48	5.4	40	52	5.7	296	130	104
17	30	38	3.9	50	56	7.6	240	120	78
18	28	32	2.9	80	60	13	200	115	62
19	28	30	2.4	131	65	23	175	131	62
20	26	30	2.1	185	69	35	560	154	232
21	26	30	2.1	200	67	36	2540	461	3160
22	26	30	2.1	160	64	28	4540	1930	23600
23	26	30	2.1	130	62	22	3710	1700	17000
24	26	30	2.1	110	59	18	2270	427	2620
25	26	30	2.1	100	57	15	1450	274	1070
26	28	30	2.3	90	55	13	1090	222	654
27	34	31	2.8	80	52	11	878	189	448
28	40	33	3.6	75	50	10	680	169	310
29	54	40	5.8	100	130	35	555	151	226
30	60	50	8.1	188	140	71	486	135	177
31	65	48	8.4	---	---	---	463	120	150
JANUARY			FEBRUARY			MARCH			
1	409	107	118	185	39	20	495	447	597
2	423	95	108	175	39	18	469	149	189
3	437	84	99.6	170	39	18	417	104	117
4	499	75	101	165	40	18	383	159	164
5	583	67	105	160	42	18	370	239	239
6	658	59	105	155	50	21	636	465	799
7	635	53	90	150	55	22	2540	1350	9270
8	564	47	71	145	33	13	4680	1950	24600
9	469	42	54	140	31	12	3550	956	9160
10	408	42	46	140	42	16	2040	287	1580
11	357	42	40	135	30	11	1380	307	1140
12	331	42	37	135	34	12	1090	222	654
13	300	41	34	130	27	9.5	920	182	453
14	288	41	32	130	41	14	795	168	362
15	251	41	28	1010	599	1630	709	145	278
16	230	41	26	3240	1660	14500	628	132	225
17	220	41	24	2780	354	2660	562	172	261
18	205	41	23	1950	141	741	680	206	379
19	195	41	21	1760	99	472	1310	235	831
20	185	41	20	1490	80	323	3430	699	6470
21	175	41	19	1200	77	249	5740	1340	20800
22	165	40	18	985	89	236	4330	1090	12800
23	160	40	17	844	82	186	2860	464	3590
24	160	40	17	716	68	131	2240	246	1490
25	180	40	19	630	54	91	1950	198	1040
26	190	40	20	586	42	67	2110	210	1190
27	210	40	23	568	37	57	2690	278	2020
28	210	40	22	582	46	72	3010	318	2590
29	200	40	21	552	69	103	2550	300	2070
30	195	39	21	---	---	---	2710	352	2580
31	190	39	20	---	---	---	3630	411	4030

OSAGE RIVER BASIN

06918070 OSAGE RIVER ABOVE SCHELL CITY, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	3430	381	3530	2520	181	1230	295	113	90
2	2870	284	2200	2300	157	976	295	108	86
3	2390	235	1510	2050	150	833	441	295	351
4	1880	208	1060	1780	150	719	8110	1940	42500
5	1450	190	745	1530	127	524	12900	1160	40500
6	1110	159	476	1360	118	433	8500	678	15600
7	931	135	338	1210	128	420	3730	403	4060
8	835	117	265	1110	128	384	2110	247	1410
9	755	136	277	1030	134	372	1970	205	1090
10	698	162	305	895	112	271	3400	373	3420
11	654	186	329	662	137	245	7490	1200	24300
12	717	213	413	567	188	288	13800	1070	40000
13	1340	209	757	528	163	232	12600	565	19200
14	1690	193	882	514	138	191	10300	398	11100
15	1490	168	677	563	154	235	7430	271	5450
16	1560	1370	5770	592	125	200	4280	257	2970
17	3460	2760	25800	711	144	276	2810	249	1890
18	5390	1200	17500	833	140	316	2300	232	1440
19	4780	553	7130	718	140	272	1880	197	1000
20	11200	1140	34500	800	169	365	1530	171	708
21	19300	1450	75400	915	213	527	1240	160	537
22	22300	1140	68400	1130	216	660	1080	158	461
23	24500	481	31800	1050	192	545	969	165	432
24	21900	191	11300	808	160	350	1010	303	826
25	17300	190	8900	1260	148	505	1560	492	2070
26	12400	204	6840	1130	149	455	2850	1000	7690
27	7540	254	5170	681	129	238	1760	687	3260
28	4210	291	3310	511	121	167	1180	412	1310
29	3180	262	2250	420	118	134	882	299	711
30	2770	245	1830	364	109	108	742	384	769
31	---	---	---	329	119	106	---	---	---
JULY			AUGUST			SEPTEMBER			
1	657	276	489	12500	231	7800	264	67	48
2	559	214	324	10400	387	10900	213	90	52
3	484	172	224	6650	524	9400	191	104	53
4	468	221	279	4670	431	5430	153	117	48
5	3210	559	4850	3950	309	3290	147	141	56
6	9230	804	20000	4600	429	5330	207	191	107
7	13900	861	32300	3970	361	3870	319	168	145
8	17500	925	43700	3180	273	2340	189	141	72
9	19400	539	28200	2870	249	1930	641	235	407
10	17600	284	13500	2160	209	1220	3410	1390	12800
11	20600	654	36400	1650	188	840	4890	893	11800
12	21500	437	25400	1380	168	624	4000	463	5000
13	20400	265	14600	1340	149	539	1900	207	1060
14	17600	273	13000	1110	138	413	872	125	295
15	16800	291	13200	915	137	338	519	97	135
16	18400	309	15400	750	136	276	389	84	88
17	18600	330	16600	616	102	169	298	106	86
18	17200	351	16300	543	94	138	248	171	115
19	16900	237	10800	471	88	112	210	279	158
20	14900	95	3810	420	83	94	309	351	292
21	11800	225	7180	388	79	83	658	274	486
22	8350	435	9800	352	95	90	1340	435	1570
23	5790	588	9200	324	69	61	1460	371	1460
24	8640	990	23100	274	80	59	1210	218	714
25	13900	750	28100	210	100	57	693	139	259
26	18600	601	30200	176	73	35	463	94	118
27	21400	274	15800	212	41	23	395	96	102
28	22900	141	8730	223	67	40	1540	505	2100
29	22400	88	5330	221	74	44	1310	286	1010
30	19400	109	5710	194	58	31	640	107	184
31	15800	148	6330	237	49	31	---	---	---

06918440 SAC RIVER NEAR DADEVILLE, MO

LOCATION.--Lat 37°26'35", long 93°41'05", in NE 1/4 NE 1/4 NW 1/4 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.

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 sea level (levels by Missouri State Highways and Transportation Commission). Prior to June 1966, crest-stage gage at same site and datum.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	45	56	162	76	145	90	125	51	84	191	67
2	16	39	62	154	75	139	86	117	51	77	181	66
3	20	33	104	147	74	134	85	109	60	78	174	64
4	18	31	128	139	72	130	84	101	60	77	157	59
5	17	29	121	134	71	128	80	94	54	514	248	56
6	17	27	112	128	70	123	77	89	51	390	261	58
7	17	26	104	123	69	117	75	84	49	279	208	55
8	17	25	97	118	66	112	73	80	46	222	181	114
9	16	23	89	112	64	115	76	77	481	186	156	230
10	16	23	82	107	64	108	72	72	916	278	140	216
11	16	22	76	104	67	103	71	69	660	1230	125	204
12	16	22	80	102	77	101	82	81	556	458	117	173
13	15	21	89	102	92	98	74	69	406	331	112	152
14	14	21	85	102	533	95	70	67	327	269	108	136
15	14	21	79	95	620	91	67	66	290	239	103	125
16	14	25	74	89	491	88	66	64	246	730	97	118
17	14	69	71	89	414	90	81	73	209	486	94	110
18	14	112	68	86	358	109	215	76	189	354	91	104
19	14	89	65	83	316	120	201	68	166	359	88	101
20	14	76	201	82	286	118	289	120	151	376	85	180
21	15	76	586	81	263	115	386	108	135	552	82	264
22	15	87	473	83	243	112	341	83	124	416	79	208
23	15	81	387	85	227	107	293	71	137	400	77	201
24	15	71	326	83	211	104	254	67	136	357	74	184
25	15	66	285	83	196	103	220	64	122	296	75	171
26	17	63	257	82	183	99	194	61	111	433	71	171
27	18	59	232	82	174	95	175	59	101	408	70	173
28	20	56	213	81	164	92	160	58	93	317	72	157
29	21	53	199	79	154	92	147	56	90	266	74	146
30	22	54	184	78	---	99	136	55	91	248	69	137
31	26	---	170	77	---	94	---	51	---	220	66	---
MEAN	16.6	48.2	166	102	199	109	144	78.5	205	353	120	140
MAX	26	112	586	162	620	145	386	125	916	1230	261	264
MIN	14	21	56	77	64	88	66	51	46	77	66	55
IN.	.07	.21	.75	.46	.84	.49	.63	.35	.89	1.58	.54	.6

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	128	272	308	237	293	449	384	303	195	108	63.2	72.2
MAX	780	1139	1007	743	918	1170	1232	1746	714	353	205	186
(WY)	1987	1986	1988	1991	1985	1975	1973	1990	1974	1992	1968	1975
MIN	16.6	16.8	19.7	14.0	23.5	32.7	30.1	30.1	39.2	22.1	10.1	6.78
(WY)	1992	1981	1977	1981	1981	1981	1981	1977	1972	1980	1980	1980

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	168		140		234	
HIGHEST ANNUAL MEAN					520	1973
LOWEST ANNUAL MEAN					50.2	1977
HIGHEST DAILY MEAN	2870	Jan 16	1230	Jul 11	8000	Feb 23 1985
LOWEST DAILY MEAN	13	Aug 24	14	Oct 14-20	4.5	Sep 14 1980
INSTANTANEOUS PEAK FLOW	--		2290	Jul 11	13600	Oct 1 1986
INSTANTANEOUS PEAK STAGE	--		11.55	Jul 11	20.83	Oct 1 1986
INSTANTANEOUS LOW FLOW	--		13	Oct 14-16, 18-20	4.0	Sep 16 1980
ANNUAL SEVEN-DAY MINIMUM	14	Oct 14	14	Oct 14	5.3	Sep 11 1980
ANNUAL RUNOFF (INCHES)	8.86		7.41		12.39	
10 PERCENT EXCEEDS	355		294		500	
50 PERCENT EXCEEDS	89		92		109	
90 PERCENT EXCEEDS	17		23		23	

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 left downstream side of bridge pier on State Highway O, 1.5 mi downstream from Limestone Creek and 2.0 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 sea level (levels by Missouri State Highways 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	39	72	198	78	166	91	176	61	93	232	57
2	21	48	74	189	76	157	87	163	60	87	213	56
3	22	40	117	184	75	149	84	149	82	84	207	54
4	22	37	133	173	72	145	81	139	85	94	191	52
5	22	35	127	165	71	141	78	127	75	1490	307	50
6	22	33	119	159	71	133	75	119	72	572	248	51
7	23	31	111	152	69	125	74	111	66	407	205	48
8	25	29	106	146	68	120	72	106	62	319	180	549
9	23	28	96	138	66	121	71	100	709	265	160	1150
10	23	27	89	130	66	116	70	94	632	367	146	626
11	24	27	84	124	67	109	68	91	704	2800	132	462
12	24	26	87	122	84	107	69	90	586	862	123	360
13	24	25	90	121	124	103	68	84	463	602	117	299
14	27	25	86	119	759	97	68	83	388	472	108	259
15	24	26	82	111	802	94	67	79	389	396	100	227
16	23	34	80	107	605	90	70	75	325	2640	94	198
17	25	102	77	103	514	93	99	83	283	953	90	173
18	29	174	75	98	451	120	359	97	283	910	86	156
19	26	146	72	96	397	154	285	95	240	759	81	141
20	26	129	264	93	352	129	463	119	216	817	77	297
21	26	132	738	91	318	123	554	157	192	671	73	364
22	27	131	546	93	295	120	461	111	173	499	71	281
23	27	117	462	94	272	114	392	94	170	504	68	246
24	29	102	395	92	253	109	337	86	157	488	65	216
25	26	92	345	89	235	107	299	79	144	406	62	191
26	26	85	310	87	216	102	269	75	131	503	61	192
27	26	78	282	86	202	96	245	72	119	443	66	183
28	27	73	262	82	188	92	224	71	109	359	69	163
29	27	71	245	81	175	92	206	69	104	309	61	150
30	27	69	227	80	---	98	190	66	102	288	58	140
31	31	---	208	79	---	94	---	62	---	263	56	---
MEAN	25.1	67.0	196	119	242	117	186	101	239	636	123	246
MAX	31	174	738	198	802	166	554	176	709	2800	307	1150
MIN	21	25	72	79	66	90	67	62	60	84	56	48
IN.	.11	.30	.89	.54	1.04	.53	.82	.46	1.06	2.91	.56	1.09

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	141	289	303	247	320	477	421	335	231	148	93.7	99.0
MAX	921	1385	982	765	1020	1377	1291	1797	833	636	354	338	
(WY)	1987	1986	1988	1973	1985	1973	1973	1990	1974	1992	1982	1986	
MIN	23.4	21.7	20.2	19.9	27.5	39.5	39.3	93.9	44.3	24.2	14.4	11.6	
(WY)	1979	1981	1990	1981	1981	1981	1981	1981	1972	1972	1980	1980	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	162	191	258	
HIGHEST ANNUAL MEAN			564	1973
LOWEST ANNUAL MEAN			84.1	1981
HIGHEST DAILY MEAN	2770	Jan 15	2800	Jul 11
LOWEST DAILY MEAN	15	Aug 20-23	21	Oct 2
INSTANTANEOUS PEAK FLOW	---		5680	Jul 16
INSTANTANEOUS PEAK STAGE	---		15.26	Jul 16
INSTANTANEOUS LOW FLOW	---		21	Oct 2-4, 6
ANNUAL SEVEN-DAY MINIMUM	16	Aug 18	22	Oct 1
ANNUAL RUNOFF (INCHES)	8.72		10.33	
10 PERCENT EXCEEDS	336		445	544
50 PERCENT EXCEEDS	89		106	125
90 PERCENT EXCEEDS	23		29	31

OSAGE RIVER BASIN

06918740 LITTLE SAC RIVER NEAR MORRISVILLE, MO

LOCATION.--Lat 37°28'58", long 93°29'07", SW 1/4 SW 1/4 sec.20, T.32 N., R.23 W., Polk County, Hydrologic Unit 10290106, on downstream side of center pier of Hamilton Bridge on State Highway 215, 0.7 mi 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 above sea level, from topographic map.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	138	139	121	52	100	96	107	26	30	80	19
2	10	140	202	114	49	97	88	98	25	27	72	18
3	19	84	394	108	45	93	82	92	34	28	78	16
4	18	60	274	99	42	93	78	84	35	125	63	14
5	16	48	210	92	41	92	73	77	31	1570	858	13
6	18	41	175	96	40	85	68	70	28	589	523	11
7	22	34	152	96	36	78	65	65	27	310	280	11
8	18	28	132	95	32	73	63	59	23	209	204	27
9	16	24	113	87	30	79	67	55	1560	155	158	112
10	15	22	98	82	30	77	64	51	1120	157	132	146
11	36	21	88	79	34	69	60	48	613	869	113	114
12	38	19	103	75	56	67	67	70	445	258	101	81
13	37	17	113	77	103	63	71	56	269	165	85	63
14	40	17	106	81	1690	59	69	49	200	128	72	49
15	44	17	94	74	1270	55	66	47	167	110	62	41
16	44	26	85	68	659	52	69	43	136	372	55	35
17	30	251	79	63	464	54	296	55	113	197	50	30
18	29	373	72	63	377	255	870	67	96	141	45	27
19	14	222	65	61	300	333	382	65	82	112	41	25
20	12	228	1180	57	253	218	445	61	72	256	36	257
21	11	330	1490	58	221	177	516	61	60	531	38	318
22	11	230	677	66	197	157	340	51	51	261	36	330
23	12	179	458	72	179	139	270	44	49	243	32	190
24	12	148	340	77	164	124	220	41	68	193	27	138
25	12	125	272	77	150	116	187	37	65	150	24	110
26	14	107	230	76	136	108	165	35	50	736	22	114
27	15	95	201	70	126	99	150	32	40	338	20	130
28	18	83	180	68	116	93	139	31	34	178	21	97
29	20	74	163	64	107	91	127	31	32	128	26	79
30	56	131	146	62	---	104	116	29	32	112	21	68
31	54	---	132	58	---	103	---	26	---	97	19	---
MEAN	23.3	110	263	78.6	241	110	179	56.0	186	283	109	89.4
MAX	56	373	1490	121	1690	333	870	107	1560	1570	858	330
MIN	10	17	65	57	30	52	60	26	23	27	19	11
IN.	.11	.52	1.28	.38	1.10	.53	.84	.27	.88	1.38	.53	.42

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	130	308	307	231	285	486	392	287	181	77.4	36.6	162
MEAN	130	308	307	231	285	486	392	287	181	77.4	36.6	162
MAX	809	1256	1045	752	1139	1290	1263	1359	656	342	145	2033
(WY)	1987	1986	1988	1991	1985	1973	1973	1990	1981	1979	1988	1968
MIN	13.6	10.8	10.7	9.05	31.1	38.9	32.7	30.9	20.7	11.6	4.90	3.15
(WY)	1990	1981	1990	1981	1981	1972	1981	1977	1972	1980	1980	1980

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	202		144		233
HIGHEST ANNUAL MEAN					516
LOWEST ANNUAL MEAN					58.6
HIGHEST DAILY MEAN	4940	May 14	1690	Feb 14	13200
LOWEST DAILY MEAN	5.7	Aug 21	10	Oct 2	.60
INSTANTANEOUS PEAK FLOW	--		6120	Jun 9	22300
INSTANTANEOUS PEAK STAGE	--		13.07	Jun 9	21.95
INSTANTANEOUS LOW FLOW	--		9.7	Oct 2	0.3
ANNUAL SEVEN-DAY MINIMUM	8.8	Aug 15	12	Oct 19	1.6
ANNUAL RUNOFF (INCHES)	11.58		8.25		13.38
10 PERCENT EXCEEDS	421		297		514
50 PERCENT EXCEEDS	79		77		80
90 PERCENT EXCEEDS	12		22		12

06918990 STOCKTON LAKE NEAR STOCKTON, MO

LOCATION.--Lat 37°41'38", long 93°45'55", SW 1/4 SE 1/4 SW 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. Nonrecording gage prior to May 30, 1973. Datum of gage is sea level (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 ac-ft at elevation 892.0 ft, of which 779,550 ac-ft between elevations 867.0 ft and 892.0 ft is used for flood control, and 887,109 ac-ft between elevations 760.0 ft and 867.0 ft is used for multipurpose and power. Sedimentation reserve is 25,000 ac-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 ac-ft, Apr. 28, 1973, elevation, 885.94 ft; minimum, since initial filling to minimum power pool level, 352,000 ac-ft, Aug. 27 to Sept. 4, 1970, elevation, 839.60 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,010,000 ac-ft, July 27, elevation, 872.20 ft; minimum, 764,000 ac-ft, Nov. 25, elevation, 862.31 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
OBSERVATION AT 24:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	864.29	864.04	862.49	864.89	865.24	867.13	867.19	868.27	868.21	868.96	871.45	867.52
2	864.27	863.99	862.43	864.93	865.25	867.15	867.12	868.29	868.24	868.85	871.33	867.42
3	864.36	863.85	862.47	864.90	865.27	867.20	867.14	868.31	868.28	868.87	871.14	867.19
4	864.33	863.74	862.55	865.00	865.24	867.24	867.16	868.34	868.31	869.50	870.98	867.12
5	864.31	863.48	862.57	865.00	865.19	867.32	867.15	868.34	868.33	869.65	871.30	867.11
6	864.30	863.19	862.64	865.08	865.21	867.35	867.07	868.35	868.40	869.73	871.32	867.10
7	864.30	862.95	862.70	865.11	865.22	867.37	866.99	868.35	868.41	869.71	871.17	867.10
8	864.28	862.83	862.70	865.00	865.18	867.45	866.97	868.36	868.29	869.71	871.13	867.08
9	864.20	862.66	862.73	865.04	865.20	867.29	867.07	868.26	868.53	869.68	870.83	867.06
10	864.20	862.63	862.76	864.93	865.19	867.24	866.97	868.28	868.83	870.50	870.63	867.38
11	864.19	862.59	862.88	864.95	865.25	867.13	866.97	868.17	868.95	871.34	870.41	867.39
12	864.18	862.60	862.89	864.96	865.26	867.12	867.04	868.13	869.02	871.48	870.18	867.35
13	864.15	862.55	862.87	864.98	865.31	867.05	866.97	868.15	869.11	871.59	869.96	867.28
14	864.13	862.49	862.95	865.05	865.35	867.07	866.99	868.19	869.17	871.48	869.73	866.86
15	864.12	862.47	862.97	865.01	866.05	867.10	867.02	868.06	869.14	871.29	869.53	866.81
16	864.11	862.62	862.98	864.99	866.55	867.04	867.04	868.10	869.09	871.85	869.32	866.59
17	864.10	862.80	862.99	864.95	866.65	867.07	867.18	868.13	869.06	871.84	869.14	866.48
18	864.04	862.85	863.01	864.98	866.80	867.09	867.31	868.16	869.02	871.78	869.09	866.46
19	864.04	862.88	863.06	865.01	866.87	867.08	867.40	868.10	869.06	871.67	869.03	866.49
20	864.04	862.73	863.50	865.01	866.86	867.10	867.67	868.18	869.07	871.78	868.99	866.70
21	864.03	862.64	863.82	865.04	866.88	867.08	867.68	868.20	869.00	871.71	868.94	866.62
22	864.01	862.54	864.04	865.07	866.94	867.15	867.78	868.22	869.01	871.68	868.89	866.48
23	864.02	862.41	864.20	865.09	867.00	867.18	867.85	868.20	868.95	871.64	868.83	866.40
24	864.02	862.42	864.34	865.13	866.99	867.18	867.95	868.20	868.99	871.53	868.62	866.31
25	864.03	862.31	864.50	865.11	866.97	867.22	868.01	868.19	869.02	871.28	868.39	866.20
26	864.04	862.33	864.51	865.13	866.96	867.24	868.04	868.10	869.07	872.01	868.29	866.21
27	864.04	862.34	864.58	865.15	867.00	867.22	868.09	868.16	869.08	872.20	868.16	866.28
28	864.07	862.38	864.65	865.16	867.02	867.23	868.14	868.16	869.07	872.15	868.05	866.22
29	863.99	862.45	864.72	865.18	867.08	867.23	868.18	868.19	869.07	872.01	867.93	866.14
30	863.98	862.45	864.78	865.20	---	867.29	868.23	868.20	869.09	871.87	867.82	865.95
31	864.15	---	864.87	865.22	---	867.20	---	868.20	---	871.71	867.62	---
MAX	864.36	864.04	864.87	865.22	867.08	867.45	868.23	868.36	869.17	872.20	871.45	867.52
MIN	863.98	862.31	862.43	864.89	865.18	867.04	866.97	868.06	868.21	868.85	867.62	865.95
(-)	806000	767000	823000	832000	877000	880000	905000	905000	927000	996000	890000	849000
(=)	-3000	-39000	+56000	+9000	+45000	+3000	+25000	0	+22000	+69000	-106000	-41000
CAL YR 1991.	 +51000											
WTR YR 1992.	 +40000											

(-) Contents, in acre-feet, at end of month.

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

OSAGE RIVER BASIN

06919020 SAC RIVER AT HIGHWAY J BELOW STOCKTON, MO

LOCATION.--Lat 37°44'07", long 93°46'47", NW 1/4 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, 3.0 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 sea level.

REMARKS.--No estimated daily discharges. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	907	138	138	87	122	808	105	61	1120	2920	1580
2	59	705	1360	137	86	118	1040	99	63	2120	3030	1420
3	103	896	490	133	86	116	320	92	69	293	3200	2780
4	129	1870	194	127	341	114	87	86	71	169	3260	1300
5	94	2190	165	120	777	116	82	81	67	938	4170	138
6	83	2800	155	539	94	115	1250	76	65	285	4120	90
7	77	2930	141	243	89	114	873	74	61	1110	3750	773
8	70	1780	135	659	528	109	636	73	1490	809	3200	1240
9	283	1740	128	566	99	837	90	1020	844	1170	3360	1810
10	330	277	118	1590	514	1270	552	523	755	384	3440	509
11	69	444	113	354	94	1430	90	1500	992	2000	3610	98
12	68	244	148	122	105	714	86	1250	699	937	3260	1090
13	65	624	188	120	116	1260	1160	324	196	384	3420	2380
14	65	775	154	119	633	494	96	97	87	2180	3270	3080
15	59	92	133	388	1300	474	81	1360	1180	2850	3100	3260
16	60	83	126	651	394	1720	84	485	2140	3040	2860	3020
17	60	260	122	114	763	495	90	87	566	3370	3110	1580
18	58	365	116	110	965	644	109	80	945	2790	1020	443
19	56	210	110	105	738	1190	121	1060	223	3190	716	80
20	57	2680	661	103	1410	703	256	97	71	3420	758	600
21	57	1600	1250	103	940	161	1850	114	69	3390	719	2240
22	58	1250	404	102	183	152	719	107	66	3450	704	2080
23	59	2060	317	106	169	144	489	92	1290	3000	1010	1960
24	61	412	266	306	845	585	153	83	279	3350	2440	1430
25	62	1330	228	104	1050	561	136	78	71	2880	2710	1900
26	63	238	206	95	929	103	128	557	67	2340	1640	1450
27	63	125	187	92	281	88	121	74	64	1570	1310	198
28	66	116	171	90	133	83	116	66	61	1380	1430	689
29	67	116	165	88	127	89	112	63	63	3000	1430	1690
30	67	174	153	88	---	544	109	62	63	3410	1410	2160
31	552	---	142	88	---	1340	---	60	---	3190	2750	---
MEAN	99.4	976	270	248	478	516	395	320	425	2049	2488	1436
MAX	552	2930	1360	1590	1410	1720	1850	1500	2140	3450	4170	3260
MIN	56	83	110	88	86	83	81	60	61	169	704	80
IN.	.09	.84	.24	.22	.40	.46	.34	.29	.37	1.83	2.22	1.24

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	514	637	1135	1212	1181	1580	1942	1592	1340	1075	870	897
MAX	1360	1933	3983	3051	2763	4230	4613	3263	4863	3226	2488	1567	
(WY)	1990	1986	1986	1974	1988	1975	1974	1983	1990	1990	1992	1982	
MIN	51.1	60.1	61.9	66.7	98.8	64.8	60.5	113	186	121	71.6	80.4	
(WY)	1974	1981	1981	1981	1981	1977	1981	1977	1991	1977	1991	1991	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	620	810	1164	
HIGHEST ANNUAL MEAN			1827	1974
LOWEST ANNUAL MEAN			256	1977
HIGHEST DAILY MEAN	3400	May 13	4170	Aug 5
LOWEST DAILY MEAN	49	Aug 21	56	Oct 19
INSTANTANEOUS PEAK FLOW	--		6760	Aug 5
INSTANTANEOUS PEAK STAGE	--		18.35	Aug 5
INSTANTANEOUS LOW FLOW	--		53	Oct 15
ANNUAL SEVEN-DAY MINIMUM	50	Aug 16	58	Oct 17
ANNUAL RUNOFF (INCHES)	6.52		8.54	12.24
10 PERCENT EXCEEDS	2060		2780	3190
50 PERCENT EXCEEDS	153		282	544
90 PERCENT EXCEEDS	58		69	67

OSAGE RIVER BASIN

06919500 CEDAR CREEK NEAR PLEASANT VIEW, MO

LOCATION.--Lat 37°50'03", long 93°52'31", in NE 1/4 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 sea level. 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.--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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 27.7 ft, July 20, 1909, from floodmark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.11	.09	8.3	68	21	71	194	130	28	12	308	19
2	.10	.09	9.2	66	21	65	149	112	26	9.2	258	18
3	.11	.08	11	65	20	60	126	96	26	7.4	518	18
4	.10	.09	18	64	19	58	111	83	26	7.8	264	17
5	.10	.14	25	61	18	58	99	73	25	1080	1480	16
6	.09	.19	30	60	17	58	89	63	64	2560	1260	18
7	.08	.20	28	59	16	55	81	56	57	668	501	17
8	.08	.20	30	55	15	51	75	50	39	220	363	16
9	.07	.20	30	50	15	53	74	47	32	132	238	198
10	.07	.20	25	46	14	54	74	43	32	93	184	1540
11	.07	.20	21	42	15	50	95	39	237	2580	145	551
12	.06	.19	20	40	20	49	228	38	377	6220	116	205
13	.05	.19	18	39	29	47	386	83	228	3720	99	102
14	.04	.20	24	40	322	45	294	93	128	598	86	67
15	.03	.22	39	38	2340	43	214	77	87	364	75	49
16	.03	.42	31	34	1300	40	280	62	93	458	67	37
17	.03	1.0	28	32	542	38	323	58	69	2310	61	30
18	.02	1.7	33	31	378	74	484	57	52	1200	54	25
19	.01	2.1	28	29	282	250	825	61	42	420	48	21
20	.01	3.5	95	28	224	396	1530	68	36	293	44	26
21	.01	3.1	1100	27	185	274	2890	111	32	543	40	584
22	.01	4.2	821	27	158	212	1160	288	32	576	36	414
23	.01	6.9	361	28	139	175	666	161	25	479	33	158
24	.01	9.4	241	27	125	150	471	102	20	385	30	92
25	.02	6.3	183	27	113	136	346	75	18	458	28	64
26	.02	8.8	153	25	101	133	273	65	22	2730	26	52
27	.02	15	127	24	93	126	225	54	32	7500	24	593
28	.03	12	104	23	86	113	192	45	24	1610	23	409
29	.04	10	91	22	78	105	169	40	17	610	22	197
30	.04	9.8	82	22	---	136	150	36	15	463	20	122
31	.06	---	73	22	---	264	---	31	---	400	19	---
MEAN	.049	3.22	125	39.4	231	111	409	77.3	64.7	1249	209	189
MAX	.11	15	1100	68	2340	396	2890	288	377	7500	1480	1540
MIN	.01	.08	8.3	22	14	38	74	31	15	7.4	19	16
IN.	.00	.01	.34	.11	.59	.30	1.09	.21	.17	3.43	.57	.50

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	184	304	279	255	395	582	513	446	352	245	87.6	159
MEAN	184	304	279	255	395	582	513	446	352	245	87.6	159
MAX	3055	1794	1327	1063	2307	2275	2458	2969	1753	2229	641	1663
(WY)	1987	1986	1974	1949	1985	1973	1973	1961	1981	1958	1950	1951
MIN	.000	.000	.058	.12	.14	.23	4.09	39.1	4.52	.029	.000	.000
(WY)	1954	1954	1954	1954	1954	1954	1956	1988	1991	1954	1954	1953

SUMMARY STATISTICS

	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	71.6		226		316	
HIGHEST ANNUAL MEAN					731	
LOWEST ANNUAL MEAN					16.0	
HIGHEST DAILY MEAN	3050	Jan 16	7500	Jul 27	26200	Jul 17 1958
LOWEST DAILY MEAN	.00	Aug 23-30	.01	Oct 19-24	.00	Many Years
INSTANTANEOUS PEAK FLOW	--		9170	Jul 27	37000	Jul 17 1958
INSTANTANEOUS PEAK STAGE	--		21.30	Jul 27	27.35	Jul 17 1958
INSTANTANEOUS LOW FLOW	--		.00	Oct 23-24	.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 23	.01	Oct 18	.00	Many Years
ANNUAL RUNOFF (INCHES)	2.31		7.33		10.21	
10 PERCENT EXCEEDS	129		465		648	
50 PERCENT EXCEEDS	15		50		69	
90 PERCENT EXCEEDS	.08		.17		1.0	

OSAGE RIVER BASIN

06919900 SAC RIVER NEAR CAPLINGER MILLS, MO

LOCATION.--Lat 37°52'12", long 93°48'11", in NW 1/4 NE 1/4 SW 1/4 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 5.0 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 sea level.

REMARKS.--Estimated daily discharges: Aug. 21-24. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	983	177	242	144	219	1600	278	100	119	3570	1840
2	60	1140	1390	238	143	205	1450	249	98	2440	3720	1770
3	66	711	863	228	138	195	989	220	98	1460	3740	2550
4	127	2270	308	219	134	187	248	199	102	134	3810	2270
5	100	2170	216	209	1250	188	215	179	100	1880	5030	673
6	80	3040	204	219	268	193	1340	165	118	3740	6240	116
7	73	3260	188	927	133	185	1040	153	128	1440	4300	171
8	69	2700	181	213	553	174	1240	144	677	1880	3780	999
9	67	1860	173	1270	314	445	277	254	1490	770	3800	1770
10	639	1090	158	1380	614	1580	698	1580	1140	1540	3920	3330
11	84	111	149	1310	241	2090	303	1340	1210	3570	3720	871
12	67	756	155	190	148	1410	319	881	1230	7380	3660	387
13	62	680	252	178	185	1130	1630	1450	1140	5660	3540	2690
14	62	991	205	177	755	353	664	236	328	2250	3550	2820
15	60	259	200	167	4430	160	376	392	699	3390	3310	3420
16	58	104	179	1160	2470	1130	469	1820	2430	3360	3160	3220
17	60	178	168	279	1210	353	524	179	1230	5650	3150	2440
18	62	612	165	171	2220	803	760	156	963	4480	1820	1180
19	60	293	154	163	1330	1800	1230	1000	1140	3710	879	127
20	60	1710	625	159	1740	1540	2220	471	167	4010	842	133
21	60	2190	3310	159	1870	665	5070	229	143	3890	820	2940
22	62	1850	1820	159	558	423	2890	432	141	4200	800	2380
23	64	2240	1050	165	389	350	1760	287	471	3750	1000	2720
24	69	1450	759	376	849	802	853	203	1450	3870	2500	1700
25	69	1090	583	223	1500	975	646	166	159	3410	2740	1930
26	70	887	480	158	1420	410	521	609	132	6780	2320	1650
27	71	154	417	155	913	259	432	272	124	9880	1260	1180
28	73	132	356	151	265	232	382	129	115	3880	1780	985
29	77	132	323	149	238	224	341	118	103	3580	1540	2160
30	75	200	290	146	---	291	311	111	96	4090	1520	1550
31	92	---	255	146	---	1790	---	104	---	3890	2540	---
MEAN	89.0	1175	508	358	911	670	1027	452	584	3551	2850	1732
MAX	639	3260	3310	1380	4430	2090	5070	1820	2430	9880	6240	3420
MIN	58	104	149	146	133	160	215	104	96	119	800	116
IN.	.06	.72	.32	.23	.54	.43	.63	.29	.36	2.26	1.82	1.07

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
MEAN	1203	1151	1623	1442	1769	2378	2518	2124	1736	1266	956	995
MAX	11070	4069	5838	3683	5202	5630	5394	5628	5232	3551	2850	1732
(WY)	1987	1986	1986	1985	1985	1985	1985	1990	1990	1992	1992	1992
MIN	61.1	66.7	56.6	53.5	101	82.7	76.3	278	241	170	77.3	103
(WY)	1981	1981	1981	1981	1981	1981	1981	1981	1991	1988	1991	1991

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	767	1161	1595
HIGHEST ANNUAL MEAN			2691
LOWEST ANNUAL MEAN			399
HIGHEST DAILY MEAN	5920	Jan 16	9880
LOWEST DAILY MEAN	53	Aug 22, 28	58
INSTANTANEOUS PEAK FLOW	--		10900
INSTANTANEOUS PEAK STAGE	--		19.17
INSTANTANEOUS LOW FLOW	--		55
ANNUAL SEVEN-DAY MINIMUM	54	Aug 17	60
ANNUAL RUNOFF (INCHES)	5.75		8.73
10 PERCENT EXCEEDS	2300		3400
50 PERCENT EXCEEDS	252		555
90 PERCENT EXCEEDS	61		104
			89
			44
			30.00
			60000
			51200
			1977
			1985
			1986
			1980
			1986
			1986
			1980
			1980

OSAGE RIVER BASIN

06921070 POMME DE TERRE RIVER NEAR POLK, MO

LOCATION.--Lat 37°40'56", long 93°22'12", in NE 1/4 NW 1/4 NW 1/4 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.

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

GAGE.--Water-stage recorder. Datum of gage is 872.61 ft above sea level.

REMARKS.--Estimated daily discharges: Dec. 20-23. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	285	385	174	93	117	102	84	36	21	63	15
2	7.9	259	286	168	89	113	96	77	35	20	83	15
3	59	119	737	168	85	108	92	71	36	21	90	15
4	27	80	542	162	81	105	90	65	53	21	74	15
5	21	62	387	148	78	117	86	59	104	680	870	13
6	17	52	319	143	75	114	81	54	71	434	438	13
7	13	45	273	137	72	110	76	51	55	150	171	13
8	11	39	233	129	69	109	75	47	46	96	127	13
9	11	35	194	120	66	108	106	46	49	69	100	15
10	11	32	164	110	64	107	289	44	294	52	86	32
11	11	29	147	103	65	105	132	42	848	277	71	32
12	11	27	158	102	84	100	109	68	364	115	59	32
13	11	26	203	100	121	99	103	99	198	67	51	30
14	13	25	190	104	3310	95	98	84	137	50	45	26
15	13	25	157	108	1560	91	91	65	112	42	40	21
16	13	25	140	99	751	87	98	56	99	141	36	19
17	12	526	129	93	541	84	111	53	82	169	32	16
18	13	968	117	97	468	130	554	101	66	77	29	15
19	17	401	106	93	365	488	290	129	55	56	28	14
20	21	533	800	93	283	285	271	128	48	50	26	139
21	23	991	1500	94	236	209	416	106	41	368	23	183
22	21	464	800	101	209	180	236	90	36	150	21	130
23	22	310	650	120	191	158	187	84	33	125	20	90
24	28	223	475	130	176	139	155	78	30	93	19	57
25	29	175	390	122	163	130	132	66	32	73	18	44
26	29	147	321	113	151	122	118	58	32	218	16	58
27	29	129	275	108	141	113	108	51	31	380	16	98
28	32	115	244	105	133	105	100	47	27	133	14	63
29	37	105	234	105	124	102	94	43	25	95	20	43
30	83	503	216	100	---	103	90	41	23	82	21	36
31	86	---	192	97	---	105	---	38	---	77	16	---
MEAN	23.9	225	354	118	339	133	153	68.5	103	142	87.8	43.5
MAX	86	991	1500	174	3310	488	554	129	848	680	870	183
MIN	7.9	25	106	93	64	84	75	38	23	20	14	13
IN.	.10	.91	1.48	.49	1.33	.56	.62	.29	.42	.59	.37	.18

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	162	338	371	257	340	567	492	332	211	75.9	41.2	94.2
MAX	1094	1408	1488	822	1496	1673	1491	1341	1043	326	154	604	
(WY)	1987	1986	1983	1991	1985	1973	1983	1990	1981	1976	1985	1977	
MIN	8.88	9.94	8.94	10.8	42.5	61.6	26.8	41.5	15.9	4.16	2.72	1.70	
(WY)	1979	1990	1990	1977	1981	1981	1981	1977	1988	1980	1980	1980	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	248		148		273	
HIGHEST ANNUAL MEAN					532	
LOWEST ANNUAL MEAN					124	
HIGHEST DAILY MEAN	3800	Jan 15	3310	Feb 14	18500	Oct 1 1986
LOWEST DAILY MEAN	3.2	Aug 21	7.9	Oct 2	.30	Aug 10-15 1980
INSTANTANEOUS PEAK FLOW	--		8650	Feb 14	23100	Oct 1 1986
INSTANTANEOUS PEAK STAGE	--		13.79	Feb 14	23.08	Oct 1 1986
INSTANTANEOUS LOW FLOW	--		7.6	Oct 2-3	.30	Aug 10-15 1980
ANNUAL SEVEN-DAY MINIMUM	3.6	Aug 16	11	Oct 7	.34	Aug 9 1980
ANNUAL RUNOFF (INCHES)	12.22		7.32		13.44	
10 PERCENT EXCEEDS	628		313		550	
50 PERCENT EXCEEDS	105		93		85	
90 PERCENT EXCEEDS	7.9		20		10	

OSAGE RIVER BASIN

06921200 LINDLEY CREEK NEAR POLK, MO

LOCATION.--Lat 37°45'02", long 93°15'58", in NE 1/4 SE 1/4 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 sea level. Prior to Sept. 25, 1957, nonrecording gage at site 30 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records 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 OUTSIDE PERIOD OF RECORD.--Flood of September 1914 reached a stage of about 25.2 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	253	114	91	25	48	33	18	4.4	.61	4.2	.61
2	1.1	90	260	96	23	44	27	15	5.3	.61	70	.57
3	14	43	331	91	21	40	24	13	9.0	.61	42	.55
4	23	28	175	79	20	40	23	10	24	.61	9.9	.55
5	6.2	20	146	72	19	41	20	8.7	12	2.6	323	.55
6	4.6	16	132	68	18	37	18	7.6	5.5	11	172	.55
7	2.4	13	113	65	17	32	17	6.6	4.0	3.6	70	.53
8	1.9	10	96	60	16	27	16	6.0	3.0	1.5	41	.50
9	2.3	8.3	76	53	14	31	18	5.7	2.9	1.1	23	.51
10	1.9	7.5	62	46	13	31	18	5.2	24	.88	15	.55
11	1.6	7.0	54	41	16	24	16	4.8	27	1.6	10	1.0
12	1.7	6.8	97	41	51	21	15	8.0	11	16	7.0	2.2
13	1.6	6.4	116	43	74	20	14	14	6.1	2.9	4.9	1.5
14	2.2	6.4	82	50	2250	19	13	9.0	3.6	1.3	3.6	1.4
15	1.8	7.0	66	41	474	17	13	7.3	2.6	1.0	2.6	1.0
16	1.7	8.6	56	31	257	14	37	6.0	2.4	19	1.8	.84
17	1.8	484	50	31	216	14	71	5.3	3.8	27	1.4	.79
18	2.2	340	42	32	190	68	167	7.2	2.0	9.2	1.2	.73
19	2.4	172	35	29	162	97	110	8.3	1.4	4.8	1.0	.69
20	3.0	227	1480	29	143	67	140	65	1.1	2.6	.89	34
21	4.1	203	657	31	128	53	151	33	.88	140	.82	72
22	6.4	140	284	41	115	47	101	14	.80	96	.80	6.3
23	7.3	108	243	73	108	39	75	8.3	.75	99	.74	2.1
24	7.3	82	200	53	99	34	60	6.2	.73	29	.73	1.4
25	7.6	65	170	44	91	32	48	5.0	.71	13	.72	1.1
26	8.1	55	151	36	80	29	37	4.1	.67	9.5	.67	2.6
27	9.3	48	138	34	73	25	31	4.0	.67	23	.67	62
28	14	42	129	32	65	22	26	3.7	.67	12	.67	14
29	14	38	123	30	55	25	23	3.5	.66	5.7	.61	5.1
30	8.4	194	109	29	---	43	20	3.9	.61	4.6	.61	2.9
31	4.6	---	97	28	---	43	---	3.6	---	5.3	.61	---
MEAN	5.47	91.0	190	49.0	167	36.3	46.1	10.3	5.41	17.6	26.2	7.30
MAX	23	484	1480	96	2250	97	167	65	27	140	323	72
MIN	1.1	6.4	35	28	13	14	13	3.5	.61	.61	.61	.50
IN.	.06	.91	1.95	.50	1.61	.37	.46	.11	.05	.18	.27	.07

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	83.0	91.7	122	93.0	128	200	166	140	77.3	33.8	14.3	32.7
MAX	812	566	526	358	764	855	650	843	421	534	100	258	
(WY)	1987	1986	1983	1973	1985	1973	1983	1961	1985	1958	1958	1958	
MIN	.000	.037	.38	.75	1.49	16.9	4.86	8.23	.73	.081	.000	.000	
(WY)	1977	1964	1964	1964	1964	1981	1981	1988	1988	1980	1980	1960	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	82.0	53.8	97.9
HIGHEST ANNUAL MEAN			232
LOWEST ANNUAL MEAN			25.9
HIGHEST DAILY MEAN	1730	Jan 15	12000
LOWEST DAILY MEAN	.00	Aug 16-Sep 3	.00
INSTANTANEOUS PEAK FLOW	--		31900
INSTANTANEOUS PEAK STAGE	--		23.60
INSTANTANEOUS LOW FLOW	--		.00
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 16	.00
ANNUAL RUNOFF (INCHES)	9.94		11.88
10 PERCENT EXCEEDS	184		174
50 PERCENT EXCEEDS	31		24
90 PERCENT EXCEEDS	.29		.40

OSAGE RIVER BASIN

06921325 POMME DE TERRE LAKE NEAR HERMITAGE, MO

LOCATION.--Lat 37°54'06", long 93°19'05", in NE 1/4 sec.2, T.36 N., R.22 W., Hickory County, Hydrologic Unit 10290107, in intake tower at dam on Pomme de Terre River, 3.0 mi southwest of Hermitage.

DRAINAGE AREA.--611 mi².

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

GAGE.--Water-stage recorder. Nonrecording gage prior to Nov. 9, 1961. Datum of gage is sea level (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 ac-ft at elevation 874.0 ft, crest of spillway, of which 407,200 ac-ft between elevations 839.0 ft and 874.0 ft is used for flood control, and 228,700 ac-ft between elevation 783.0 ft and 839.0 ft is used for conservation and 12,840 ac-ft below elevation 783.0 ft is sediment storage. Lake is 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 ac-ft, Apr. 30, 1973, elevation, 862.35 ft; minimum, since initial filling to conservation pool level, 216,000 ac-ft, Mar. 3, 1964, elevation, 835.61 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 271,000 ac-ft, Feb. 18, elevation 843.14 ft; minimum, 234,000 ac-ft, Oct. 27, elevation, 838.59 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	838.85	838.89	839.84	841.14	839.29	841.00	841.52	841.52	841.10	839.64	839.00	839.09
2	838.83	839.03	839.82	840.97	839.29	840.97	841.49	841.42	841.09	839.57	839.00	839.07
3	838.94	839.07	840.00	840.80	839.32	840.99	841.46	841.35	841.10	839.59	839.02	839.05
4	838.97	839.08	840.17	840.61	839.32	841.03	841.40	841.26	841.12	839.57	839.04	839.03
5	838.98	839.11	840.20	840.42	839.32	841.08	841.36	841.15	841.11	839.67	839.03	839.07
6	838.97	839.12	840.19	840.23	839.35	841.12	841.31	841.06	841.12	839.78	839.42	839.00
7	838.97	839.10	840.17	840.03	839.35	841.14	841.27	841.01	841.12	839.80	839.55	838.98
8	838.97	839.10	840.15	839.84	839.36	841.16	841.22	841.01	841.11	839.79	839.62	838.96
9	838.95	839.10	840.06	839.64	839.36	841.19	841.19	841.00	841.10	839.72	839.64	838.95
10	838.94	839.10	840.02	839.43	839.35	841.15	841.20	840.99	841.11	839.65	839.65	839.00
11	838.93	839.10	839.96	839.33	839.37	841.14	841.18	840.97	841.19	839.68	839.65	838.99
12	838.90	839.09	839.83	839.24	839.53	841.08	841.18	840.99	841.34	839.72	839.64	838.97
13	838.88	839.09	839.92	839.13	839.58	841.06	841.15	840.99	841.35	839.68	839.64	838.94
14	838.85	839.07	839.87	839.12	839.67	841.06	841.11	841.02	841.32	839.55	839.61	838.92
15	838.83	839.08	839.81	839.07	842.14	841.06	841.07	841.03	841.29	839.47	839.60	838.90
16	838.80	839.14	839.74	839.07	842.65	841.07	841.04	841.03	841.19	839.33	839.57	838.89
17	838.78	839.29	839.65	839.03	842.88	841.05	841.07	841.04	841.08	839.42	839.54	838.87
18	838.76	839.87	839.57	839.03	843.14	841.14	841.12	841.05	840.97	839.37	839.52	838.85
19	838.72	840.05	839.47	839.05	843.05	841.39	841.28	841.05	840.84	839.26	839.51	838.83
20	838.70	840.10	839.45	839.07	842.84	841.57	841.37	841.08	840.71	839.13	839.47	838.84
21	838.68	840.21	841.34	839.06	842.59	841.64	841.61	841.18	840.57	839.10	839.45	838.98
22	838.66	840.33	841.91	839.08	842.34	841.65	841.73	841.21	840.42	839.07	839.41	839.02
23	838.64	840.34	842.13	839.12	842.06	841.67	841.77	841.22	840.27	839.22	839.40	839.03
24	838.62	840.29	842.15	839.16	841.79	841.66	841.80	841.21	840.13	839.17	839.35	839.02
25	838.61	840.22	842.14	839.21	841.50	841.65	841.81	841.21	840.04	839.08	839.33	839.01
26	838.61	840.14	842.02	839.20	841.20	841.63	841.79	841.20	839.97	839.02	839.31	839.00
27	838.59	840.05	841.89	839.21	841.02	841.60	841.76	841.18	839.90	839.06	839.26	839.08
28	838.59	839.99	841.75	839.21	840.94	841.55	841.73	841.17	839.83	839.05	839.23	839.10
29	838.62	839.88	841.62	839.24	840.95	841.53	841.66	841.14	839.75	838.96	839.21	839.09
30	838.61	839.82	841.45	839.27	---	841.55	841.58	841.12	839.69	839.06	839.14	839.09
31	838.63	---	841.29	839.28	---	841.55	---	841.11	---	839.01	839.11	---
MAX	838.98	840.34	842.15	841.14	843.14	941.63	841.81	841.52	841.35	839.80	839.65	839.10
MIN	838.59	838.89	839.45	839.03	742.65	840.97	841.04	840.97	839.69	838.96	839.00	838.83
(-)	234000	244000	256000	240000	253000	258000	258000	254000	243000	237000	238000	238000
(=)	-2000	+10000	+12000	-10000	+13000	+5000	0	-4000	-11000	-6000	+1000	0

CAL YR 1991. . . . +1000
WTR YR 1992. . . . +2000

(-) Contents, in acre-feet, at end of month.
(=) Change in contents, in acre-feet.

OSAGE RIVER BASIN

06921350 POMME DE TERRE RIVER NEAR HERMITAGE, MO

LOCATION.--Lat 37°54'20", long 93°19'45", in NW 1/4 NW 1/4 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 sea level.

REMARKS.--Estimated daily discharges: Oct. 4-10. Records good except for estimated daily discharges, which are poor. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	50	518	1010	94	101	293	406	92	250	98	100
2	47	48	518	1010	94	101	293	406	92	161	98	71
3	96	48	517	1000	95	102	295	406	93	93	98	44
4	2.5	48	517	1000	95	104	296	405	92	94	98	44
5	2.5	47	516	1000	95	105	297	405	93	186	98	44
6	2.5	47	516	1000	95	107	299	302	93	253	99	45
7	2.5	48	515	999	96	109	300	98	93	253	99	45
8	2.5	48	515	998	97	110	300	99	93	254	99	45
9	2.5	47	515	996	97	185	301	99	94	254	99	45
10	14	47	514	732	97	262	300	97	94	255	99	45
11	46	47	513	506	98	261	299	96	95	257	100	45
12	46	47	515	505	100	263	296	96	220	256	100	45
13	46	47	513	376	174	186	295	95	331	432	100	45
14	46	47	513	242	254	111	295	94	333	562	100	45
15	47	47	512	242	248	113	294	93	429	562	100	45
16	46	48	511	241	246	115	293	93	531	564	100	45
17	47	51	511	157	246	118	291	92	533	565	99	45
18	47	290	510	94	728	120	290	91	534	565	100	45
19	47	537	510	94	1520	112	287	91	534	565	99	45
20	47	534	527	93	1510	204	287	91	534	569	100	46
21	47	531	519	93	1500	298	283	91	534	564	99	45
22	47	529	518	93	1500	297	280	91	534	564	100	45
23	48	528	799	94	1500	295	279	91	534	563	99	45
24	48	527	1020	93	1490	294	278	91	535	562	100	45
25	49	523	1020	93	1490	294	278	91	379	562	100	45
26	49	522	1020	93	1230	294	277	91	245	565	100	46
27	48	521	1020	93	729	294	276	91	246	560	100	45
28	49	519	1010	93	375	294	352	92	247	559	100	45
29	49	519	1010	93	101	294	407	92	247	319	100	45
30	49	519	1010	93	---	294	406	92	176	100	100	45
31	50	---	1010	94	---	292	---	92	---	98	100	---
MEAN	39.3	247	653	430	552	198	301	150	289	386	99.4	47.7
MAX	96	537	1020	1010	1520	298	407	406	535	569	100	100
MIN	2.5	47	510	93	94	101	276	91	92	93	98	44
IN.	.07	.45	1.22	.81	.97	.37	.55	.28	.53	.72	.19	.09

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	247	503	679	497	605	871	867	846	509	316	96.7	108
MAX	1131	2872	2886	1878	2100	3487	2948	4799	2157	1635	480	613	
(WY)	1987	1987	1986	1988	1975	1985	1984	1961	1985	1981	1978	1970	
MIN	13.1	7.50	20.5	20.4	21.5	24.6	26.8	26.4	31.9	26.0	18.6	1.27	
(WY)	1969	1977	1963	1962	1963	1963	1963	1963	1969	1970	1961	1960	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	419		282		512	
HIGHEST ANNUAL MEAN					1163	1973
LOWEST ANNUAL MEAN					67.8	1963
HIGHEST DAILY MEAN	2010	Jan 17	1520	Feb 19	9000	May 9 1961
LOWEST DAILY MEAN	2.5	Oct 4-9	2.5	Oct 4-9	.00	Several Years
INSTANTANEOUS PEAK FLOW	---		1530	Feb 18	9000	May 9 1961
INSTANTANEOUS PEAK STAGE	---		6.82	Feb 18	15.02	May 9 1961
INSTANTANEOUS LOW FLOW	---		2.5	Oct 4-10	.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	4.1	Oct 4	4.1	Oct 4	.00	At Times
ANNUAL RUNOFF (INCHES)	9.25		6.24		11.31	
10 PERCENT EXCEEDS	1030		564		1880	
50 PERCENT EXCEEDS	88		109		103	
90 PERCENT EXCEEDS	46		46		43	

06921760 SOUTH GRAND RIVER NEAR CLINTON, MO

LOCATION.--Lat 38°22'16", long 93°51'23", in NW 1/4 SW 1/4 SE 1/4 sec. 1, T.41N., R.27W., Henry County, Hydrologic Unit 10290108 at right upstream end of bridge on State Highway 18, 4.4 mi west of Clinton and 5.4 mi downstream from Big Creek.

DRAINAGE AREA.--1,270 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 700.00 ft above sea level. Auxilliary water-stage recorder 3.3 mi upstream from base gage at same datum.

REMARKS.--Estimated daily discharges: Nov. 4-13 and Dec. 2, 4. Discharge is calculated using fall computations. because of backwater from Harry S. Truman Reservoir. Water-discharge records poor below 200 ft³/s and fair above. U.S. Army Corps of Engineers satellite telemeter at base and auxiliary gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	23	700	155	68	154	1350	458	66	62	220	81
2	28	34	374	146	66	140	790	392	62	54	185	79
3	32	100	216	135	66	122	515	342	63	44	188	71
4	358	70	175	142	64	113	390	294	65	50	186	64
5	248	60	150	154	62	108	327	255	64	58	157	65
6	123	55	114	155	61	194	274	219	75	58	132	66
7	86	50	101	156	60	398	244	196	75	95	125	69
8	66	45	98	155	57	424	230	175	85	74	108	99
9	54	42	96	142	64	344	196	153	73	76	117	247
10	49	40	94	126	61	234	181	134	63	85	118	190
11	38	38	91	107	59	196	172	136	71	241	108	152
12	30	38	97	102	62	162	976	131	114	226	101	137
13	33	36	137	95	60	148	1650	117	107	157	92	129
14	27	36	208	92	71	132	1140	115	129	136	87	106
15	27	36	190	87	391	124	674	112	124	145	81	85
16	28	38	158	89	857	117	565	136	121	202	82	84
17	30	43	126	86	686	109	919	162	115	177	85	77
18	25	296	107	81	706	111	900	156	110	194	83	76
19	24	589	94	77	808	752	874	138	96	180	83	81
20	25	380	94	74	630	1740	2370	127	92	170	80	90
21	26	272	668	72	450	1590	9700	115	82	180	77	144
22	30	223	1070	74	347	1070	14900	104	87	184	76	209
23	30	164	767	73	287	702	7000	96	69	177	75	168
24	30	141	654	77	250	507	3910	94	61	170	71	146
25	26	129	556	76	239	404	2500	92	53	165	59	134
26	25	113	427	78	231	352	1520	89	56	278	58	124
27	27	102	330	77	217	317	1070	83	68	897	83	122
28	30	96	265	75	189	276	836	79	71	642	184	119
29	25	104	226	73	166	232	662	74	69	359	138	85
30	21	359	205	71	---	765	541	69	64	273	108	78
31	25	---	180	68	---	1920	---	68	---	240	92	---
MEAN	53.3	125	283	102	253	450	1913	158	81.7	195	111	113
MAX	358	589	1070	156	857	1920	14900	458	129	897	220	247
MIN	21	23	91	68	57	108	172	68	53	44	58	64

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
MAX	272	458	1622	422	1249	4613	3798	5959	2998	644	1455	707
(WY)	1990	1990	1987	1990	1990	1990	1988	1990	1990	1987	1989	1989
MIN	46.4	92.0	69.0	102	116	65.1	425	116	33.8	195	45.7	29.0
(WY)	1989	1989	1990	1992	1989	1991	1989	1988	1988	1992	1988	1987

OSAGE RIVER BASIN

06921760 SOUTH GRAND RIVER NEAR CLINTON, MO--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--April 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 5,910 mg/L, Apr. 20, 1991; minimum daily mean 32 mg/L, Feb. 12, 1992.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 51,400 tons, May 7 1991; minimum daily 0 tons, several days.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,530 mg/L, Dec. 22; minimum daily mean, 32 mg/L Feb. 12.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 16,600 tons, Apr. 21; minimum daily, 2.8 tons, Oct. 30.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	27	85	6.2	23	53	3.3	700	800	1510
2	28	88	6.7	34	70	6.4	374	730	737
3	32	92	8.0	100	82	22	216	680	396
4	358	253	269	70	76	14	175	640	302
5	248	169	117	60	68	11	150	616	251
6	123	119	39	55	62	9.2	114	563	173
7	86	110	26	50	57	7.7	101	555	151
8	66	103	18	45	54	6.5	98	491	130
9	54	96	14	42	51	5.8	96	547	142
10	49	90	12	40	48	5.2	94	424	108
11	38	84	8.6	38	46	4.7	91	400	98
12	30	79	6.5	38	44	4.5	97	381	100
13	33	74	6.5	36	42	4.1	137	364	134
14	27	64	4.7	36	42	4.1	208	348	195
15	27	44	3.1	36	45	4.4	190	341	175
16	28	45	3.4	38	80	8.2	158	321	137
17	30	47	3.8	43	170	20	126	268	91
18	25	44	3.0	296	261	294	107	241	70
19	24	45	2.9	589	278	443	94	270	69
20	25	48	3.2	380	261	268	94	305	78
21	26	50	3.5	272	245	180	668	826	1890
22	30	48	3.9	223	243	145	1070	1530	4450
23	30	46	3.7	164	269	119	767	561	1200
24	30	45	3.6	141	268	102	654	244	432
25	26	44	3.1	129	265	92	556	231	346
26	25	46	3.1	113	235	72	427	202	232
27	27	51	3.7	102	173	47	330	213	189
28	30	51	4.1	96	169	44	265	207	148
29	25	46	3.1	104	168	43	226	195	119
30	21	49	2.8	359	400	387	205	178	98
31	25	46	3.1	---	---	---	180	163	79

OSAGE RIVER BASIN

06921760 SOUTH GRAND RIVER NEAR CLINTON, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	155	153	64	68	45	8.3	154	103	43
2	146	149	59	66	43	7.7	140	90	34
3	135	147	53	66	42	7.5	122	81	27
4	142	144	55	64	41	7.1	113	79	24
5	154	141	59	62	40	6.7	108	80	23
6	155	139	58	61	39	6.3	194	224	132
7	156	123	52	60	45	7.2	398	279	301
8	155	82	34	57	61	9.4	424	306	350
9	142	58	22	64	75	13	344	335	310
10	126	58	20	61	75	12	234	312	197
11	107	57	16	59	48	7.7	196	276	146
12	102	56	15	62	32	5.4	162	246	108
13	95	55	14	60	41	6.7	148	218	88
14	92	54	13	71	57	11	132	194	69
15	87	53	12	391	186	285	124	173	58
16	89	52	12	857	444	1030	117	153	48
17	86	52	12	686	267	499	109	136	40
18	81	51	11	706	212	402	111	121	36
19	77	50	10	808	175	381	752	221	574
20	74	50	10	630	206	349	1740	529	2490
21	72	50	9.7	450	198	241	1590	414	1790
22	74	50	10	347	183	171	1070	293	847
23	73	51	10	287	168	130	702	270	510
24	77	55	11	250	155	105	507	260	355
25	76	58	12	239	143	92	404	246	268
26	78	60	13	231	132	82	352	212	202
27	77	60	12	217	128	75	317	180	154
28	75	59	12	189	132	67	276	153	114
29	73	56	11	166	117	52	232	130	82
30	71	51	9.8	---	---	---	765	156	353
31	68	47	8.6	---	---	---	1920	256	1330
APRIL			MAY			JUNE			
1	1350	319	1160	458	201	249	66	235	42
2	790	298	636	392	136	144	62	238	40
3	515	278	387	342	137	126	63	240	41
4	390	260	274	294	150	119	65	243	43
5	327	242	214	255	101	70	64	245	43
6	274	226	167	219	86	51	75	248	50
7	244	211	139	196	94	50	75	250	51
8	230	197	122	175	103	48	85	253	58
9	196	184	97	153	112	46	73	252	49
10	181	171	84	134	123	44	63	241	41
11	172	152	71	136	134	49	71	231	44
12	976	315	986	131	146	52	114	221	68
13	1650	466	2080	117	160	51	107	212	61
14	1140	354	1100	115	172	53	129	203	70
15	674	278	508	112	173	52	124	198	66
16	565	236	361	136	212	79	121	206	67
17	919	274	682	162	299	131	115	214	66
18	900	227	551	156	296	124	110	223	66
19	874	311	754	138	294	110	96	232	60
20	2370	636	4360	127	285	98	92	241	60
21	9700	680	16600	115	264	82	82	239	53
22	14900	316	13000	104	244	68	87	202	48
23	7000	302	5670	96	225	58	69	170	32
24	3910	297	3140	94	207	53	61	142	23
25	2500	283	1900	92	197	49	53	119	17
26	1520	277	1140	89	206	49	56	106	16
27	1070	231	671	83	217	49	68	109	20
28	836	173	390	79	225	48	71	113	22
29	662	196	348	74	228	46	69	116	22
30	541	216	315	69	230	43	64	120	21
31	---	---	---	68	233	43	---	---	---

OSAGE RIVER BASIN

06921760 SOUTH GRAND RIVER NEAR CLINTON, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	62	124	21	220	248	147	81	217	48
2	54	128	19	185	188	94	79	174	37
3	44	126	15	188	150	76	71	145	28
4	50	110	15	186	120	60	64	164	28
5	58	96	15	157	109	46	65	186	33
6	58	83	13	132	107	38	66	199	35
7	95	73	19	125	82	28	69	180	34
8	74	63	13	108	94	27	99	198	53
9	76	56	12	117	110	35	247	222	149
10	85	60	14	118	122	39	190	148	76
11	241	395	297	108	123	36	152	146	60
12	226	452	278	101	164	45	137	147	54
13	157	318	136	92	260	64	129	147	51
14	136	193	71	87	210	49	106	148	42
15	145	207	81	81	200	44	85	149	34
16	202	219	118	82	195	43	84	149	34
17	177	141	67	85	182	42	77	150	31
18	194	134	70	83	163	37	76	152	31
19	180	124	60	83	168	37	81	153	33
20	170	114	53	80	173	37	90	155	38
21	180	114	55	77	177	37	144	167	66
22	184	135	67	76	177	36	209	206	116
23	177	160	77	75	177	36	168	202	91
24	170	183	84	71	177	34	146	196	77
25	165	189	84	59	177	28	134	190	69
26	278	565	608	58	173	27	124	184	62
27	897	1440	3470	83	182	43	122	178	59
28	642	514	930	184	190	94	119	173	56
29	359	273	267	138	192	72	85	168	38
30	273	196	145	108	200	58	78	162	34
31	240	173	111	92	208	52	---	---	---

OSAGE RIVER BASIN

06922075 TRIBUTARY TO MIDDLE FORK TEBO CREEK NEAR LEETON, MO

WATER-QUALITY RECORDS

LOCATION.--Lat. 38°32'41", long. 93°37'37", in SE 1/4 SW 1/4 SE 1/4 sec.36, T.44N., R.25W., Henry County, Hydrologic Unit 10290108, at bridge on County Highway 2, 5 mi southeast of Leeton.

PERIOD OF RECORD.--July 1989 to July 1992 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00300)	ALKA- LITY WAT WH TOT IT FIELD CACO3 MG/L AS (00419)	SULFATE DIS- SOLVED (MG/L) AS SO4 (00945)	IRON, DIS- SOLVED (UG/L) AS FE (01046)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN (01056)
OCT										
09...	1300	0.01	3570	2.9	19.5	6.0	65	--	3000	68000 190000
NOV										
04...	1400	0.01	3440	2.7	4.5	7.4	57	--	2500	54000 110000
DEC										
03...	1340	0.10	2870	2.8	3.0	11.2	83	--	2100	40000 40000
JAN										
09...	1530	0.10	2810	2.7	6.0	10.1	81	--	1600	51000 39000
FEB										
04...	0740	0.10	3240	2.7	5.0	7.4	57	--	2100	59000 55000
MAR										
03...	1510	0.10	2680	2.6	15.0	8.0	79	--	1900	47000 33000
APR										
07...	1520	0.08	954	7.4	14.5	12.7	125	72	--	-- --
MAY										
05...	1315	0.10	2090	3.1	19.5	6.4	69	--	1200	37000 17000
JUN										
12...	1030	0.10	1690	3.2	22.5	6.6	75	--	890	2500 5800
JUL										
09...	1300	0.01	2760	2.7	25.0	2.6	31	--	--	-- --

OSAGE RIVER BASIN

06922440 HARRY S. TRUMAN RESERVOIR AT WARSAW, MO

LOCATION.-- Lat 38°15'30", long 93°23'40", in NW 1/4 NE 1/4 sec.7, T.40 N., R.22 W., Benton County, Hydrologic Unit 10290105, in control room near middle of dam on Osage River, 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 are available from U.S. Army Corps of Engineers.

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

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 2,911,000 ac-ft (elevation 739.6 ft to 751.1 ft); of flood control pool 4,006,000 ac-ft (elevation 706.0 ft to 739.6 ft); and of multipurpose pool 1,203,000 ac-ft (elevation 635.0 ft to 706.0). Lake is used for flood control, hydroelectric power, recreation, and fish and wildlife enhancement.

COOPERATION.--Records were provided by the U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 5,020,000 ac-ft, Oct. 11, 12, 1986, elevation, 738.69 ft, Oct. 11, 1986; minimum, 41,700 ac-ft, Nov. 14, 1978, elevation, 661.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,421,000 ac-ft, July 31, elevation, 709.60 ft; minimum, 1,170,000 ac-ft, Nov. 6, elevation, 705.39 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
OBSERVATION AT 24:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	705.54	705.70	706.99	706.90	706.21	706.55	706.40	707.14	706.69	706.24	709.54	706.00
2	705.52	705.71	707.13	706.55	706.23	706.44	706.20	707.15	706.62	706.10	709.40	705.93
3	705.63	705.61	707.07	706.52	706.26	706.25	706.21	707.14	706.68	706.12	709.09	705.73
4	705.66	705.58	706.96	706.59	706.26	706.16	706.30	707.00	706.66	706.25	708.58	705.67
5	705.63	705.50	706.85	706.66	706.19	706.05	706.39	706.87	706.63	706.35	708.02	705.68
6	705.63	705.39	706.86	706.69	706.22	706.10	706.39	706.77	706.81	706.52	707.67	705.75
7	705.61	705.46	706.90	706.60	706.17	706.19	706.51	706.74	706.96	706.68	707.24	705.78
8	705.59	705.48	706.92	706.51	706.17	706.38	706.42	706.55	706.70	706.89	706.94	705.78
9	705.58	705.53	706.86	706.20	706.20	706.12	706.29	706.10	706.50	707.07	706.63	705.65
10	705.60	705.60	706.83	705.79	706.24	705.94	706.32	706.18	706.34	707.38	706.41	705.84
11	705.60	705.61	706.87	705.88	706.24	705.93	706.41	706.14	706.36	707.72	706.44	706.06
12	705.59	705.63	706.98	705.93	706.28	705.96	706.51	706.12	706.56	708.17	706.47	706.24
13	705.62	705.66	707.02	706.03	706.29	705.96	706.46	706.12	707.00	708.50	706.48	706.00
14	705.57	705.70	706.61	706.02	706.72	706.02	706.43	706.17	707.43	708.67	706.47	705.70
15	705.55	705.75	706.56	705.96	707.14	706.07	706.50	706.12	707.49	708.79	706.52	705.73
16	705.55	705.78	706.53	705.96	707.49	706.04	706.51	706.21	707.49	708.97	706.58	705.67
17	705.52	705.96	706.47	705.97	707.66	706.00	706.60	706.25	707.40	709.04	706.56	705.75
18	705.49	706.00	706.29	706.00	707.91	706.06	706.82	706.30	707.18	708.89	706.58	705.80
19	705.48	706.10	706.17	706.04	707.81	706.14	707.19	706.27	707.10	708.86	706.51	705.78
20	705.48	706.20	706.60	706.04	707.71	706.32	707.78	706.38	707.04	708.73	706.47	705.97
21	705.48	706.33	707.01	706.05	707.53	706.70	708.25	706.45	707.08	708.60	706.38	705.76
22	705.46	706.52	707.40	706.13	707.46	706.95	708.72	706.51	706.90	708.51	706.33	705.83
23	705.46	706.57	707.59	706.14	707.30	707.01	709.07	706.54	706.66	708.42	706.26	705.95
24	705.52	706.64	707.58	706.10	707.10	706.87	709.16	706.58	706.50	708.14	705.89	706.04
25	705.49	706.64	707.68	706.11	706.93	706.76	709.16	706.64	706.50	708.05	705.94	706.10
26	705.50	706.75	707.74	706.14	706.83	706.61	709.09	706.64	706.57	708.93	706.03	706.22
27	705.49	706.75	707.55	706.15	706.61	706.39	708.85	706.68	706.63	709.39	706.05	706.27
28	705.51	706.80	707.55	706.13	706.47	706.24	708.32	706.68	706.67	709.52	706.03	706.33
29	705.51	706.97	707.57	706.15	706.51	706.16	707.81	706.67	706.58	709.58	706.03	706.35
30	705.46	706.90	707.22	706.19	---	706.21	707.44	706.68	706.55	709.59	706.05	706.28
31	705.68	---	706.82	706.19	---	706.36	---	706.69	---	709.60	705.91	---
MAX	705.68	706.97	707.74	706.90	707.91	707.01	709.16	707.15	707.49	709.60	709.54	706.35
MIN	705.46	705.39	706.17	705.79	706.17	705.93	706.20	706.10	706.34	706.10	705.89	705.65
(-)	1186000	1254000	1250000	1214000	1232000	1224000	1286000	1242000	1234000	1421000	1198000	1219000
(=)	+7000	+68000	-4000	-36000	+18000	-8000	+62000	-44000	-8000	+187000	-223000	+21000

CAL YR 1991. . . .+31000

WTR YR 1992. . . .+40000

(-) Contents, in acre-feet, 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", NE ¼ SW ¼ 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 sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. Records are fair for discharges above 500 ft³/s and poor for those below. 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.

COOPERATION.--For discharge below 500 ft³/s and days of no acoustic velocity meter record, data were provided by the U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	1060	0	0	0	0	6790	11100	296	8420	23800	500
2	0	0	0	11700	0	3900	11500	3870	2150	9210	23800	3930
3	0	2190	5300	2150	0	5740	4210	4030	1160	250	23800	6270
4	0	2140	4000	0	813	3580	183	6010	7060	250	24200	3940
5	0	4180	4850	0	2580	3460	183	5960	10700	250	24500	500
6	0	4360	1410	2690	671	0	1210	5120	5340	9140	24600	500
7	0	2740	0	5320	992	821	183	1890	0	10300	22800	883
8	0	1500	0	6120	0	817	5370	7030	11700	10400	16200	500
9	0	0	3640	10100	0	11200	6120	13300	7730	10200	16700	7270
10	0	0	642	12000	0	8130	454	0	8980	15200	10200	500
11	0	0	0	0	304	3120	183	2140	7610	11100	4220	500
12	0	0	0	0	1390	2020	183	3900	8590	12100	4740	500
13	0	0	1900	0	0	2010	4560	1130	1420	15700	4340	10600
14	0	0	10700	317	0	0	4950	0	0	17100	4640	11500
15	0	0	1380	2770	476	0	2180	3380	9430	16100	2150	2090
16	0	0	4110	1410	0	3200	4300	0	7070	17500	1720	4770
17	0	0	1840	0	1000	1380	4810	0	10400	19500	4630	500
18	0	0	5870	0	2190	3530	2620	0	10700	24200	2300	500
19	0	0	4420	0	6620	3760	183	1210	4540	24200	3010	500
20	0	0	1870	0	8170	3090	11500	1240	4800	24400	1600	500
21	0	1110	0	0	9120	183	16700	0	250	24100	2970	7680
22	0	0	0	0	7100	183	23100	329	8610	21600	2010	1020
23	0	0	4130	0	6930	3550	22900	2100	9210	15400	2440	500
24	0	0	6090	1580	8640	8440	22800	1200	5420	18300	11400	638
25	0	217	0	0	8610	7060	22700	758	1690	18000	625	369
26	0	1170	1870	0	5830	8380	23000	725	250	14200	500	250
27	0	0	8810	0	7980	9320	23700	0	250	19200	818	250
28	0	0	3430	1320	7180	11100	24300	547	250	23400	2310	976
29	117	0	875	0	0	8650	21100	891	2500	21500	1840	2720
30	1020	0	12500	0	---	3920	15100	0	1480	23400	834	2130
31	0	---	13200	0	---	4660	---	0	---	23700	7320	---
MEAN	36.7	689	3317	1854	2986	4039	9569	2512	4986	15430	8936	2443
MAX	1020	4360	13200	12000	9120	11200	24300	13300	11700	24400	24600	11500
MIN	0	0	0	0	0	0	183	0	0	250	500	250

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	8429	9790	12320	7810	9350	14790	16650	13900	11450	7849	4057	2796
MAX	52090	42250	36740	20340	20050	44920	32720	35940	31450	17550	9064	5836	
(WY)	1987	1987	1986	1985	1982	1985	1984	1983	1983	1982	1982	1989	
MIN	36.7	689	1558	1854	2986	1648	2432	2512	585	551	367	196	
(WY)	1992	1992	1991	1992	1992	1991	1991	1992	1988	1991	1991	1991	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	2554	4746	9935
HIGHEST ANNUAL MEAN			17280
LOWEST ANNUAL MEAN			2516
HIGHEST DAILY MEAN	22500	May 31	71100
LOWEST DAILY MEAN	0	Many Days	0
		Aug 6	Oct 29 1986
		Many Days	Most Years

OSAGE RIVER BASIN

06923250 NIANGUA RIVER AT WINDYVILLE, MO

LOCATION.--Lat 37°41'03", long 92°55'27", in NW 1/4, SE 1/4, NE 1/4, sec.8, T.34 N., R.18 W., Dallas County, Hydrologic Unit 10290110, at bridge on State Highway K, 2.0 mi south of Windyville and 0.3 mi above Fourmile Creek.

DRAINAGE AREA.--377 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 24, 1991 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 900 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Water-discharge records good.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

[illegible]

OSAGE RIVER BASIN

06923250 NIANGUA RIVER AT WINDYVILLE, MO--Continued

LOCATION.--Lat 37°41'03", long 92°55'27", in NW 1/4 SE 1/4 NE 1/4, sec.8, T.34 N., R.18 W., Dallas County, Hydrologic Unit 10290110, at bridge on State Highway K, 2.0 mi south of Windyville and 0.3 mi above Fourmile Creek.

DRAINAGE AREA.--377 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 24, 1991 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 900 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Water-discharge records good.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	741	530	254	128	174	177	118	71	56	45	30
2	29	394	537	247	124	165	164	112	70	53	45	33
3	64	216	1160	250	119	159	155	106	90	58	47	32
4	72	152	681	244	114	165	149	98	682	56	47	30
5	59	121	500	228	111	194	144	92	352	78	210	28
6	49	103	431	219	109	183	136	86	237	106	565	27
7	43	91	378	211	106	186	130	82	183	124	232	27
8	39	82	334	202	102	179	127	79	152	82	151	29
9	37	74	291	189	98	175	125	79	133	65	112	32
10	36	69	258	177	97	176	257	78	566	56	91	36
11	34	66	235	167	98	172	206	79	1090	65	78	34
12	33	64	246	162	109	162	165	92	640	69	68	31
13	32	60	268	162	129	157	150	135	428	65	59	29
14	32	58	251	167	2410	151	141	153	311	64	53	28
15	32	56	219	165	2110	144	133	121	249	65	49	28
16	32	60	201	155	872	136	139	104	262	65	45	27
17	32	845	188	145	632	132	185	99	200	65	43	26
18	33	1270	174	143	588	275	385	174	162	65	41	25
19	32	564	160	139	492	866	341	239	137	66	39	25
20	32	1930	1040	135	411	553	280	222	118	58	38	50
21	33	1680	2910	135	358	431	264	203	105	56	36	93
22	33	768	1100	145	319	366	243	165	94	62	36	57
23	32	525	777	168	291	317	214	147	85	74	35	76
24	32	400	592	181	271	279	219	128	81	72	34	69
25	33	327	476	172	249	254	182	115	80	61	33	53
26	33	280	406	161	230	234	161	103	75	58	34	55
27	34	249	354	152	215	213	148	95	70	63	32	98
28	46	223	327	146	201	194	138	88	65	63	33	67
29	146	207	320	140	186	186	130	83	60	55	32	53
30	120	682	303	136	---	191	124	79	58	50	30	46
31	118	---	275	133	---	190	---	74	---	45	30	---
MEAN	46.5	412	514	175	389	237	184	117	230	65.8	78.2	42.5
MAX	146	1930	2910	254	2410	866	385	239	1090	124	565	98
MIN	29	56	160	133	97	132	124	74	58	45	30	25

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	46.5	412	514	175	389	237	184	117	230	65.8	51.2	43.0
MAX	46.5	412	514	175	389	237	184	117	230	65.8	78.2	43.5	
(WY)	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1991	1992
MIN	46.5	412	514	175	389	237	184	117	230	65.8	24.3	42.5	
(WY)	1992	1992	1992	1992	1992	1992	1992	1992	1992	1992	1991	1992	

SUMMARY STATISTICS

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	206		206	
HIGHEST ANNUAL MEAN			206	1992
LOWEST ANNUAL MEAN			206	1992
HIGHEST DAILY MEAN	2910	Dec 21	2910	Dec 21 1991
LOWEST DAILY MEAN	25	Sep 18	20	Aug 20 1991
INSTANTANEOUS PEAK FLOW	4700	Feb 14	4700	Feb 14 1992
INSTANTANEOUS PEAK STAGE	10.44	Feb 14	10.44	Feb 14 1992
INSTANTANEOUS LOW FLOW	24	Sep 17-20	18	Aug 21-22 1991
ANNUAL SEVEN-DAY MINIMUM	27	Sep 13	21	Aug 16 1991
10 PERCENT EXCEEDS	416		361	
50 PERCENT EXCEEDS	129		98	
90 PERCENT EXCEEDS	33		28	

OSAGE RIVER BASIN

06923250 NIANGUA RIVER AT WINDYVILLE, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1991 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (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-TOCOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
OCT											
07...	1300	42	380	8.2	14.5	9.4	91	K30	56	<0.010	<0.010
NOV											
06...	1040	104	351	8.1	5.0	11.7	90	330	320	0.010	<0.010
12...	1545	62	435	8.1	5.5	11.2	89	K120	86	0.010	0.010
DEC											
04...	1500	605	248	7.7	4.5	11.2	85	2800	3000	0.010	0.020
JAN											
07...	1330	214	326	7.8	9.0	11.9	102	40	57	<0.010	<0.010
16...	1415	130	332	8.2	1.5	14.8	104	K2	K4	<0.010	<0.010
MAR											
02...	1315	163	320	8.4	12.5	12.2	113	28	K3	<0.010	<0.010
APR											
07...	1100	127	341	8.3	12.5	9.5	89	28	K10	<0.010	<0.010
MAY											
12...	1230	89	363	7.6	19.5	6.9	76	220	81	0.010	<0.010
JUN											
10...	1625	608	304	7.8	21.0	7.1	79	26000	15000	0.030	0.010
11...	1000	1750	279	7.9	20.0	7.1	77	35000	6200	0.020	0.010
11...	1200	1720	272	8.0	20.0	7.2	78	9600	14000	0.010	0.010
JUL											
08...	1115	83	359	7.9	25.5	6.0	73	100	64	0.010	<0.010
21...	1310	56	359	8.2	24.5	5.6	66	74	160	0.010	<0.010
AUG											
03...	1300	38	388	7.5	22.5	6.8	78	44	62	<0.010	0.010
SEP											
03...	1345	31	401	7.7	23.0	6.8	79	K28	42	<0.010	--

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

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
OCT										
07...	0.100	0.120	0.020	<0.010	<0.20	0.10	0.040	0.040	0.020	0.020
NOV										
06...	1.10	1.00	0.020	0.010	0.20	<0.20	0.060	0.030	0.040	0.020
12...	0.760	0.770	0.020	<0.010	<0.20	<0.20	0.050	0.050	0.030	0.030
DEC										
04...	1.40	1.40	0.040	0.040	0.40	0.20	0.110	0.070	0.060	0.040
JAN										
07...	1.20	1.20	<0.010	0.020	<0.20	<0.20	0.030	0.030	0.020	0.020
16...	0.940	0.980	<0.010	0.010	<0.20	<0.20	0.050	0.020	0.020	<0.010
MAR										
02...	0.520	0.610	0.010	0.020	<0.20	<0.20	0.010	<0.010	<0.010	<0.010
APR										
07...	1.30	0.077	0.020	0.020	<0.20	<0.20	<0.010	<0.010	0.010	<0.010
MAY										
12...	<0.050	<0.050	0.040	0.030	<0.20	0.20	0.030	<0.010	0.020	<0.010
JUN										
10...	0.420	0.310	0.090	0.040	0.40	0.50	0.130	0.120	0.140	0.070
11...	0.540	0.540	0.040	0.050	0.70	0.30	0.120	0.040	0.070	0.070
11...	0.480	0.480	0.050	0.030	0.60	0.30	0.100	0.040	0.070	0.060
JUL										
08...	0.320	0.290	0.060	0.050	0.20	<0.20	0.060	0.050	0.070	0.050
21...	0.260	0.270	0.050	0.050	0.40	<0.20	0.090	0.080	0.060	0.060
AUG										
03...	0.210	0.260	0.040	0.040	<0.20	0.40	0.060	0.050	0.050	0.050
SEP										
03...	0.096	--	0.050	--	0.30	--	0.070	--	0.040	--

OSAGE RIVER BASIN

06923500 BENNETT SPRING AT BENNETT SPRINGS, MO

LOCATION.--Lat 37°43'03", long 92°51'26", in NW 1/4 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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1916 to March 1920, October 1928 to September 1941, and October 1965 to current year. Prior to March 1920 and from October 1939 to September 1941 monthly discharge only published in WSP 1310. Occasional discharge measurements 1923, 1964 and 1965.

GAGE.--Water-stage recorder. Prior to May 26, 1987, nonrecording gage. Datum of gage 864.71 ft above sea level. 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; Dec. 14, 1934 to Sept. 17, 1941, water-stage recorder at present site and datum; and Sept 18, 1941 to May 25, 1987, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Mar. 27 to Apr. 13 and Sept. 7-20. Water-discharge records fair. Occasional runoff from drainage area of 42.4 mi² included in records.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	304	275	232	161	197	166	170	145	138	126	121
2	125	273	272	229	161	190	164	170	143	137	126	121
3	133	212	333	225	160	185	162	168	156	137	127	122
4	140	183	315	221	159	184	160	166	178	135	125	121
5	133	167	292	215	159	184	158	166	171	140	127	121
6	128	157	274	208	159	188	156	164	163	140	134	120
7	127	147	263	203	158	187	154	165	157	137	130	120
8	128	142	251	199	157	182	154	165	154	134	128	120
9	131	138	233	195	156	182	154	167	151	133	127	120
10	129	135	221	187	155	191	170	166	170	133	127	122
11	131	132	213	183	155	194	165	166	186	134	126	124
12	131	129	209	181	157	193	163	169	189	134	125	122
13	132	127	210	181	161	189	161	170	185	132	125	120
14	131	125	200	179	383	184	161	165	177	131	124	120
15	129	124	192	173	510	182	160	163	169	131	123	120
16	129	123	188	169	400	181	159	160	163	131	123	120
17	130	192	184	168	358	181	162	176	158	132	123	120
18	129	344	179	166	365	176	179	214	156	129	123	118
19	127	304	175	164	342	171	186	201	154	128	123	118
20	127	407	223	163	315	170	192	188	152	128	123	124
21	129	406	492	163	297	168	194	183	150	156	122	122
22	131	352	421	166	280	175	188	176	147	144	121	113
23	131	309	376	170	268	174	182	168	147	139	121	110
24	131	274	343	169	254	168	191	162	147	134	119	109
25	131	252	312	168	240	163	192	158	147	131	119	108
26	132	230	289	165	230	161	186	155	144	129	119	108
27	133	215	270	165	220	161	181	152	142	129	122	113
28	134	203	260	162	214	160	179	150	140	128	123	106
29	150	194	257	161	206	160	177	149	139	127	123	105
30	151	278	252	161	---	170	175	148	139	127	122	105
31	146	---	241	161	---	168	---	147	---	127	121	---
MEAN	132	219	265	182	239	178	171	167	157	134	124	117
MAX	151	407	492	232	510	197	194	214	189	156	134	124
MIN	125	123	175	161	155	160	154	147	139	127	119	105
IN.	1.52	2.45	3.06	2.10	2.58	2.05	1.91	1.93	1.76	1.54	1.43	1.31

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	134	155	169	163	186	231	252	240	189	144	126	119
MEAN	134	155	169	163	186	231	252	240	189	144	126	119
MAX	578	508	436	337	447	712	504	488	704	262	193	224
(WY)	1987	1973	1983	1991	1985	1973	1973	1929	1935	1935	1940	1970
MIN	81.3	76.0	78.9	78.6	81.3	85.2	84.8	92.3	85.0	79.7	77.5	73.6
(WY)	1938	1938	1938	1940	1934	1936	1936	1934	1936	1934	1936	1937

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	211	174	176
HIGHEST ANNUAL MEAN			296
LOWEST ANNUAL MEAN			93.4
HIGHEST DAILY MEAN	581	Apr 19	6350
LOWEST DAILY MEAN	123	Nov 16	55
INSTANTANEOUS PEAK FLOW	--		14400
INSTANTANEOUS PEAK STAGE	--		11.1
INSTANTANEOUS LOW FLOW	--		55
ANNUAL SEVEN-DAY MINIMUM	127	Aug 28	58
10 PERCENT EXCEEDS	333		286
50 PERCENT EXCEEDS	182		135
90 PERCENT EXCEEDS	130		90

OSAGE RIVER BASIN

06923500 BENNETT SPRING AT BENNETT SPRINGS, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1991 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (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- TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
OCT											
07...	1140	125	376	7.3	14.0	7.4	71	92	88	<0.010	<0.010
NOV											
06...	0910	157	375	7.4	13.5	7.4	70	150	180	<0.010	<0.010
12...	1145	130	413	7.5	13.5	7.6	73	250	320	<0.010	<0.010
DEC											
04...	1320	129	278	7.2	13.5	7.2	68	94	82	<0.010	<0.010
JAN											
07...	1200	203	282	7.1	13.5	8.2	78	49	56	<0.010	<0.010
16...	1115	169	300	7.3	13.0	9.8	91	K19	35	<0.010	<0.010
FEB											
03...	0930	160	340	7.4	13.5	7.8	74	K6	K3	<0.010	<0.010
MAR											
02...	1145	190	268	7.2	13.5	7.9	75	K18	96	<0.010	<0.010
APR											
07...	1000	154	335	7.4	13.0	7.8	74	K16	--	<0.010	<0.010
MAY											
07...	1215	165	352	7.2	14.5	9.0	87	220	41	<0.010	<0.010
12...	1030	170	355	7.4	13.0	8.6	82	58	35	<0.010	<0.010
JUN											
10...	1730	170	357	7.3	14.0	7.4	72	280	100	<0.010	<0.010
JUL											
08...	1210	134	359	7.4	13.5	8.8	84	51	84	<0.010	<0.010
21...	1035	156	362	7.5	14.0	7.9	75	23	K16	<0.010	<0.010
AUG											
03...	1200	127	389	7.2	13.5	8.6	82	130	100	<0.010	0.050
SEP											
03...	1500	122	395	6.7	14.0	8.2	79	K18	30	--	<0.010

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

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO DIS- SOLVED (MG/L AS P) (00671)
OCT										
07...	1.30	1.40	0.010	<0.010	<0.20	<0.20	0.020	0.040	0.020	0.020
NOV										
06...	1.10	1.20	<0.010	<0.010	<0.20	<0.20	0.020	0.030	0.010	0.010
12...	1.30	1.30	0.010	<0.010	<0.20	<0.20	0.140	0.130	0.030	0.020
DEC										
04...	1.50	1.60	<0.010	0.020	<0.20	<0.20	0.030	0.020	0.020	<0.010
JAN										
07...	1.60	1.60	<0.010	0.010	<0.20	<0.20	0.020	0.050	0.030	0.020
16...	1.60	1.60	<0.010	<0.010	<0.20	<0.20	0.030	0.040	0.020	0.020
FEB										
03...	1.40	1.50	0.020	<0.010	<0.20	<0.20	0.020	0.010	0.020	0.010
MAR										
02...	1.50	1.40	<0.010	0.010	<0.20	<0.20	0.020	0.020	0.020	0.010
APR										
07...	--	1.30	0.06	0.050	<0.20	<0.20	<0.010	0.020	<0.010	0.020
MAY										
07...	1.20	1.10	0.010	0.010	<0.20	<0.20	0.030	0.010	0.020	0.010
12...	1.20	1.20	0.020	<0.010	<0.20	<0.20	<0.010	<0.010	0.020	0.010
JUN										
10...	1.10	0.66	0.020	0.030	<0.20	<0.20	<0.010	0.070	0.020	0.050
JUL										
08...	1.20	1.10	0.020	0.020	<0.20	<0.20	0.020	0.010	0.020	0.020
21...	1.20	1.30	0.010	0.010	<0.20	<0.20	0.030	0.040	0.010	0.020
AUG										
03...	1.30	1.30	0.010	0.020	<0.20	<0.20	<0.010	<0.010	0.020	0.020
SEP										
03...	--	1.10	--	0.030	--	0.40	--	<0.010	--	0.010

OSAGE RIVER BASIN

06925500 LAKE OF THE OZARKS NEAR BAGNELL, MO

LOCATION.--Lat 38°12'19", long 92°37'21", in SE 1/4 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 sea level 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 ac-ft between elevation 630.00 ft (maximum draw-down) and 660.00 ft (top of gates). Dead storage, 708,800 ac-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 ac-ft, May 22, 1943, elevation, 665.45 ft; minimum, 322,100 ac-ft, Feb. 13, 1948, elevation, 639.95 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,196,000 ac-ft, July 12, elevation, 659.82 ft; minimum, 856,000 ac-ft, Mar. 14, elevation, 653.17 ft.

MONTH END ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Date	Elevation (ft)	Contents (ac-ft)	Change in contents (ac-ft)
Sept. 30	657.99	1,103,900	-----
Oct. 31	657.78	1,092,000	- 11,900
Nov. 30	659.17	1,170,000	+ 78,000
Dec. 31	658.93	1,157,000	- 13,000
CAL YR 1991	-----	-----	- 17,400
Jan. 31	656.57	1,027,000	-130,000
Feb. 29	653.77	885,000	-142,000
Mar. 31	655.18	955,000	+ 70,000
Apr. 30	657.11	1,056,000	+101,000
May 31	658.25	1,118,000	+ 62,000
June 30	659.25	1,175,000	+ 57,000
July 31	658.88	1,154,000	- 21,000
Aug. 31	658.92	1,156,000	+ 2,000
Sept. 30	657.83	1,095,000	- 61,000
WTR YR 1992	-----	-----	- 8,900

OSAGE RIVER BASIN

06926000 OSAGE RIVER NEAR BAGNELL, MO

LOCATION.--Lat 38°11'29", long 92°36'26", in NW 1/4 NE 1/4 SE 1/4 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 sea level (levels by Missouri State Highways 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.--Estimated daily discharges: Nov. 17, 21, Nov. 30 to Jan. 2, Jan. 15, 16, May 17, 18, and June 19-23. Records fair. Several observations of water temperature and specific conductance were made during the year. Flow regulated by Lake of the Ozarks (station 06925500), 1.3 mi upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximim stage prior to 1943, 43.1 ft in June 1844 (former site and datum), discharge, 164,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	544	674	484	484	467	434	8280	12800	773	2160	21700	5030
2	2580	541	484	12000	440	425	8840	5240	460	3590	15200	2310
3	1130	1740	5500	13800	443	429	9400	915	466	1470	22600	3590
4	2080	5100	11700	5440	3950	434	1640	3340	448	699	28700	7900
5	758	1490	9400	1220	14000	3280	555	10300	4790	689	27400	2360
6	479	1730	3400	5320	3110	9380	8360	8900	1370	4100	25500	953
7	1590	1830	484	6160	5260	1870	9700	887	457	9240	28600	660
8	601	1770	484	2700	1310	780	6040	652	765	14300	14600	813
9	1130	2340	4000	3560	436	9080	2150	478	4550	17300	12700	6020
10	567	607	1300	5930	1830	11900	933	455	10100	15800	11600	3180
11	945	462	5900	2260	4020	9840	511	3340	13400	20000	6880	1880
12	667	700	3500	666	8620	13000	608	1780	9660	1910	6110	722
13	490	1360	900	1900	7560	10500	7560	3320	2150	20800	6660	3280
14	455	610	1100	7980	14600	1900	11000	848	859	32600	6060	9500
15	431	472	1900	10300	3200	496	8240	1560	6980	30700	2000	11600
16	1050	831	6300	9000	512	1940	6540	1400	9820	22600	752	9980
17	468	683	6400	1540	451	468	1850	700	13400	18400	8440	13600
18	622	1260	6000	1160	8660	563	930	3300	8760	19100	8420	3490
19	507	2280	12800	1070	19000	723	729	1050	6000	9480	4040	629
20	480	3480	12600	1080	19100	2300	12300	516	600	18600	1060	743
21	727	4800	6600	2250	17400	509	14900	555	485	28800	725	7160
22	2990	7140	7800	7140	2020	592	21200	1010	600	20800	714	2360
23	623	2250	15100	16000	447	1420	23900	757	10200	24800	706	1010
24	442	2740	16500	12100	14700	10900	21900	516	8400	22000	5980	1010
25	496	3300	12000	3400	19300	4440	19100	435	11000	18700	9500	2360
26	693	1440	16300	686	18400	2950	4700	601	4220	20800	7060	1090
27	561	730	11600	793	18300	7700	14900	591	1720	30700	1700	922
28	483	484	1100	1250	15700	1030	24200	457	1430	22100	857	887
29	1480	484	484	2840	2130	461	23300	555	1020	27000	772	727
30	503	484	484	538	---	9520	14100	460	2120	21900	684	3680
31	472	---	6500	510	---	8220	---	445	---	29900	1150	---
MEAN	872	1794	6100	4551	7771	4112	9612	2199	4567	17130	9318	3648
MAX	2990	7140	16500	16000	19300	13000	24200	12800	13400	32600	28700	13600
MIN	431	462	484	484	436	425	511	435	448	689	684	629
IN.	.07	.14	.50	.37	.60	.34	.77	.18	.36	1.41	.77	.29

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	6464	7975	7178	7879	9663	13580	16850	15610	14660	8860	5163	5610
MAX	59310	45280	25590	26750	34720	57300	81050	92260	78160	96780	38810	54540	
(WY)	1942	1987	1983	1985	1949	1973	1927	1943	1935	1951	1927	1951	
MIN	471	538	717	586	535	359	452	516	515	492	508	486	
(WY)	1957	1957	1940	1940	1964	1931	1931	1956	1931	1931	1930	1954	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	4340	5975	9898
HIGHEST ANNUAL MEAN			24640
LOWEST ANNUAL MEAN			1046
HIGHEST DAILY MEAN	32500	May 13	212000
LOWEST DAILY MEAN	431	Oct 15	235
INSTANTANEOUS PEAK FLOW	---		34400
INSTANTANEOUS PEAK STAGE	---		17.13
INSTANTANEOUS LOW FLOW	---	3	415
ANNUAL SEVEN-DAY MINIMUM	573	Oct 14	506
ANNUAL RUNOFF (INCHES)	4.21		5.81
10 PERCENT EXCEEDS	12300		17700
50 PERCENT EXCEEDS	1360		2290
90 PERCENT EXCEEDS	515		484
			511

OSAGE RIVER BASIN

06926500 OSAGE RIVER NEAR ST. THOMAS, MO

LOCATION.--Lat 38°20'20", long 92°13'34", in SE 1/4 SW 1/4 sec.35, T.42 N., R.12 W., Cole County, Hydrologic Unit 10290111, on left bank 0.5 mi downstream from Sugar Creek, 2.5 mi south of St. Thomas and at mile 43.1.

DRAINAGE AREA.--14,500 mi², approximately.

PERIOD OF RECORD.--August 1931 to current year.

GAGE.--Water-stage recorder. Datum of gage is 528.06 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature and specific conductance were made during the year. Considerable regulation by Lake of the Ozarks (station 06925500) 38.6 mi upstream. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage prior to 1943, about 39.4 ft in June 1844.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	824	3450	1390	5420	797	1790	8190	11600	790	2840	23400	1370
2	623	2020	1220	2860	781	917	6600	9290	1030	2780	21200	5400
3	3230	1070	3060	11100	726	831	8980	3820	966	4770	18300	2210
4	1490	2940	6870	10800	718	804	6810	1520	1090	2340	27500	4130
5	2390	3800	10800	4330	7820	1150	1790	4960	1060	1710	26800	7540
6	1030	1630	7680	1870	11300	4680	2920	9880	5340	1690	25300	2290
7	788	1640	4000	6160	2820	7970	8750	5500	1840	6440	28400	1210
8	1370	1980	1560	5730	4960	1880	7320	1230	1080	12800	18500	1010
9	813	1830	1140	2740	1310	3220	5250	936	1260	15300	14300	1250
10	1050	2290	3720	4120	1020	10300	2780	812	6010	16400	11900	6660
11	720	903	1770	5560	1990	9500	1630	824	11000	20200	9570	3590
12	910	721	5540	2100	6090	10500	1120	3980	11100	12800	7360	1860
13	753	872	4150	1050	7290	11700	2450	2160	8560	7770	6400	1060
14	619	1310	1720	3200	11700	7240	8630	3320	2300	28300	6670	4970
15	539	877	1530	8570	20200	1930	9480	1320	1800	30100	6650	9390
16	522	724	3350	8350	3990	1250	7510	1740	7990	32700	2340	10400
17	921	1410	4980	7020	2080	2010	5080	1680	11300	16100	1410	10200
18	583	2700	6880	1730	3500	928	2360	1330	9570	21400	9310	11400
19	623	2200	6960	1250	16800	1020	1900	3380	8190	15700	7090	2700
20	572	3970	14300	1300	18000	1540	4340	1450	6610	10500	4120	1100
21	542	6050	15000	1320	16300	2550	14500	1010	1950	28400	1550	1280
22	878	5540	8700	2760	12300	1110	18200	1080	1140	20100	1100	8680
23	2730	6890	11200	12600	2080	1100	22200	1350	1590	25300	1050	2130
24	823	2370	14200	12500	5440	3410	21400	1130	8770	21400	1150	1180
25	558	3780	12500	9970	16900	9940	22200	985	9340	22700	8590	1150
26	564	3040	14600	2620	17900	3460	9380	833	10100	17600	9340	3050
27	668	1610	13100	1060	16900	4740	8200	902	3820	30400	5830	1320
28	677	1060	10500	1070	15900	5670	20800	944	2400	24000	1840	1100
29	775	856	2520	1900	11200	1390	22600	859	2080	26600	1180	1060
30	1460	1480	1220	2710	---	4070	15300	854	1750	24600	1060	952
31	773	---	968	919	---	10500	---	845	---	28300	977	---
MEAN	994	2367	6359	4667	8235	4165	9289	2630	4728	17160	10010	3721
MAX	3230	6890	15000	12600	20200	11700	22600	11600	11300	32700	28400	11400
MIN	522	721	968	919	718	804	1120	812	790	1690	977	952
IN.	.08	.18	.51	.37	.61	.33	.71	.21	.36	1.36	.80	.29

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	7089	8323	7850	8177	10280	14450	16740	15890	15100	9926	4862	5843
MAX	68630	45630	42600	27550	36660	60660	71820	92370	82990	103400	24850	57610	
(WY)	1987	1987	1986	1985	1975	1973	1973	1943	1935	1951	1950	1951	
MIN	550	628	781	640	684	798	626	715	924	706	620	564	
(WY)	1961	1957	1940	1940	1964	1954	1956	1932	1956	1956	1956	1956	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	4699	6195	10370
HIGHEST ANNUAL MEAN			24520
LOWEST ANNUAL MEAN			1237
HIGHEST DAILY MEAN	33800	May 16	215000
LOWEST DAILY MEAN	522	Oct 16	373
INSTANTANEOUS PEAK FLOW	--		216000
INSTANTANEOUS PEAK STAGE	--		43.8
INSTANTANEOUS LOW FLOW	--		346
ANNUAL SEVEN-DAY MINIMUM	615	Oct 15	426
ANNUAL RUNOFF (INCHES)	4.40		9.72
10 PERCENT EXCEEDS	12700		28900
50 PERCENT EXCEEDS	1930		4290
90 PERCENT EXCEEDS	784		708

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 38°25'18", long 92°12'31", in NW 1/4 NW 1/4 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.--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 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, and Aug. 11, 1980; minimum daily, 0.0°C, Jan. 21, 1978.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (PER- CENT 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)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV											
04...	1015	2223	247	7.6	6.5	21	10.5	82	3300	6000	160
JAN											
10...	0930	4568	300	7.7	6.5	3.5	11.0	87	K5	K3	160
MAR											
04...	1000	796	309	7.8	11.0	2.8	12.6	112	K5	K4	160
MAY											
04...	1400	6086	299	7.9	17.5	1.5	10.1	103	K1	K3	160
JUL											
06...	1200	6261	315	8.0	24.0	3.1	8.0	94	92	22	150
SEP											
04...	0730	4970	289	6.9	24.0	3.0	5.7	66	K16	K5000	140

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

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- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)
NOV											
04...	36	17	3.4	3.3	--	41	5.1	0.20	6.8	158	149
JAN											
10...	41	15	4.8	2.5	126	47	7.2	0.20	4.1	198	200
MAR											
04...	39	16	4.9	2.9	132	--	7.5	0.20	2.5	274	252
MAY											
04...	40	14	5.2	2.7	134	22	7.7	0.20	0.88	185	174
JUL											
06...	39	12	5.7	2.6	120	21	8.9	<0.10	2.3	171	164
SEP											
04...	38	9.9	7.0	3.2	118	28	8.7	0.20	4.3	162	172

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)
NOV 04...	0.21	948	<0.010	0.330	0.070	0.100	0.50	0.130	0.010	<0.010	1100
JAN 10...	0.27	2440	0.020	0.340	0.010	0.020	<0.20	0.030	<0.010	<0.010	130
MAR 04...	0.37	589	<0.010	0.240	0.030	0.020	0.30	0.020	<0.010	<0.010	--
MAY 04...	0.25	3040	<0.010	0.160	0.020	0.020	<0.20	0.020	0.010	0.020	<10
JUL 06...	0.23	2890	<0.010	0.160	0.050	0.040	0.30	0.030	<0.010	0.020	30
SEP 04...	0.22	2170	0.010	0.290	0.050	0.040	0.40	0.040	0.030	0.030	--
DATE	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	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)
NOV 04...	68	40	270	10	3500	<10	41	<1	<1.0	60	<6
JAN 10...	65	4	120	<4	360	<10	7	<1	<1.0	92	<6
MAY 04...	66	<3	7	<4	48	<10	1	<1	<1.0	92	<6
JUL 06...	74	<3	16	<4	49	<10	1	<1	<1.0	100	<6

GASCONADE RIVER BASIN

06930000 BIG PINEY RIVER NEAR BIG PINEY, MO

LOCATION.--Lat 37°39'58", long 92°03'02", in NE 1/4 SE 1/4 sec.8. T.34 N., R.10 W., Pulaski County, Hydrologic Unit 10290202, on downstream side of left pier of Ross bridge, 3.0 mi east of Big Piney, 14.8 mi upstream from Spring Creek and at mile 22.

DRAINAGE AREA.--560 mi², approximately.

PERIOD OF RECORD.--October 1921 to September 30, 1982 and April 4, 1988 to current year.

REVISED RECORDS.--WSP 826: 1935. WSP 1176: 1943, 1945. WSP 1340: 1922-23, 1927-28(M), 1933(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 800.99 ft above sea level. Prior to July 12, 1961, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Several observations of water-temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 24.54 ft, December 4, 1982, from floodmark, present datum; discharge, 81,200 ft³/s, from indirect measurement.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	140	949	794	390	222	307	440	532	346	201	172	185
2	140	1670	684	375	218	294	414	492	328	198	164	174
3	161	818	1210	364	214	285	390	456	345	196	169	166
4	168	586	1410	350	210	278	373	424	364	189	244	162
5	198	472	927	336	206	274	355	397	602	193	192	159
6	190	402	732	322	204	277	335	372	555	192	177	155
7	189	352	625	311	201	283	320	352	475	189	216	151
8	176	314	553	305	197	296	308	337	501	185	244	165
9	166	286	490	319	192	311	313	326	428	178	209	161
10	158	267	438	365	190	335	2170	316	390	171	194	173
11	155	252	398	367	188	426	1500	313	1750	165	213	171
12	152	240	378	350	202	404	978	411	1490	160	194	166
13	149	229	378	344	213	379	814	933	890	156	183	159
14	147	223	457	342	275	355	706	640	669	152	173	154
15	147	217	442	334	531	330	621	521	545	152	166	150
16	145	219	393	322	858	311	556	451	462	165	163	148
17	147	232	363	306	736	298	504	459	400	161	161	146
18	147	289	341	296	658	328	1200	622	354	170	163	144
19	145	745	320	290	617	701	2690	741	318	165	161	143
20	143	749	322	281	552	776	6990	924	293	163	159	155
21	144	921	461	274	495	647	5410	2000	272	195	157	520
22	145	824	1070	276	455	572	2330	1580	256	196	154	733
23	147	660	925	275	427	516	1630	1090	245	181	151	431
24	150	542	793	275	411	463	1250	866	238	176	149	326
25	152	457	674	267	391	427	1020	717	238	171	148	270
26	155	405	589	254	368	402	870	616	236	165	149	242
27	161	367	526	246	351	378	764	537	232	165	162	224
28	188	339	482	239	336	356	683	475	219	244	185	207
29	588	318	454	233	321	350	623	426	208	257	377	196
30	1970	311	435	229	---	384	576	396	205	208	259	185
31	690	---	412	226	---	436	---	373	---	186	209	---
MEAN	247	488	596	305	360	393	1238	616	462	182	188	217
MAX	1970	1670	1410	390	858	776	6990	2000	1750	257	377	733
MIN	140	217	320	226	188	274	308	313	205	152	148	143
IN.	.51	.97	1.23	.63	.69	.81	2.47	1.27	.92	.37	.39	.43

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	271	452	451	542	639	837	972	904	560	293	244	230
MAX	1261	2127	1940	2554	2237	2565	3637	3324	2892	1969	1947	1056	
(WY)	1950	1952	1943	1950	1982	1945	1927	1990	1928	1951	1927	1965	
MIN	82.3	106	98.5	98.5	127	154	188	142	111	89.3	93.5	72.9	
(WY)	1957	1965	1956	1956	1934	1981	1954	1932	1934	1934	1954	1954	

SUMMARY STATISTICS

	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	563		440		533	
HIGHEST ANNUAL MEAN					1179	
LOWEST ANNUAL MEAN					149	
HIGHEST DAILY MEAN	4500	Jan 12	6990	Apr 20	21100	Jan 30 1969
LOWEST DAILY MEAN	135	Aug 25, 28, 29	140	Oct 1, 2	69	Sep 17-18 1954
INSTANTANEOUS PEAK FLOW	---		8490	Apr 20	32700	Dec 27 1942
INSTANTANEOUS PEAK STAGE	---		11.63	Apr 20	20.7	Dec 27 1942
INSTANTANEOUS LOW FLOW	---		140	Oct 1-3	69	Sep 17-18 1954
ANNUAL SEVEN-DAY MINIMUM	139	Aug 23	145	Oct 16	71	Sep 14 1954
ANNUAL RUNOFF (INCHES)	13.66		10.69		12.94	
10 PERCENT EXCEEDS	1180		781		1040	
50 PERCENT EXCEEDS	363		315		252	
90 PERCENT EXCEEDS	151		158		122	

GASCONADE RIVER BASIN

06930800 GASCONADE RIVER ABOVE JEROME, MO
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 37°55'12", long 91°58'33", in NE 1/4 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 and 17, 1980; minimum, 0.0°C on many days during winter period.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (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 KF AGAR UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
NOV												
06...	1330	2110	293	8.0	7.0	8.4	10.4	85	1000	600	160	33
JAN												
10...	1130	1530	319	8.2	6.5	1.5	11.3	89	K10	K2	170	37
MAR												
02...	1000	1610	309	8.1	11.5	2.4	11.1	100	K8	K2	170	36
MAY												
07...	1430	1450	302	8.3	17.5	3.5	10.5	107	10	K16	170	35
JUL												
06...	1410	922	329	8.1	25.0	2.0	8.3	100	32	K5	170	35
SEP												
04...	1030	589	345	6.7	22.5	0.8	8.2	93	27	58	180	36

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

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)
NOV												
06...	19	2.7	2.9	144	7.2	4.4	<0.10	8.8	167	170	0.23	951
JAN												
10...	20	2.9	1.5	157	11	8.0	0.10	5.2	153	184	0.21	632
MAR												
02...	20	3.0	1.9	148	42	7.4	0.10	2.4	215	204	0.29	935
MAY												
07...	20	2.6	1.5	141	6.5	3.9	0.10	3.3	165	158	0.22	646
JUL												
06...	20	2.6	1.6	178	5.7	6.8	<0.10	7.7	184	188	0.25	458
SEP												
04...	23	3.1	1.5	182	5.0	7.2	0.10	7.3	187	193	0.25	297

GASCONADE RIVER BASIN

06930800 GASCONADE RIVER ABOVE JEROME, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDEED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)
NOV 06...	0.010	1.20	0.030	0.030	0.30	0.090	0.080	0.070	22	55	130
JAN 10...	<0.010	0.910	0.010	0.020	<0.20	0.020	0.020	0.020	10	75	20
MAR 02...	<0.010	0.540	0.030	0.020	<0.20	0.010	<0.010	<0.010	--	--	--
MAY 07...	<0.010	0.190	0.020	0.020	<0.20	<0.010	<0.010	<0.010	--	--	<10
JUL 06...	<0.010	0.270	0.030	0.030	<0.20	0.030	0.010	0.020	--	--	20
SEP 04...	<0.010	0.110	0.030	<0.010	<0.20	0.010	0.010	<0.010	--	--	--

DATE	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	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)
NOV 06...	46	<3	44	<4	12	<10	<1	<1	<1.0	33	<6
JAN 10...	40	<3	9	<4	30	<10	1	<1	<1.0	38	<6
MAY 07...	48	<3	9	<4	27	<10	<1	<1	<1.0	37	<6
JUL 06...	51	<3	4	<4	12	<10	<1	<1	<1.0	38	<6

GASCONADE RIVER BASIN

06932000 LITTLE PINEY CREEK AT NEWBURG, MO

LOCATION.--Lat 37°54'35", long 91°54'12", in SW 1/4, SE 1/4, 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 sea level. 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.--Estimated daily discharge: Oct. 30. Records good. Several observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 16.7 ft, August 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	163	96	127	89	105	147	154	156	86	71	63
2	71	113	121	128	90	104	135	144	150	85	70	63
3	90	93	183	124	90	102	127	136	189	86	71	63
4	85	84	153	119	87	101	123	130	192	81	69	61
5	128	80	135	115	86	99	113	124	171	85	68	61
6	90	78	126	115	86	109	107	117	158	83	68	63
7	84	78	119	111	85	112	104	113	151	81	68	63
8	81	77	114	106	84	104	101	111	139	80	69	73
9	79	77	106	101	84	107	104	110	133	78	67	69
10	78	77	100	97	84	103	132	106	154	76	67	81
11	76	76	97	95	84	98	130	109	308	80	68	68
12	75	76	103	96	96	97	130	176	212	76	66	65
13	74	76	98	99	98	95	125	159	183	74	66	64
14	74	76	93	100	226	94	125	141	163	73	64	62
15	72	76	89	93	287	91	126	131	149	74	64	62
16	72	78	89	90	217	90	145	121	138	77	65	61
17	74	85	87	93	193	94	174	136	127	78	64	61
18	72	103	84	92	200	138	220	175	121	107	64	61
19	71	155	82	91	178	202	491	170	114	83	64	61
20	70	313	137	91	159	190	1030	164	112	80	64	92
21	72	246	347	91	148	169	609	554	108	82	63	89
22	72	188	243	94	137	160	425	725	104	79	63	71
23	71	156	215	97	133	143	344	769	102	77	62	66
24	72	133	183	97	128	132	289	420	100	79	63	65
25	75	118	162	96	125	125	249	326	101	80	62	65
26	74	109	146	93	119	118	222	276	97	78	62	71
27	74	105	134	93	117	111	198	236	94	77	69	79
28	75	101	131	91	113	105	182	211	89	73	65	67
29	96	99	137	90	109	117	173	195	86	71	64	63
30	142	102	144	91	---	171	163	178	86	73	63	62
31	96	---	136	91	---	160	---	165	---	72	63	---
MEAN	78.9	113	135	100	129	121	225	219	140	79.5	65.7	67.2
MAX	128	313	347	128	287	202	1030	769	308	107	71	92
MIN	70	76	82	90	84	90	101	106	86	71	62	61
IN.	.45	.63	.78	.58	.69	.70	1.25	1.26	.78	.46	.38	.37

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	98.8	123	151	144	176	225	249	259	207	99.3	81.3	78.1
MAX	913	676	1300	770	678	822	1335	871	1545	525	493	364	
(WY)	1950	1986	1983	1950	1985	1945	1945	1957	1935	1951	1946	1934	
MIN	26.9	33.1	35.7	34.9	35.6	42.8	42.0	43.7	32.2	27.6	27.6	28.1	
(WY)	1957	1957	1956	1956	1934	1956	1956	1932	1934	1934	1936	1954	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	188	123	157
HIGHEST ANNUAL MEAN			391
LOWEST ANNUAL MEAN			47.0
HIGHEST DAILY MEAN	6160	May 13	19600
LOWEST DAILY MEAN	66	Aug 22	24
INSTANTANEOUS PEAK FLOW	---		32500
INSTANTANEOUS PEAK STAGE	---		16.6
INSTANTANEOUS LOW FLOW	---		24
ANNUAL SEVEN-DAY MINIMUM	66	Aug 25	24
ANNUAL RUNOFF (INCHES)	12.76		10.65
10 PERCENT EXCEEDS	315		277
50 PERCENT EXCEEDS	106		83
90 PERCENT EXCEEDS	73		42

GASCONADE RIVER BASIN

06933500 GASCONADE RIVER AT JEROME, MO

LOCATION.--Lat 37°55'47", long 91°58'38", in NE 1/4 NE 1/4 SE 1/4 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 sea level. 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: Dec. 22 to Jan. 2. Records good. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of January 6, 1897, reached a stage of about 29.0 ft, discharge, 120,000 ft³/s. A stage of 28.6 ft was reached on August 20 and 22, 1915, discharge, 114,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	687	1700	2590	2150	1150	1690	1850	2240	1610	984	837	668
2	673	3870	3330	2070	1130	1610	1800	2080	1520	954	814	634
3	772	4010	3500	2000	1110	1530	1740	1940	1630	963	784	610
4	800	3770	4580	1910	1100	1470	1680	1820	1650	918	756	589
5	874	2630	4760	1830	1080	1420	1590	1710	1760	913	785	578
6	827	2110	4200	1770	1060	1410	1520	1600	3510	922	766	585
7	770	1790	3500	1680	1050	1440	1450	1510	3370	890	743	575
8	731	1560	3030	1630	1030	1450	1390	1440	2750	862	766	627
9	696	1390	2660	1580	1010	1570	1380	1390	2600	843	822	619
10	661	1270	2380	1530	991	1680	1600	1340	2530	851	829	722
11	634	1170	2170	1530	986	1650	6310	1320	2920	843	889	698
12	618	1100	2040	1490	1040	1910	3910	1440	5040	814	870	646
13	598	1040	1910	1480	1090	2070	3060	1570	9250	786	827	618
14	577	994	1790	1460	1960	1930	2730	1910	5670	752	779	596
15	559	956	1780	1410	5020	1790	2500	1710	3980	743	737	587
16	548	940	1890	1370	5830	1650	2370	1770	3180	779	703	571
17	541	967	1830	1340	5820	1580	2340	1720	2670	811	682	562
18	537	1170	1700	1320	5210	1720	2550	1830	2320	855	662	570
19	526	1960	1580	1290	4710	2230	4910	2240	2040	794	642	563
20	522	4150	1750	1270	4220	3520	9760	2700	1840	768	623	660
21	522	5390	4020	1250	3620	4060	13700	3670	1640	855	606	786
22	520	5300	4700	1250	3160	3700	10300	6250	1490	852	596	1140
23	522	4690	5500	1260	2830	3170	7520	5730	1380	824	585	1150
24	522	3770	5000	1250	2580	2790	5780	4350	1300	770	578	930
25	529	3030	4300	1250	2370	2510	4650	3470	1240	886	568	1120
26	536	2530	3600	1250	2190	2270	3910	2940	1190	918	591	1130
27	535	2210	3000	1250	2050	2060	3340	2540	1130	867	633	1170
28	556	1930	2750	1230	1930	1900	2930	2250	1080	801	608	1030
29	657	1780	2550	1210	1800	1820	2640	2040	1050	800	607	901
30	1530	2010	2400	1190	---	1860	2420	1860	1020	906	771	819
31	1930	---	2250	1180	---	1850	---	1720	---	858	712	---
MEAN	694	2373	3001	1474	2384	2042	3788	2326	2479	851	715	748
MAX	1930	5390	5500	2150	5830	4060	13700	6250	9250	984	889	1170
MIN	520	940	1580	1180	986	1410	1380	1320	1020	743	568	562
IN.	.28	.93	1.22	.60	.91	.83	1.49	.94	.97	.35	.29	.29

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	1415	2191	2508	2355	2961	3980	4535	4248	3092	1559	1211	1159
MAX	10390	10120	17740	10980	11540	13110	20450	15390	18500	10730	9244	7707
(WY)	1950	1984	1983	1950	1985	1945	1945	1990	1935	1951	1927	1905
MIN	.289	.368	.392	.368	.491	.597	.504	.668	.518	.339	.324	.293
(WY)	1957	1957	1956	1956	1964	1956	1956	1932	1934	1934	1936	1956

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	2800	1899	2587
HIGHEST ANNUAL MEAN			6491
LOWEST ANNUAL MEAN			544
HIGHEST DAILY MEAN	24200	13700	121000
LOWEST DAILY MEAN	520	520	259
INSTANTANEOUS PEAK FLOW	---	14400	136000
INSTANTANEOUS PEAK FLOW	---	9.74	31.34
INSTANTANEOUS LOW FLOW	---	554	254
ANNUAL SEVEN-DAY MINIMUM	523	523	266
ANNUAL RUNOFF (INCHES)	13.39	9.10	12.38
10 PERCENT EXCEEDS	5430	3910	5460
50 PERCENT EXCEEDS	1710	1470	1250
90 PERCENT EXCEEDS	601	618	516

LOCATION.--Lat 38°23'20", long 91°49'15", in SE 1/4 sec.16, T.41 N., R.8 W., Osage County, Hydrologic Unit 10290203, on downstream side of State Highway 89 bridge, 100 ft downstream from Brush Creek Slough, 800 ft upstream from Swan Creek and 4 mi east of Rich Fountain.

PERIOD OF RECORD.--October 1921 to September 1959 and October 31, 1986 to current year. From 1959 to 1986 annual peaks only.

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.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	700	2370	2460	2570	1330	1940	2310	2710	1850	1060	994	754
2	681	2220	3350	2450	1300	1830	2180	2530	1730	1040	999	696
3	777	4010	4390	2330	1280	1740	2080	2390	1720	1050	959	659
4	814	4120	4180	2220	1250	1650	2000	2250	1950	995	913	646
5	869	3460	4900	2120	1220	1580	1910	2120	1920	961	878	688
6	934	2630	4890	2040	1200	1540	1800	1990	3580	974	924	628
7	870	2170	4210	1960	1170	1540	1710	1880	4520	958	900	615
8	814	1850	3590	1880	1150	1560	1630	1780	3590	938	858	645
9	776	1620	3120	1800	1130	1600	1560	1700	2970	922	881	672
10	744	1460	2770	1720	1110	1670	1580	1630	2900	910	922	913
11	713	1320	2490	1680	1100	1760	2890	1580	2940	1340	909	762
12	688	1220	2310	1670	1110	1760	5750	1680	3170	947	961	727
13	675	1140	2160	1650	1150	2040	3730	1760	7140	893	931	673
14	665	1070	2020	1650	2600	2150	3110	1870	8670	851	889	646
15	649	1030	1920	1610	5500	2010	2820	2090	5300	835	835	620
16	637	987	1910	1560	5970	1890	2660	2000	4010	861	794	592
17	635	1030	1980	1530	6810	1760	2650	2050	3300	883	759	572
18	623	1120	1910	1500	6720	1750	2930	2090	2850	956	733	559
19	614	1630	1780	1470	5610	2070	4910	2160	2490	980	709	561
20	604	3440	2660	1450	4870	2720	8300	2670	2210	920	686	619
21	598	5300	4780	1430	4270	3930	14000	3060	2000	946	670	684
22	599	5650	5320	1440	3690	4200	15100	5650	1820	1010	658	781
23	600	5230	6240	1460	3260	3770	10100	6840	1690	990	648	1010
24	604	4500	6780	1470	2960	3280	7410	5570	1560	958	632	1130
25	599	3660	5530	1460	2700	2960	5720	4320	1460	919	624	932
26	621	3040	4500	1450	2520	2690	4670	3540	1370	1050	638	1130
27	620	2620	3830	1440	2350	2440	3980	3040	1290	1060	670	1210
28	630	2310	3350	1430	2200	2250	3490	2670	1220	1000	664	1180
29	677	2120	3070	1410	2060	2250	3150	2390	1160	940	638	1050
30	727	2500	2880	1390	---	3040	2910	2170	1100	951	625	913
31	1590	---	2720	1360	---	2580	---	2000	---	1070	776	---
MEAN	721	2561	3484	1697	2744	2256	4301	2651	2783	973	796	776
MAX	1590	5650	6780	2570	6810	4200	15100	6840	8670	1340	999	1210
MIN	598	987	1780	1360	1100	1540	1560	1580	1100	835	624	559
IN.	.26	.90	1.26	.62	.93	.82	1.51	.96	.98	.35	.29	.77

MEAN	1733	2171	2480	2739	3205	4414	5475	5097	3919	1798	1415	1178
MAX	12060	9226	12750	12700	7637	14640	22720	18300	19810	12630	9365	3850
(WY)	1950	1952	1988	1950	1949	1945	1945	1990	1935	1951	1927	1945
MIN	288	394	403	374	558	620	531	717	647	385	334	295
(WY)	1957	1957	1956	1956	1954	1956	1956	1932	1934	1954	1936	1954

ANNUAL MEAN	3396		2137		2963	
HIGHEST ANNUAL MEAN					6560	1927
LOWEST ANNUAL MEAN					629	1954
HIGHEST DAILY MEAN	29200	Jan 1	15100	Apr 22	91100	Apr 16 1945
LOWEST DAILY MEAN	582	Aug 31	559	Sep 18	275	Sep 19 1954
INSTANTANEOUS PEAK FLOW	--		16100	Apr 22	134000	Dec 6 1982
INSTANTANEOUS PEAK STAGE	--		10.56	Apr 22	33.27	Dec 6 1982
INSTANTANEOUS LOW FLOW	--		549	Sep 18-20	275	Sep 19 1954
ANNUAL SEVEN-DAY MINIMUM	596	Aug 26	596	Sep 14	279	Oct 6 1956
ANNUAL RUNOFF (INCHES)	14.50		9.15		12.66	
10 PERCENT EXCEEDS	6510		4280		6340	
50 PERCENT EXCEEDS	2120		1650		1450	
90 PERCENT EXCEEDS	644		670		558	

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO

LOCATION.--Lat 38°42'36", long 91°26'21", in SW 1/4 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 and at mile 97.9.

DRAINAGE AREA.--524,200 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1897 to current year. Prior to August 1928 monthly discharge only published in WSP 1310. Gage-height records 1873-99 collected at site 480 ft downstream are contained in reports of Missouri River Commission; since 1900 in reports of National Weather Service.

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

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 481.56 ft above sea level. 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: June 20 and 21. Water-discharge records good. Discharge measurements made biweekly 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1844 reached a stage of 35.5 ft, discharge, about 892,000 ft³/s, computed by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38700	43900	33300	37500	34000	54000	82700	102000	53300	48800	190000	54500
2	38200	50800	38000	38300	31600	44500	87900	93700	52400	48400	211000	56100
3	38600	48800	46000	37700	30800	41100	79000	86000	50400	55800	195000	60500
4	40100	46100	45800	43800	30700	39300	72200	77400	51300	50800	165000	58300
5	41400	43200	44700	44600	30700	38200	64700	71400	50900	48900	153000	61900
6	44600	41500	46300	40200	36000	37500	56800	70800	49100	46800	143000	77700
7	49300	36500	42400	39300	41300	39500	55200	72900	57600	46400	136000	75300
8	48300	32500	37400	42500	33400	44500	59300	66200	55700	51100	135000	73300
9	44900	30000	33900	43600	32700	46700	57500	59900	50300	61700	131000	90000
10	42600	28600	31500	43100	30500	62700	55400	56500	48900	74800	136000	105000
11	41600	27400	31600	43000	29200	71700	54900	54500	54900	76000	128000	105000
12	40900	26100	31100	43300	29700	66000	59000	53100	61600	84100	121000	89800
13	40200	24700	33900	40000	33600	61400	62400	54300	64700	84300	116000	80500
14	39900	23900	34000	37400	39000	58300	69300	52800	70600	74500	113000	76800
15	39800	23700	31800	37000	71000	52800	79900	52400	63000	120000	107000	76800
16	39700	23800	32600	42900	67200	48500	77800	51000	57100	189000	103000	77500
17	39300	23500	34900	44200	50800	49400	71900	50900	59700	180000	98600	74400
18	38900	28100	38300	41500	58600	51300	76900	51800	62100	161000	94800	84900
19	39000	37100	41100	36300	58600	52100	91600	49700	62500	152000	94500	110000
20	39100	41900	46500	35200	85200	63700	94400	49200	70000	135000	87500	118000
21	39200	45500	69300	34300	91700	108000	116000	50700	80000	133000	82200	113000
22	39700	47500	63000	32900	83200	123000	164000	52000	76400	146000	77200	116000
23	40100	44500	54800	32000	70100	106000	191000	63500	68500	143000	71500	117000
24	41100	41500	59000	40900	57500	86300	190000	69600	61300	142000	66300	94700
25	40700	35500	64200	43700	55300	75500	187000	64200	63800	142000	62800	78400
26	39400	33500	66800	41700	63800	73000	184000	61900	65500	156000	66000	67800
27	39100	32900	65900	36600	67200	64900	164000	61700	64000	191000	65200	64000
28	39600	31000	57500	35000	68300	64000	145000	60100	57000	241000	61400	60200
29	40400	29600	51900	36300	63100	63600	132000	58300	54000	222000	58600	57000
30	40300	30400	45200	37700	---	76900	119000	56100	51500	206000	56300	55000
31	40400	---	41200	37200	---	78800	---	53900	---	182000	54200	---
MEAN	40810	35130	44960	39350	50860	62680	100000	62210	59600	119100	109000	80980
MAX	49300	50800	69300	44600	91700	123000	191000	102000	80000	241000	211000	118000
MIN	38200	23500	31100	32000	29200	37500	54900	49200	48900	46400	54200	54500
IN.	.09	.07	.10	.09	.10	.14	.21	.14	.13	.26	.24	.17

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)**

	MEAN	63710	62890	47330	42380	56980	88740	113700	107000	119500	94770	60940	63390
MAX	286700	152700	178900	129000	136800	267500	333400	231400	320600	445200	130300	208900	
(WY)	1987	1986	1983	1973	1982	1973	1973	1943	1935	1951	1951	1951	
MIN	15170	16630	12110	6827	12280	22810	36490	31930	38770	33560	18200	21830	
(WY)	1940	1940	1938	1940	1940	1964	1956	1934	1934	1936	1936	1937	

SUMMARY STATISTICS**

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	56960	67130	76780	
HIGHEST ANNUAL MEAN			140500	1973
LOWEST ANNUAL MEAN			29750	1934
HIGHEST DAILY MEAN	158000	Apr 20	615000	Jul 19 1951
LOWEST DAILY MEAN	23500	Nov 17	4200	Jan 10 1940
INSTANTANEOUS PEAK FLOW	---		249000	Jul 28
INSTANTANEOUS PEAK STAGE	---		23.08	Jul 28
INSTANTANEOUS LOW FLOW	---		23300	Nov 17
ANNUAL SEVEN-DAY MINIMUM	24700	Nov 11	24700	Nov 11
ANNUAL RUNOFF (INCHES)	1.48		1.74	
10 PERCENT EXCEEDS	110000		122000	
50 PERCENT EXCEEDS	43200		55500	
90 PERCENT EXCEEDS	33700		34000	
			25600	

** Statistics based only on years with complete daily discharge record.

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: (water years 1976 to current year): Maximum daily, 2,150 microsiemens, Dec. 9, 1978; minimum daily, 205 microsiemens, Apr. 16, 1979.

WATER TEMPERATURE: (water years 1976 to current year): Maximum daily, 32.5°C, July 31, 1987; minimum daily, 0.0°C on many days during winter period.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 796 microsiemens, Nov. 17; minimum daily, 314 microsiemens, Feb. 16.

WATER TEMPERATURE: Maximum daily, 28.0°C, several days; minimum daily, 2.0°C, Jan. 19.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, (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)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV											
04...	1045	46100	614	8.3	6.5	42	12.0	96	4600	8100	220
JAN											
28...	1200	34800	668	8.1	3.0	16	13.2	97	86	46	257
MAR											
02...	1030	44500	532	8.2	8.5	55	11.4	97	120	200	210
MAY											
05...	1000	71400	574	7.9	17.0	77	8.8	90	100	K75	240
JUL											
16...	1000	189000	476	7.5	24.5	500	4.0	47	2600	3200	170

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

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 WAT DIS TOT IT FIELD CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)
NOV											
04...	54	20	53	5.7	161	170	21	0.50	8.3	446	432
JAN											
28...	68	21	52	5.4	194	130	30	0.40	14	440	442
MAR											
02...	56	16	31	5.6	156	88	21	0.30	12	351	333
MAY											
05...	66	19	34	5.0	165	120	22	0.40	12	374	392
JUL											
16...	46	14	27	5.4	129	90	18	0.40	9.9	300	297

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	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)	SED. SUSP. SEIVE DIAM. %FINER THAN .062 MM (70331)
NOV 04...	0.61	55500	0.010	0.400	0.030	0.040	0.60	0.230	0.210	0.110	203	43.9
JAN 28...	0.59	41342	0.020	1.700	0.080	0.070	0.40	0.150	0.120	0.110	146	35.6
MAR 02...	0.48	42200	0.020	2.00	0.040	0.040	0.50	0.160	0.120	0.110	240	72.7
MAY 05...	0.51	72100	0.020	3.20	0.050	0.040	<0.20	0.130	0.090	0.090	--	--
JUL 16...	0.41	153000	<0.010	1.60	<0.010	0.020	0.90	0.340	0.070	0.080	--	--
DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	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)
NOV 04...	50	86	<3	25	40	15	<10	3	<1	<1.0	410	<6
JAN 28...	<10	100	<3	5	36	5	<10	2	2	<1.0	450	<6
MAR 02...	<10	94	<3	15	22	5	<10	3	<1	<1.0	310	<6
MAY 05...	20	130	<3	34	22	4	<10	2	2	<1.0	390	<6
JUL 16...	530	110	<3	440	21	46	<10	3	1	<1.0	320	<6

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	738	714	621	621	629	559	475	575	622	669	357	636
2	741	685	571	626	631	577	525	592	622	632	352	634
3	742	682	581	623	632	603	525	591	621	656	351	630
4	735	683	583	510	630	606	526	595	620	629	355	626
5	673	708	581	440	635	618	545	593	623	630	391	571
6	736	676	613	602	496	618	545	594	672	631	405	573
7	682	702	639	616	479	593	544	428	673	628	406	573
8	656	704	658	602	585	597	539	630	672	629	446	533
9	668	704	665	588	597	634	539	647	673	626	450	530
10	692	685	668	600	555	496	539	653	673	628	451	527
11	713	716	661	543	538	554	539	683	675	620	449	524
12	687	704	665	529	549	506	504	687	675	606	482	481
13	730	751	628	562	550	496	502	690	675	598	484	475
14	738	750	626	562	551	513	537	690	675	602	488	477
15	741	755	668	566	460	516	538	691	675	621	458	475
16	743	769	659	595	314	530	672	694	628	393	492	510
17	750	796	696	604	412	557	681	698	613	433	498	506
18	720	641	668	563	420	561	527	697	611	382	508	514
19	719	649	665	559	430	560	440	699	611	360	508	406
20	719	615	535	608	402	559	420	704	609	468	510	397
21	752	626	510	613	380	494	418	707	611	495	518	396
22	756	608	506	613	412	484	420	709	612	390	551	399
23	754	615	515	560	414	391	372	708	568	488	561	525
24	744	596	529	603	399	378	357	693	565	383	576	406
25	743	644	524	473	414	377	357	643	562	452	580	402
26	713	649	529	470	420	506	354	630	563	492	560	492
27	746	667	509	570	422	524	379	623	559	505	554	498
28	745	645	506	668	422	581	380	623	610	584	512	616
29	741	702	426	630	413	588	579	624	608	418	618	623
30	742	689	627	600	---	484	551	624	615	594	630	628
31	741	---	631	600	---	471	---	631	---	423	581	---
MEAN	726	684	596	578	489	533	494	647	626	538	487	519
MAX	756	796	696	668	635	634	681	709	675	669	630	636
MIN	656	596	426	440	314	377	354	428	559	360	351	396

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	14.0	9.0	4.0	6.0	9.0	10.0	17.0	23.0	28.0	25.0	26.0
2	22.0	7.0	9.0	5.5	6.0	15.0	11.0	17.0	23.0	28.0	25.0	26.0
3	23.0	6.0	9.0	6.0	7.0	13.0	10.0	16.0	23.0	28.0	25.0	25.0
4	23.0	7.0	9.0	7.0	7.0	13.0	10.0	16.0	23.0	28.0	25.0	25.0
5	18.0	9.0	9.0	7.0	6.0	15.0	13.0	18.0	23.0	28.0	25.0	25.0
6	17.0	7.0	9.0	7.0	5.0	15.0	14.0	18.0	24.0	27.0	25.0	25.0
7	18.0	6.0	9.0	7.0	5.0	15.0	15.0	18.0	25.0	27.0	25.0	25.0
8	19.0	5.0	10.0	9.0	5.0	13.0	19.0	18.0	25.0	27.0	25.0	26.0
9	19.0	4.0	9.0	6.0	4.0	16.0	21.0	18.0	25.0	27.0	25.0	26.0
10	19.0	4.0	9.0	7.0	5.0	13.0	21.0	18.0	25.0	27.0	25.0	26.0
11	19.0	6.0	13.0	5.0	5.0	13.0	19.0	20.0	24.0	27.0	25.0	26.0
12	17.0	6.0	15.0	6.0	5.0	12.0	19.0	21.0	24.0	28.0	25.0	26.0
13	17.0	11.0	9.0	6.0	5.0	12.0	22.0	21.0	25.0	28.0	24.0	26.0
14	19.0	11.0	7.0	5.0	6.0	13.0	21.0	21.0	25.0	27.0	24.0	26.0
15	16.0	11.0	7.0	5.0	7.0	10.0	19.0	21.0	25.0	28.0	24.0	26.0
16	18.0	10.0	7.0	2.5	7.0	11.0	21.0	20.0	25.0	25.0	27.0	26.0
17	21.0	10.0	7.0	3.0	9.0	10.0	20.0	21.0	25.0	25.0	26.0	26.0
18	20.0	15.0	4.0	3.0	10.0	10.0	19.0	22.0	25.0	24.0	26.0	26.0
19	15.0	15.0	4.0	2.0	10.0	10.0	19.0	22.0	25.0	25.0	27.0	26.0
20	14.0	15.0	7.0	4.0	10.0	9.0	18.0	24.0	25.0	26.0	27.0	26.0
21	16.0	15.0	7.0	4.0	10.0	9.0	19.0	25.0	25.0	26.0	27.0	26.0
22	19.0	10.0	7.0	5.0	11.0	9.0	15.0	26.0	25.0	26.0	26.0	24.0
23	19.0	9.0	7.0	5.0	9.0	10.0	16.0	26.0	25.0	26.0	26.0	24.0
24	20.0	6.0	8.0	5.0	6.0	12.0	15.0	23.0	25.0	26.0	27.0	23.0
25	19.0	9.0	4.0	5.0	5.0	11.0	15.0	21.0	25.0	26.0	27.0	23.0
26	18.0	10.0	6.0	5.0	10.0	10.0	16.0	20.0	24.0	25.0	27.0	20.0
27	17.0	10.0	4.0	4.0	10.0	10.0	15.0	20.0	24.0	25.0	27.0	21.0
28	20.0	9.0	4.0	3.0	10.0	10.0	16.0	20.0	25.0	26.0	27.0	21.0
29	19.0	12.0	5.0	4.0	10.0	10.0	17.0	20.0	28.0	26.0	25.0	21.0
30	14.0	9.0	5.0	4.0	---	10.0	17.0	19.0	28.0	26.0	25.0	21.0
31	15.0	---	5.0	4.0	---	11.0	---	20.0	---	25.0	27.0	---
MEAN	18.5	9.3	7.5	5.0	7.3	11.6	16.7	20.2	24.7	26.5	25.7	24.6
MAX	25.0	15.0	15.0	9.0	11.0	16.0	22.0	26.0	28.0	28.0	27.0	26.0
MIN	14.0	4.0	4.0	2.0	4.0	9.0	10.0	16.0	23.0	24.0	24.0	20.0

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, 15.0 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 sea level. Prior to May 5, 1934, nonrecording gage 0.4 mi downstream; May 5, 1934 to Dec. 9, 1952, water-stage recorder at site 20 ft downstream at present datum.

REMARKS.--No estimated daily discharges. 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.

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 of 42.0 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	109000	128000	191000	179000	134000	181000	272000	351000	142000	113000	342000	94500
2	111000	134000	216000	176000	134000	169000	264000	341000	140000	112000	352000	91900
3	112000	140000	222000	165000	129000	153000	262000	334000	135000	130000	370000	92900
4	114000	143000	218000	159000	124000	153000	251000	328000	134000	150000	347000	96800
5	160000	146000	204000	151000	119000	153000	236000	318000	124000	137000	305000	105000
6	155000	165000	191000	148000	119000	165000	226000	308000	122000	121000	276000	101000
7	133000	172000	163000	150000	122000	177000	214000	296000	121000	126000	263000	117000
8	134000	162000	157000	150000	127000	184000	208000	286000	120000	133000	248000	127000
9	135000	155000	154000	155000	130000	194000	213000	272000	125000	138000	248000	125000
10	127000	151000	163000	150000	128000	205000	213000	255000	116000	164000	241000	163000
11	120000	150000	172000	151000	128000	213000	212000	237000	113000	179000	251000	189000
12	109000	141000	176000	154000	117000	230000	202000	224000	114000	181000	234000	209000
13	104000	139000	182000	155000	114000	236000	192000	209000	119000	182000	215000	199000
14	93000	143000	194000	157000	105000	236000	199000	195000	116000	186000	200000	182000
15	91600	142000	204000	152000	115000	235000	204000	184000	111000	194000	192000	162000
16	89900	136000	199000	149000	147000	234000	211000	174000	105000	260000	179000	147000
17	88000	127000	202000	133000	163000	231000	210000	159000	102000	351000	172000	151000
18	86900	126000	210000	117000	153000	234000	213000	152000	124000	337000	166000	178000
19	88900	134000	205000	101000	173000	246000	233000	146000	126000	309000	162000	186000
20	90500	163000	201000	91500	173000	261000	287000	147000	125000	298000	155000	214000
21	90100	166000	205000	97600	195000	276000	313000	149000	120000	281000	148000	235000
22	88700	168000	221000	103000	222000	321000	344000	153000	132000	265000	140000	243000
23	88200	183000	210000	114000	226000	337000	398000	159000	139000	262000	136000	249000
24	89200	184000	204000	114000	212000	318000	418000	167000	141000	259000	121000	248000
25	86500	174000	211000	113000	196000	296000	406000	175000	141000	250000	110000	233000
26	93800	186000	217000	123000	189000	281000	396000	178000	144000	243000	97300	223000
27	104000	199000	224000	136000	195000	270000	389000	173000	141000	278000	102000	199000
28	110000	189000	232000	140000	192000	255000	375000	168000	140000	338000	116000	214000
29	116000	182000	233000	135000	187000	248000	365000	161000	127000	383000	124000	205000
30	116000	182000	218000	135000	---	260000	358000	151000	115000	374000	111000	189000
31	116000	---	195000	135000	---	276000	---	143000	---	357000	103000	---
MEAN	108100	157000	199800	138400	154100	233200	276100	215900	125800	228700	200800	173000
MAX	160000	199000	233000	179000	226000	337000	418000	351000	144000	383000	370000	249000
MIN	86500	126000	154000	91500	105000	153000	192000	143000	102000	112000	97300	91900
IN.	.18	.25	.33	.23	.24	.39	.44	.36	.20	.38	.33	.28

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)**

	135900	138000	118200	111500	140100	228000	301100	276100	256800	208200	133000	131700
MEAN	135900	138000	118200	111500	140100	228000	301100	276100	256800	208200	133000	131700
MAX	575300	359200	452400	307800	301400	521800	692500	584500	600600	653300	242000	306200
(WY)	1987	1986	1983	1973	1974	1973	1973	1973	1947	1951	1981	1951
MIN	44170	47920	42130	31340	41900	74550	110100	79500	70260	67130	43510	54640
(WY)	1940	1940	1938	1940	1940	1964	1934	1934	1934	1936	1936	1939

SUMMARY STATISTICS**

	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	200600	184400	181900
HIGHEST ANNUAL MEAN			331900
LOWEST ANNUAL MEAN			67700
HIGHEST DAILY MEAN	437000	May 8	851000
LOWEST DAILY MEAN	69800	Sep 7	27800
INSTANTANEOUS PEAK FLOW	---		1019000
INSTANTANEOUS PEAK STAGE	---		43.23
INSTANTANEOUS LOW FLOW	---		18000
ANNUAL SEVEN-DAY MINIMUM	77400	Sep 4	28200
ANNUAL RUNOFF (INCHES)	3.91		3.55
10 PERCENT EXCEEDS	364000		352000
50 PERCENT EXCEEDS	167000		146000
90 PERCENT EXCEEDS	109000		67300

**Statistics based only on years with complete daily discharge record.

WATER-QUALITY RECORDS

SEDIMENT RECORDS: April 1948 to current year.

SEDIMENT LOADS: Maximum daily, 9,830,000 tons, Feb. 24, 1985; minimum daily, 2,800 tons, Jan. 21, 1967.

SEDIMENT LOADS: Maximum daily, 2,160,000 tons, Apr. 24; minimum daily, 12,700 tons, Feb. 8.

[illegible]

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	109000	143	42100	128000	143	49400	191000	250	129000
2	111000	124	37200	134000	130	46800	216000	314	183000
3	112000	125	37800	140000	133	50400	222000	405	242000
4	114000	110	33800	143000	147	56600	218000	435	256000
5	160000	179	77300	146000	131	51700	204000	425	234000
6	155000	203	85000	165000	168	74700	191000	400	206000
7	133000	263	94400	172000	192	89200	163000	221	97400
8	134000	305	110000	162000	195	85300	157000	203	86000
9	135000	304	111000	155000	176	73600	154000	155	64600
10	127000	264	90500	151000	154	62900	163000	146	64100
11	120000	226	73200	150000	135	54600	172000	140	65100
12	109000	198	58300	141000	114	43600	176000	149	70800
13	104000	176	49400	139000	101	38000	182000	160	78900
14	93000	141	35400	143000	92	35300	194000	160	84100
15	91600	113	27900	142000	85	32500	204000	156	85700
16	89900	106	25700	136000	75	27400	199000	164	88100
17	88000	97	23000	127000	60	20600	202000	161	88100
18	86900	99	23200	126000	47	15900	210000	160	90700
19	88900	95	22800	134000	37	13200	205000	158	87500
20	90500	77	18800	163000	47	20700	201000	150	81600
21	90100	75	18200	166000	48	21500	205000	138	76200
22	88700	88	21100	168000	78	35500	221000	146	87000
23	88200	80	19100	183000	110	54500	210000	177	100000
24	89200	102	24600	184000	103	51200	204000	179	98600
25	86500	88	20600	174000	104	48700	211000	181	103000
26	93800	78	19700	186000	112	56200	217000	163	95600
27	104000	82	23000	199000	153	82200	224000	173	105000
28	110000	82	24400	189000	196	100000	232000	219	137000
29	116000	107	33500	182000	200	98000	233000	339	213000
30	116000	117	36600	182000	227	111000	218000	224	132000
31	116000	101	31600	---	---	---	195000	184	96900
JANUARY			FEBRUARY			MARCH			
1	179000	194	94000	134000	49	17800	181000	245	119000
2	176000	185	87800	134000	48	17500	169000	190	86700
3	165000	203	90500	129000	44	15300	153000	199	82000
4	159000	223	95800	124000	47	15700	153000	155	64200
5	151000	241	98200	119000	55	17700	153000	169	69700
6	148000	190	75900	119000	54	17500	165000	282	125000
7	150000	158	64000	122000	56	18600	177000	213	102000
8	150000	172	69900	127000	37	12700	184000	238	118000
9	155000	161	67700	130000	44	15400	194000	220	115000
10	150000	161	65000	128000	46	15900	205000	375	207000
11	151000	154	63000	128000	50	17300	213000	491	282000
12	154000	179	74600	117000	47	14800	230000	596	370000
13	155000	218	91200	114000	49	15100	236000	442	282000
14	157000	186	78900	105000	49	13600	236000	431	275000
15	152000	170	70000	115000	64	19900	235000	428	272000
16	149000	155	62500	147000	134	53200	234000	389	245000
17	133000	157	56500	163000	198	87300	231000	360	225000
18	117000	150	47400	153000	139	57400	234000	350	221000
19	101000	127	34600	173000	133	62100	246000	346	230000
20	91500	107	26300	173000	182	85000	261000	377	266000
21	97600	96	25300	195000	191	100000	276000	427	318000
22	103000	96	26700	222000	375	225000	321000	612	531000
23	114000	115	35400	226000	474	289000	337000	943	858000
24	114000	117	36100	212000	483	276000	318000	721	619000
25	113000	97	29600	196000	310	164000	296000	749	600000
26	123000	96	31800	189000	297	152000	281000	575	436000
27	136000	90	33100	195000	379	199000	270000	549	400000
28	140000	68	25600	192000	272	141000	255000	437	301000
29	135000	70	25700	187000	276	139000	248000	428	285000
30	135000	54	19800	---	---	---	260000	376	264000
31	135000	53	19200	---	---	---	276000	391	291000

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	272000	386	284000	351000	545	516000	142000	110	42200
2	264000	294	209000	341000	436	402000	140000	105	39800
3	262000	291	206000	334000	349	315000	135000	95	34600
4	251000	293	199000	328000	335	296000	134000	80	28900
5	236000	338	215000	318000	297	255000	124000	70	23500
6	226000	389	237000	308000	274	228000	122000	65	21300
7	214000	374	216000	296000	285	228000	121000	88	28700
8	208000	233	131000	286000	252	194000	120000	78	25200
9	213000	208	119000	272000	224	164000	125000	104	35100
10	213000	182	105000	255000	214	148000	116000	80	25000
11	212000	163	93300	237000	209	134000	113000	87	26600
12	202000	202	110000	224000	214	129000	114000	72	22000
13	192000	187	96900	209000	212	120000	119000	74	23800
14	199000	178	95800	195000	202	106000	116000	83	26000
15	204000	220	121000	184000	214	106000	111000	119	35600
16	211000	317	181000	174000	172	81100	105000	146	41300
17	210000	489	277000	159000	150	64400	102000	148	40700
18	213000	425	244000	152000	135	55400	124000	180	60200
19	233000	512	322000	146000	113	44500	126000	131	44700
20	287000	569	441000	147000	111	43900	125000	138	46600
21	313000	1000	848000	149000	106	42600	120000	129	41900
22	344000	908	843000	153000	105	43300	132000	113	40300
23	398000	1640	1760000	159000	115	49400	139000	140	52600
24	418000	1920	2160000	167000	107	48400	141000	222	84700
25	406000	1610	1760000	175000	122	57500	141000	221	84300
26	396000	1350	1440000	178000	111	53300	144000	286	111000
27	389000	1280	1340000	173000	222	103000	141000	477	182000
28	375000	948	960000	168000	336	152000	140000	429	162000
29	365000	685	675000	161000	304	132000	127000	258	88600
30	358000	657	635000	151000	311	127000	115000	196	61000
31	---	---	---	143000	196	75600	---	---	---
JULY			AUGUST			SEPTEMBER			
1	113000	100	30500	342000	890	822000	94500	69	17700
2	112000	98	29600	352000	835	794000	91900	67	16600
3	130000	147	51800	370000	1690	1690000	92900	64	16000
4	150000	124	50200	347000	1750	1640000	96800	64	16800
5	137000	137	50800	305000	1910	1570000	105000	69	19500
6	121000	87	28500	276000	1120	831000	101000	67	18300
7	126000	116	39600	263000	535	380000	117000	90	28600
8	133000	132	47500	248000	540	361000	127000	218	74800
9	138000	167	62200	248000	596	399000	125000	197	66600
10	164000	200	88600	241000	520	338000	163000	171	75400
11	179000	205	99200	251000	535	363000	189000	184	94000
12	181000	260	127000	234000	446	282000	209000	357	201000
13	182000	684	336000	215000	539	313000	199000	294	158000
14	186000	695	349000	200000	489	264000	182000	320	157000
15	194000	552	289000	192000	412	214000	162000	329	144000
16	260000	639	448000	179000	473	229000	147000	251	99700
17	351000	1760	1670000	172000	355	165000	151000	165	67200
18	337000	2180	1990000	166000	375	168000	178000	149	71800
19	309000	1980	1650000	162000	353	154000	186000	135	67600
20	298000	1240	997000	155000	309	129000	214000	213	123000
21	281000	1210	921000	148000	268	107000	235000	478	303000
22	265000	1090	778000	140000	192	72700	243000	398	261000
23	262000	875	619000	136000	190	69600	249000	404	271000
24	259000	683	478000	121000	234	76300	248000	339	227000
25	250000	677	457000	110000	167	49700	233000	293	184000
26	243000	560	367000	97300	171	44800	223000	250	150000
27	278000	652	490000	102000	210	58000	219000	257	152000
28	338000	795	725000	116000	173	54100	214000	255	147000
29	383000	1610	1660000	124000	119	39900	205000	275	152000
30	374000	1810	1830000	111000	95	28500	189000	229	117000
31	357000	1640	1580000	103000	120	33400	---	---	---

MERAMEC RIVER BASIN

07013000 MERAMEC RIVER NEAR STEELVILLE, MO

LOCATION.--Lat 37°59'58", long 91°21'39", in NE 1/4 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 1.0 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 sea level. Prior to May 24, 1934 and from July 20, 1966 to July 20, 1967, nonrecording gage; 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: July 23 to Aug. 4 and Aug. 10-18. 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 20, 1915, reached a stage of 26.5 ft, discharge, 60,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	158	1070	511	518	246	339	1090	586	450	190	173	165
2	157	1890	509	487	241	316	866	514	520	188	170	162
3	173	1070	731	459	241	303	732	476	700	188	168	159
4	177	727	868	429	241	300	645	446	550	184	167	158
5	211	563	754	402	241	297	568	406	460	186	164	158
6	223	461	646	380	241	290	506	366	420	188	164	158
7	203	396	587	365	239	285	455	344	370	185	163	160
8	188	343	529	364	237	315	419	321	350	184	163	170
9	179	303	475	363	229	302	394	305	324	181	162	220
10	171	277	425	365	223	291	392	300	310	180	190	190
11	167	257	390	355	223	310	420	300	293	190	220	180
12	163	241	374	342	236	316	410	466	324	181	200	182
13	161	231	370	339	269	307	394	738	279	179	190	167
14	160	224	394	343	332	296	366	719	262	178	185	161
15	160	220	378	341	789	282	346	568	251	180	175	156
16	159	220	351	319	811	265	349	474	235	183	170	154
17	158	223	330	305	727	259	373	440	229	184	168	153
18	158	265	308	302	749	279	483	512	224	208	164	152
19	157	442	286	291	820	642	2260	546	216	234	160	150
20	155	1140	305	287	745	938	8290	551	211	227	158	160
21	157	1390	1070	284	667	777	10400	926	208	201	157	174
22	157	1180	1350	284	599	685	2740	1680	205	198	157	193
23	159	903	1140	295	551	642	1800	1630	202	195	157	165
24	159	710	954	298	518	582	1400	1230	200	193	157	159
25	161	589	795	298	483	528	1150	956	201	190	157	156
26	163	503	688	286	455	483	990	777	202	187	161	156
27	177	449	610	278	426	438	862	666	197	185	200	159
28	202	403	554	272	395	392	764	567	194	182	190	164
29	507	368	534	261	363	374	698	500	192	180	179	158
30	2480	394	547	251	---	606	635	429	191	178	171	153
31	1120	---	557	251	---	1270	---	394	---	176	166	---
MEAN	286	582	591	336	432	442	1373	617	299	189	172	165
MAX	2480	1890	1350	518	820	1270	10400	1680	700	234	220	220
MIN	155	220	286	251	223	259	346	300	191	176	157	150
IN.	.42	.83	.87	.50	.60	.65	1.96	.91	.43	.28	.25	.24

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	288	465	587	553	655	868	1040	955	737	343	256	253
MAX	2562	2684	4712	3155	2397	2842	4305	3665	4644	3287	1181	1755	
(WY)	1950	1986	1983	1950	1985	1945	1927	1957	1935	1951	1982	1934	
MIN	85.2	118	116	114	126	141	138	131	134	92.9	104	82.2	
(WY)	1957	1965	1965	1956	1934	1954	1954	1977	1932	1934	1936	1956	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	602		456		582	
HIGHEST ANNUAL MEAN					1473	
LOWEST ANNUAL MEAN					177	
HIGHEST DAILY MEAN	7190	May 14	10400	Apr 21	44500	Dec 4 1982
LOWEST DAILY MEAN	155	Oct 20	150	Sep 19	76	Jul 22 1934
INSTANTANEOUS PEAK FLOW	---		12500	Apr 21	51200	Jun 18 1985
INSTANTANEOUS PEAK STAGE	---		12.8	Apr 21	26.15	Jun 18 1985
INSTANTANEOUS LOW FLOW	---		149	Sep 19-20	74	Jul 22 1934
ANNUAL SEVEN-DAY MINIMUM	157	Oct 16	155	Sep 14	78	Oct 5 1956
ANNUAL RUNOFF (INCHES)	10.47		7.94		10.13	
10 PERCENT EXCEEDS	1210		781		1070	
50 PERCENT EXCEEDS	379		298		260	
90 PERCENT EXCEEDS	165		160		129	

MERAMEC RIVER BASIN

07014500 MERAMEC RIVER NEAR SULLIVAN, MO

LOCATION.--Lat 38°09'30", long 91°06'30", in SE 1/4 NE 1/4 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.

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 sea level (levels by U.S. Army Corps of Engineers). Prior to Oct. 21, 1952, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature and specific conductance were made during the year. Water diverted from river 0.5 mi above gage by mining company. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1915 reached a stage of 33.5 ft, from information by local residents, discharge, 90,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	268	2060	1030	1130	536	748	2450	1290	896	404	314	283
2	268	3190	1140	1060	526	711	1990	1180	831	400	310	279
3	328	2500	1370	1010	517	682	1680	1080	920	423	308	272
4	358	1660	1750	946	507	661	1480	991	2160	393	306	265
5	417	1270	1640	889	501	644	1330	915	1950	380	286	258
6	465	1050	1420	842	493	639	1190	850	1490	386	286	248
7	475	910	1260	800	489	640	1090	797	1260	385	283	242
8	429	796	1140	808	480	645	1010	753	1100	381	283	269
9	393	710	1040	815	469	676	936	720	978	369	283	283
10	364	650	939	817	462	684	906	692	886	405	308	447
11	343	605	859	788	459	694	899	666	821	485	396	390
12	330	567	823	762	491	704	897	805	785	386	357	369
13	316	538	800	748	529	683	846	1610	753	357	345	346
14	313	513	790	757	681	657	809	1510	699	405	325	317
15	308	498	775	742	1020	627	776	1200	664	659	308	290
16	308	498	734	715	1600	604	765	1010	636	468	297	276
17	308	498	695	684	1590	589	816	941	603	451	286	265
18	309	538	658	670	1690	706	1550	1010	575	479	286	265
19	308	696	622	652	1790	1660	11800	1090	545	494	279	272
20	307	1530	676	636	1660	2320	23000	1180	522	498	272	297
21	304	2550	1530	628	1460	1990	23900	1420	501	475	265	389
22	305	2430	2510	629	1300	1700	10700	2320	482	444	262	384
23	306	1910	2250	638	1190	1510	4540	3120	472	419	255	384
24	314	1520	1930	636	1100	1340	3470	2870	461	401	248	343
25	326	1260	1650	631	1030	1200	2830	2210	459	387	248	317
26	410	1080	1430	611	960	1110	2400	1790	455	367	252	315
27	467	960	1260	592	903	996	2070	1510	446	353	357	341
28	620	868	1150	577	845	910	1800	1310	431	337	345	324
29	1040	819	1120	560	792	870	1580	1160	419	324	326	325
30	2970	1130	1140	555	---	2510	1430	1060	411	321	312	309
31	2800	---	1180	546	---	2790	---	976	---	315	304	---
MEAN	541	1193	1204	738	899	1061	3698	1291	787	411	300	312
MAX	2970	3190	2510	1130	1790	2790	23900	3120	2160	659	396	447
MIN	268	498	622	546	459	589	765	666	411	315	248	242
IN.	.42	.90	.94	.58	.66	.83	2.80	1.01	.60	.32	.23	.24

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	595	983	1255	1176	1433	1902	2309	1932	1307	711	512	475
MAX	4307	5692	8307	6304	5264	5786	8287	7022	8742	6142	2030	1549	
(WY)	1950	1986	1983	1950	1982	1945	1927	1957	1945	1951	1982	1945	
MIN	156	249	232	216	281	295	347	292	263	205	199	146	
(WY)	1957	1957	1956	1956	1954	1954	1954	1932	1932	1954	1964	1956	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	1166	1032	1214
HIGHEST ANNUAL MEAN			3014
LOWEST ANNUAL MEAN			341
HIGHEST DAILY MEAN	7000	Jan 1	70600
LOWEST DAILY MEAN	256	Sep 17	131
INSTANTANEOUS PEAK FLOW	---		77300
INSTANTANEOUS PEAK STAGE	---		32.0
INSTANTANEOUS LOW FLOW	---		131
ANNUAL SEVEN-DAY MINIMUM	261	Aug 25	133
ANNUAL RUNOFF (INCHES)	10.73		11.18
10 PERCENT EXCEEDS	2460		2330
50 PERCENT EXCEEDS	886		583
90 PERCENT EXCEEDS	295		269

MERAMEC RIVER BASIN

07015720 BOURBEUSE RIVER NEAR HIGH GATE, MO

LOCATION.--Lat 38°08'49", long 91°34'50", in SW 1/4 NE 1/4 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, 5.0 mi east of High Gate and 11.0 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 sea level (levels by Missouri State Highways and Transportation Commission). Prior to Aug. 17, 1966, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Jan. 13-20. Records good. Several observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1957 reached a stage of about 23 ft, from information by local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	419	85	84	25	46	196	35	23	1.8	1.1	3.7
2	1.9	104	182	72	24	43	126	30	20	1.8	.97	2.3
3	7.9	52	390	64	23	42	93	26	64	5.0	.91	1.6
4	21	39	143	55	23	40	76	23	166	3.8	.89	1.2
5	130	31	105	49	22	39	62	21	80	5.0	.86	.96
6	39	25	90	46	21	41	51	18	54	3.2	.82	.88
7	19	21	74	42	21	77	45	17	61	2.5	.83	.83
8	11	19	62	45	20	68	40	14	42	2.0	.84	1.7
9	7.7	17	51	53	20	62	39	12	30	1.6	.75	2.4
10	6.1	14	43	43	20	65	51	12	26	1.4	1.6	17
11	5.0	12	37	38	20	58	43	16	33	1.4	4.0	20
12	4.4	11	51	35	25	53	36	374	33	1.2	2.0	6.4
13	4.1	9.6	75	33	43	49	31	116	21	1.3	1.4	4.4
14	3.8	9.2	55	32	1190	46	29	63	14	1.5	.95	2.9
15	3.5	8.8	44	31	660	42	28	45	10	1.4	.80	2.2
16	3.4	9.2	37	30	261	38	46	34	8.1	2.0	.65	1.6
17	3.4	16	33	29	203	38	83	29	7.7	1.8	.60	1.3
18	3.4	94	29	29	350	135	353	29	6.9	3.5	.60	1.1
19	3.3	353	27	28	194	302	1200	28	6.2	13	.54	.96
20	3.3	525	552	30	137	275	1700	963	5.6	8.2	.49	5.0
21	3.4	232	1060	34	112	165	490	1220	5.1	8.5	.48	13
22	3.5	121	300	41	93	133	252	1030	4.4	6.4	.49	10
23	3.6	77	253	57	82	105	162	372	3.7	4.8	.51	5.4
24	3.8	57	180	57	77	84	115	182	3.3	3.5	.49	3.7
25	3.8	44	118	45	76	74	88	105	3.3	2.8	.51	2.8
26	4.2	37	90	38	70	67	73	75	3.1	2.2	1.2	4.7
27	4.1	34	76	34	62	59	63	63	2.6	1.9	6.0	7.4
28	5.5	30	67	31	56	51	54	52	2.2	1.5	2.9	14
29	29	38	106	29	50	85	47	42	2.0	1.2	1.7	6.3
30	34	313	148	28	---	1000	40	34	1.9	1.1	1.2	4.7
31	30	---	109	27	---	354	---	29	---	1.3	4.1	---
MEAN	13.2	92.4	151	41.6	137	121	190	165	24.8	3.18	1.33	5.01
MAX	130	525	1060	84	1190	1000	1700	1220	166	13	6.0	20
MIN	1.9	8.8	27	27	20	38	28	12	1.9	1.1	.48	.83
IN.	.11	.76	1.29	.36	1.10	1.03	1.57	1.41	.20	.03	.01	.04

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	51.9	151	213	125	183	228	227	164	101	23.8	26.3	28.5
MAX	552	799	1213	549	634	747	568	734	963	93.8	373	369
(WY)	1987	1986	1983	1969	1985	1984	1979	1990	1985	1977	1982	1965
MIN	.34	.94	1.68	.65	12.4	1.32	1.57	3.88	.95	.25	.19	.14
(WY)	1967	1981	1990	1977	1981	1981	1981	1977	1972	1972	1971	1971

SUMMARY STATISTICS

	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	112	78.4	125
HIGHEST ANNUAL MEAN			315
LOWEST ANNUAL MEAN			21.7
HIGHEST DAILY MEAN	7520	1700	21000
LOWEST DAILY MEAN	.45	.48	.00
INSTANTANEOUS PEAK FLOW	--	4210	49300
INSTANTANEOUS PEAK STAGE	--	10.66	23.65
INSTANTANEOUS LOW FLOW	--	.45	.00
ANNUAL SEVEN-DAY MINIMUM	.51	.50	.00
ANNUAL RUNOFF (INCHES)	11.22	7.91	12.60
10 PERCENT EXCEEDS	234	163	210
50 PERCENT EXCEEDS	27	29	18
90 PERCENT EXCEEDS	1.2	1.4	.62

MERAMEC RIVER BASIN

07016500 BOURBEUSE RIVER AT UNION, MO

LOCATION.--Lat 38°26'45", long 90°59'30", in SE 1/4 sec.26, T.43 N., R.1 W., Franklin County, Hydrologic Unit 07140103, on left bank at upstream side of the 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 sea level. 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.--No estimated daily discharges. Records good. Several observations of water temperature and specific conductance were made during the year. National Weather Service telemark and U.S. Army Corps of Engineers satellite telemeters at station.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	459	541	840	198	324	2600	311	191	62	51	64
2	47	651	1030	708	190	297	1290	282	170	61	48	54
3	51	1020	803	566	183	276	855	257	189	68	46	45
4	78	606	1460	481	175	261	636	233	213	63	45	41
5	137	385	1320	424	168	246	505	217	234	94	42	45
6	168	292	754	377	162	234	428	199	373	64	40	47
7	130	241	564	338	156	227	373	184	394	56	39	42
8	167	208	476	322	151	220	331	172	314	55	41	45
9	171	188	417	302	144	216	302	164	291	53	40	43
10	162	175	368	306	143	213	289	156	238	53	60	59
11	127	164	326	304	138	235	266	146	207	73	65	49
12	102	154	301	285	139	231	253	149	185	57	49	58
13	85	147	276	271	145	221	239	170	169	56	47	51
14	73	142	270	262	385	217	234	356	154	50	46	73
15	64	139	289	247	2030	207	223	456	139	47	43	65
16	58	135	296	247	5120	195	214	331	126	45	40	59
17	54	136	276	243	2160	187	209	266	119	46	39	67
18	50	142	243	230	1910	194	246	232	115	47	37	70
19	47	215	222	222	2210	216	1690	214	104	48	35	61
20	44	749	251	214	1450	300	5480	191	95	49	34	71
21	41	2720	599	209	921	845	7730	175	91	83	34	77
22	41	2080	3640	209	685	817	4500	1040	85	199	33	63
23	41	1060	2380	218	553	614	1700	1550	82	100	34	57
24	40	677	1500	234	482	507	1080	1570	78	64	34	51
25	38	494	1200	293	448	441	779	917	76	58	34	47
26	44	391	878	303	445	387	601	543	72	59	39	48
27	48	327	673	292	434	342	492	404	68	52	71	55
28	46	286	545	261	394	311	427	324	66	52	57	49
29	141	260	473	236	355	297	379	273	65	55	63	48
30	126	263	438	221	---	639	343	239	65	57	48	47
31	197	---	580	208	---	3920	---	215	---	54	45	---
MEAN	86.0	497	754	318	761	446	1156	385	159	63.9	44.5	55.0
MAX	197	2720	3640	840	5120	3920	7730	1570	394	199	71	77
MIN	38	135	222	208	138	187	209	146	65	45	33	41
IN.	.12	.69	1.08	.45	1.02	.64	1.60	.55	.22	.09	.06	.08

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	321	500	669	606	776	1118	1219	1104	835	301	168	205
MEAN	321	500	669	606	776	1118	1219	1104	835	301	168	205
MAX	4575	3320	6107	3518	3214	4207	4425	4126	4583	2554	1037	2069
(WY)	1950	1986	1983	1950	1985	1984	1927	1990	1942	1951	1951	1934
MIN	15.0	28.0	35.4	30.7	41.1	42.0	94.9	66.6	33.7	23.9	21.0	19.2
(WY)	1957	1954	1954	1956	1963	1954	1956	1932	1936	1936	1936	1956

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	550	391	650
HIGHEST ANNUAL MEAN			1590
LOWEST ANNUAL MEAN			106
HIGHEST DAILY MEAN	16100	Apr 17	7730
LOWEST DAILY MEAN	28	Sep 1-2	33
INSTANTANEOUS PEAK FLOW	--		8000
INSTANTANEOUS PEAK STAGE	--		12.09
INSTANTANEOUS LOW FLOW	--		30
ANNUAL SEVEN-DAY MINIMUM	32	Aug 31	34
ANNUAL RUNOFF (INCHES)	9.25		6.59
10 PERCENT EXCEEDS	1190		807
50 PERCENT EXCEEDS	208		207
90 PERCENT EXCEEDS	43		46
			40

MERAMEC RIVER BASIN

07017200 BIG RIVER AT IRONDALE, MO

LOCATION.--Lat 37°49'48", long 90°41'27", in SE 1/4 SW 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 sea level (Missouri State Highways and Transportation Commission bench mark).

REMARKS.--Estimated daily discharges: Oct. 1-11, Nov. 19 to Jan. 2, Feb. 20 to Mar. 25, and Mar. 30 to May 18. Records poor. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	860	205	100	49	70	270	162	25	16	10	6.9
2	14.5	359	510	96	47	68	210	150	23	16	9.5	9.9
3	17.5	202	495	93	47	65	170	135	312	17	9.1	9.2
4	20.5	140	370	86	44	62	140	125	363	15	9.0	7.8
5	24	114	310	79	42	60	120	115	247	14	8.6	7.5
6	22	94	250	77	41	70	110	105	235	14	8.6	7.4
7	21	78	200	72	40	82	98	103	351	14	8.5	7.1
8	19.5	63	170	78	39	95	90	95	133	14	8.9	8.3
9	18.5	53	140	84	37	88	95	90	86	13	8.2	8.8
10	17.5	46	115	74	36	90	100	86	70	11	9.2	12
11	17	39	100	68	37	82	98	97	60	11	9.6	10
12	16.5	34	86	68	58	76	100	110	51	11	8.4	9.0
13	16	30	74	70	102	70	94	105	44	9.6	7.7	8.8
14	16	28	65	87	182	65	82	95	42	9.2	7.8	8.7
15	16	26	57	82	613	60	82	87	37	9.8	7.6	7.7
16	16	24	50	67	291	56	100	140	32	10	7.3	7.1
17	16	25	44	70	305	260	240	180	28	12	7.4	7.0
18	16	70	40	67	512	1370	800	65	24	12	7.4	7.2
19	16	1140	40	60	316	700	4200	57	24	11	7.0	7.0
20	16	1400	130	62	220	460	1350	50	20	12	6.8	9.1
21	16	640	280	62	175	350	850	107	19	13	6.9	14
22	16	320	210	64	150	280	600	74	18	14	6.9	14
23	18.5	210	170	71	130	240	500	265	17	18	6.8	11
24	24	160	135	68	115	200	400	156	16	17	6.8	9.7
25	40	120	115	63	105	170	345	73	29	16	6.5	9.3
26	74	98	96	59	98	148	290	52	24	15	6.1	9.5
27	102	82	85	57	88	127	250	42	18	12	8.1	11
28	270	69	98	55	82	114	225	36	17	11	10	9.6
29	860	150	115	52	75	111	200	34	15	11	9.2	8.8
30	600	285	110	50	---	740	180	33	16	10	8.2	8.4
31	600	---	105	49	---	390	---	28	---	10	7.4	---
MEAN	95.7	232	160	70.6	141	220	413	98.5	79.9	12.9	8.05	9.06
MAX	860	1400	510	100	613	1370	4200	265	363	18	10	14
MIN	11	24	40	49	36	56	82	28	15	9.2	6.1	6.9
IN.	.63	1.48	1.06	.47	.87	1.45	2.63	.65	.51	.08	.05	.06

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1965	68.6	339	1971	6.95	1981
1966	226	1086	1986	10.5	1981
1967	301	1027	1983	13.7	1977
1968	196	734	1969	11.1	1981
1969	262	695	1985	24.9	1977
1970	327	867	1978	38.9	1981
1971	343	921	1972	66.4	1977
1972	210	843	1990	24.1	1977
1973	101	872	1985	9.95	1980
1974	50.7	262	1981	4.69	1980
1975	57.0	393	1970	4.31	1980
1976	49.9	238	1982	3.95	1971

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	144	128	182
HIGHEST ANNUAL MEAN			449
LOWEST ANNUAL MEAN			56.6
HIGHEST DAILY MEAN	3050	4200	16500
LOWEST DAILY MEAN	4.1	6.1	2.5
INSTANTANEOUS PEAK FLOW	---	9200	43200
INSTANTANEOUS PEAK STAGE	---	11.90	27.92
INSTANTANEOUS LOW FLOW	---	6.1	2.2
ANNUAL SEVEN-DAY MINIMUM	4.6	6.7	2.7
ANNUAL RUNOFF (INCHES)	11.16	9.94	14.14
10 PERCENT EXCEEDS	359	286	360
50 PERCENT EXCEEDS	81	61	58
90 PERCENT EXCEEDS	9.4	8.8	10

*Peak from crest-stage gage, probable date.

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 at 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.

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 sea level.

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.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	1370	916	442	239	313	861	538	280	131	95	89
2	91	1830	728	407	234	296	700	496	256	129	95	88
3	101	929	1270	388	233	284	604	457	307	150	93	90
4	116	626	1260	368	227	275	546	423	562	175	91	92
5	133	488	940	348	225	267	496	396	846	150	89	89
6	142	407	797	326	222	261	457	371	580	137	87	89
7	136	357	726	307	221	299	429	351	455	131	89	88
8	128	313	665	310	218	351	409	336	692	128	91	99
9	119	279	556	368	214	375	398	327	500	123	91	105
10	113	256	471	371	209	356	413	315	373	119	92	142
11	108	241	421	334	206	360	432	304	320	122	164	142
12	104	231	394	315	216	348	424	356	285	120	190	126
13	102	217	375	311	239	317	422	375	257	108	124	112
14	101	210	345	344	399	297	386	339	236	122	105	103
15	100	201	312	373	1430	276	375	324	242	199	99	99
16	99	204	285	345	1430	260	374	303	219	173	95	109
17	99	209	268	339	919	251	430	379	204	140	95	105
18	101	242	253	321	1310	371	2320	609	190	162	94	101
19	101	275	241	289	1270	3060	8140	441	174	158	94	99
20	99	2490	239	281	881	1870	10500	377	163	135	94	106
21	98	3150	557	275	703	1170	8710	525	157	124	93	136
22	99	1440	911	277	596	920	2600	956	151	122	92	205
23	100	954	780	293	527	793	1660	1520	145	120	92	190
24	104	723	669	303	484	687	1250	1230	145	156	92	132
25	110	584	572	293	447	616	1030	888	150	210	89	115
26	148	496	494	274	411	580	881	589	157	153	86	113
27	332	442	446	262	385	539	783	462	148	135	95	122
28	417	399	413	253	362	488	702	389	146	118	106	115
29	658	365	443	248	337	464	635	343	139	109	105	106
30	1790	486	511	245	---	1610	582	323	132	102	94	102
31	1390	---	488	242	---	1210	---	301	---	96	90	---
MEAN	240	680	572	318	510	631	1598	495	287	137	100	114
MAX	1790	3150	1270	442	1430	3060	10500	1520	846	210	190	205
MIN	91	201	239	242	206	251	374	301	132	96	86	88
IN.	.38	1.03	.90	.50	.75	.99	2.43	.78	.44	.22	.16	.17

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)**

	MEAN	283	629	870	692	932	1228	1231	994	511	393	252	253
MAX	1641	4223	4332	3845	2935	2838	4383	3880	3150	2492	1357	1492	
(WY)	1950	1986	1983	1950	1985	1985	1957	1990	1985	1951	1950	1950	
MIN	47.5	87.9	90.5	84.0	124	123	271	170	110	86.0	69.9	40.6	
(WY)	1957	1977	1956	1977	1954	1954	1981	1965	1980	1980	1955	1956	

SUMMARY STATISTICS**

	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	548	471	688
HIGHEST ANNUAL MEAN			1766
LOWEST ANNUAL MEAN			198
HIGHEST DAILY MEAN	5630	10500	38300
LOWEST DAILY MEAN	82	86	22
INSTANTANEOUS PEAK FLOW	--	13700	55800
INSTANTANEOUS PEAK STAGE	--	17.33	27.15
INSTANTANEOUS LOW FLOW	--	85	20
ANNUAL SEVEN-DAY MINIMUM	87	89	26
ANNUAL RUNOFF (INCHES)	10.12	8.73	12.72
10 PERCENT EXCEEDS	1210	895	1300
50 PERCENT EXCEEDS	384	285	276
90 PERCENT EXCEEDS	101	99	98

** Statistics based only on years with complete daily discharge record.

MERAMEC RIVER BASIN

07018500 BIG RIVER AT BYRNESVILLE, MO

LOCATION.--Lat 38°21'45", long 90°39'15,, in SE 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 and 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 sea level. Prior to Mar. 9, 1940, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature and specific conductance were made during the year. National Weather Service telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 21, 1915, reached a stage of 30.2 ft from floodmarks, discharge, 80,000 ft³/s, by slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	1700	574	528	285	419	1530	660	347	157	128	108
2	120	1800	968	476	280	393	1100	600	323	151	122	108
3	120	1620	1080	439	274	375	882	547	316	181	119	101
4	123	908	1520	413	271	359	755	497	616	164	118	96
5	132	642	1260	389	265	347	661	457	710	183	116	97
6	140	508	982	369	262	337	589	424	814	192	112	98
7	147	425	841	346	259	331	533	397	610	163	109	95
8	153	367	761	408	258	349	491	375	496	155	107	101
9	152	324	688	441	258	398	457	357	682	151	107	103
10	147	293	572	454	254	433	444	342	524	146	107	122
11	142	268	490	442	248	411	439	327	407	145	107	129
12	138	251	450	405	250	413	436	362	352	148	109	137
13	134	239	423	386	256	398	417	386	315	144	109	130
14	131	226	392	391	382	373	407	383	288	137	166	122
15	128	220	362	405	1110	353	407	353	267	140	160	112
16	126	222	333	420	1850	333	409	332	262	175	130	106
17	124	238	309	399	1610	321	392	859	239	201	117	107
18	124	278	289	389	1850	369	1360	859	225	176	109	109
19	124	287	273	368	1760	1310	9000	709	211	162	105	106
20	124	600	293	349	1420	3200	12400	509	200	180	102	109
21	124	3640	676	339	1050	1830	13200	470	188	210	99	118
22	124	2410	827	340	851	1300	7970	997	181	189	97	129
23	124	1390	1060	347	737	1030	2800	1430	175	153	95	142
24	127	972	871	354	671	876	1950	1630	170	146	94	196
25	131	745	733	358	635	771	1510	1420	170	143	92	150
26	137	603	625	343	571	692	1240	916	172	158	91	134
27	149	515	539	327	520	636	1050	666	172	197	94	130
28	285	453	487	313	481	582	919	538	166	168	97	130
29	755	410	519	302	449	599	821	455	163	152	114	125
30	1050	485	539	297	---	4730	735	402	162	140	105	119
31	1920	---	568	290	---	2660	---	372	---	133	106	---
MEAN	245	768	655	382	668	869	2177	614	331	163	111	119
MAX	1920	3640	1520	528	1850	4730	13200	1630	814	210	166	196
MIN	120	220	273	290	248	321	392	327	162	133	91	95
IN.	.31	.93	.82	.48	.79	1.09	2.65	.77	.40	.20	.14	.14

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	339	669	900	893	1110	1438	1624	1386	798	488	286	282
MAX	2290	4709	5594	5064	3696	4539	6190	5196	4530	3895	1490	1696	
(WY)	1950	1986	1983	1950	1982	1945	1927	1990	1928	1957	1950	1950	
MIN	49.7	99.6	103	90.4	139	137	345	177	105	56.4	41.4	48.7	
(WY)	1957	1977	1956	1977	1954	1954	1932	1932	1936	1936	1936	1956	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	705	588	850
HIGHEST ANNUAL MEAN			1934
LOWEST ANNUAL MEAN			227
HIGHEST DAILY MEAN	8260	13200	40100
LOWEST DAILY MEAN	111	91	25
INSTANTANEOUS PEAK FLOW	--	14000	43000
INSTANTANEOUS PEAK STAGE	--	18.71	26.47
INSTANTANEOUS LOW FLOW	--	90	25
ANNUAL SEVEN-DAY MINIMUM	114	94	34
ANNUAL RUNOFF (INCHES)	10.45	8.74	12.60
10 PERCENT EXCEEDS	1610	1070	1700
50 PERCENT EXCEEDS	454	342	333
90 PERCENT EXCEEDS	132	113	116

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, and November 1981 to September 1986.

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 and 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, and Aug. 11, 15, 16, 1986.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 619,000 tons, Nov. 21, 1985; minimum daily, 3.2 tons, Dec. 20, 1980.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (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)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV											
06...	1230	2480	308	8.0	6.0	14	11.6	92	400	330	160
JAN											
22...	0935	1540	362	7.9	2.5	1.7	15.1	110	K8	K12	190
MAR											
03...	1000	1830	350	8.3	11.0	3.0	11.7	106	20	K10	180
MAY											
07...	0910	1960	338	8.0	15.5	2.5	9.9	97	27	K18	180
JUL											
14...	0830	563	371	7.6	28.0	4.6	6.8	86	K34	780	190
SEP											
09...	0900	512	390	8.0	24.0	4.0	7.6	89	21	120	190

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

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 WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)
NOV											
06...	33	18	4.5	2.4	138	21	7.8	0.10	8.2	174	180
JAN											
22...	40	22	5.7	1.3	172	26	11	0.20	3.5	189	216
MAR											
03...	38	21	5.3	1.6	164	23	9.1	0.10	2.6	207	199
MAY											
07...	39	20	4.4	1.4	154	21	6.9	0.10	5.4	185	190
JUL											
14...	40	23	4.7	1.6	177	18	8.9	0.20	9.8	213	212
SEP											
09...	37	24	5.9	1.5	190	21	9.9	<0.10	7.6	218	221

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)
NOV 06...	0.24	1170	<0.010	0.360	0.030	0.020	0.30	0.070	0.040	0.020	50
JAN 22...	0.26	786	<0.010	0.200	<0.010	0.010	<0.20	0.020	<0.010	0.010	<10
MAR 03...	0.28	1020	<0.010	0.079	0.010	0.010	0.20	0.030	<0.010	<0.010	--
MAY 07...	0.25	979	<0.010	0.280	<0.010	<0.010	<0.20	<0.010	<0.010	<0.010	<10
JUL 14...	0.29	324	<0.010	0.120	0.020	0.030	0.20	<0.010	<0.010	0.020	<10
SEP 09...	0.30	301	<0.010	<0.050	0.010	0.020	<0.20	0.030	<0.010	0.020	--

DATE	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	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)
NOV 06...	110	<3	49	<4	14	<10	1	<1	<1.0	44	<6
JAN 22...	120	<3	9	<4	34	<10	<1	<1	<1.0	52	<6
MAY 07...	150	<3	7	<4	39	<10	1	<1	<1.0	54	<6
JUL 14...	170	<3	18	<4	19	<10	1	<1	<1.0	61	<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, 1982 to current year.

REMARKS.--Records of discharge are given for gaging station near Eureka, Mo.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (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 TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)
OCT												
08...	0930	879	391	7.7	16.0	7.8	78	180	180	37	21	11
JAN												
22...	1100	1460	384	8.0	2.5	15.1	110	150	200	42	22	10
APR												
09...	1030	2300	333	7.9	13.0	9.2	86	42	180	39	19	6.1
JUN												
10...	1100	2140	347	8.0	8.5	7.4	62	98	--	--	--	--

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WAT WH TOT FET 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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C SUS- PENDE (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)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)
OCT												
08...	2.3	170	28	19	0.20	218	22	0.190	0.150	0.180	910	10
JAN												
22...	1.6	171	28	18	0.10	218	5	--	--	--	100	<10
APR												
09...	1.7	148	22	12	0.10	188	36	0.210	0.120	0.060	650	30
JUN												
10...	--	183	--	--	--	186	41	0.210	0.100	0.070	430	<10

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT											
08...	<1	<1.0	1	7	19	<1	120	15	<0.10	<10	9
JAN											
22...	<1	<1.0	<1	6	5	<1	100	54	--	40	<3
APR											
09...	<1	<1.0	2	16	39	2	120	65	--	20	7

MISSISSIPPI RIVER MAIN STEM

07020500 MISSISSIPPI RIVER AT CHESTER, IL

LOCATION.--Lat 37°54'10", long 89°51'10", in SW 1/4 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 U.S. 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 U.S. 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 sea level. Prior to Feb. 1, 1962, nonrecording gage 0.4 mi downstream at present datum.

REMARKS.--No estimated daily discharges. 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 30, 1844, reached a gage height of 39.8 ft, discharge, 1,350,000 ft³/s, computed by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114000	124000	193000	190000	133000	195000	299000	365000	142000	121000	346000	107000
2	111000	137000	211000	179000	132000	188000	287000	355000	139000	119000	338000	101000
3	112000	138000	234000	173000	131000	174000	280000	344000	137000	122000	354000	98700
4	113000	144000	237000	163000	127000	162000	273000	338000	135000	139000	358000	99000
5	123000	146000	229000	157000	122000	161000	257000	329000	132000	153000	326000	104000
6	158000	152000	215000	149000	118000	163000	242000	319000	125000	140000	293000	108000
7	150000	169000	197000	149000	119000	175000	230000	308000	125000	128000	271000	110000
8	136000	173000	173000	150000	121000	187000	218000	297000	123000	131000	256000	124000
9	135000	163000	167000	153000	127000	194000	213000	286000	124000	136000	247000	133000
10	134000	157000	165000	156000	128000	205000	215000	272000	125000	146000	240000	140000
11	128000	153000	177000	152000	128000	214000	212000	254000	119000	171000	240000	178000
12	119000	149000	183000	154000	125000	227000	209000	238000	117000	182000	244000	209000
13	111000	142000	188000	156000	118000	240000	197000	224000	119000	184000	227000	223000
14	104000	141000	195000	158000	114000	243000	192000	208000	125000	188000	210000	211000
15	96500	144000	209000	158000	113000	243000	198000	195000	122000	193000	196000	195000
16	94100	144000	214000	155000	125000	243000	205000	185000	121000	212000	185000	173000
17	91500	137000	211000	149000	157000	242000	219000	172000	113000	303000	174000	160000
18	90200	131000	216000	134000	169000	243000	230000	159000	114000	352000	167000	169000
19	88800	131000	221000	120000	168000	251000	241000	151000	132000	331000	161000	189000
20	89700	157000	215000	107000	181000	264000	286000	146000	134000	315000	156000	205000
21	90600	180000	214000	100000	186000	280000	334000	146000	133000	302000	150000	233000
22	90300	180000	221000	103000	212000	306000	351000	148000	132000	284000	144000	250000
23	89200	185000	231000	108000	234000	343000	390000	157000	144000	274000	138000	254000
24	90100	196000	218000	116000	232000	341000	426000	166000	150000	271000	132000	258000
25	89900	191000	217000	116000	216000	316000	428000	173000	148000	266000	121000	249000
26	93900	184000	221000	117000	202000	298000	417000	177000	148000	253000	110000	235000
27	102000	197000	226000	126000	202000	287000	408000	177000	151000	258000	103000	227000
28	107000	205000	231000	136000	204000	274000	397000	169000	148000	298000	107000	221000
29	113000	195000	237000	138000	200000	263000	384000	164000	144000	355000	119000	213000
30	123000	192000	230000	135000	---	274000	374000	156000	132000	376000	123000	202000
31	123000	---	213000	133000	---	293000	---	147000	---	363000	113000	---
MEAN	110000	161200	210000	141600	156700	241600	287100	223400	131800	227900	204800	179300
MAX	158000	205000	237000	190000	234000	343000	428000	365000	151000	376000	358000	258000
MIN	88800	124000	165000	100000	113000	161000	192000	146000	113000	119000	103000	98700
IN.	.18	.25	.34	.23	.24	.39	.45	.36	.21	.37	.33	.28

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	145900	150000	134700	127600	154900	248000	332200	304100	269600	228800	146600	141400
MAX	588300	380400	500100	323200	331000	528400	719100	625000	597200	676800	254400	316000
(WY)	1987	1986	1983	1973	1974	1973	1973	1973	1947	1951	1981	1951
MIN	59490	59320	51070	47810	52860	84200	137800	127200	81040	69050	69580	66030
(WY)	1957	1957	1964	1964	1964	1964	1977	1989	1988	1988	1988	1976

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	210000			189800			198500		
HIGHEST ANNUAL MEAN							347500		1973
LOWEST ANNUAL MEAN							96770		1956
HIGHEST DAILY MEAN	446000	May 9		428000	Apr 25		885000	Apr 30	1973
LOWEST DAILY MEAN	76900	Sep 9		88800	Oct 19		37600	Jan 1	1964
INSTANTANEOUS PEAK FLOW	--			434000	Apr 24		886000	Jul 3	1947
INSTANTANEOUS PEAK STAGE	--			27.11	Apr 24		43.32	Apr 30	1973
INSTANTANEOUS LOW FLOW	--			88000	Oct 19, 25		30000	Dec 12	1937
ANNUAL SEVEN-DAY MINIMUM	82400	Sep 6		89800	Oct 19		38500	Dec 20	1963
ANNUAL RUNOFF (INCHES)	4.02			3.65			3.81		
10 PERCENT EXCEEDS	374000			298000			380000		
50 PERCENT EXCEEDS	182000			173000			161000		
90 PERCENT EXCEEDS	110000			113000			75500		

MISSISSIPPI RIVER MAIN STEM

07020500 MISSISSIPPI RIVER AT CHESTER, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT: August 1980 to current year.

REMARKS.--Sediment record fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,380 mg/L, Apr. 12, 1987; 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, 2,520 mg/L, July 18; minimum daily mean, 61 mg/L, Feb. 13.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 2,400,000 tons, July 18; minimum daily, 19,300 tons, Feb. 13.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	114000	204	62800	124000	188	63400	193000	160	83700
2	111000	199	60200	137000	256	94800	211000	236	136000
3	112000	197	59000	138000	254	94800	234000	338	214000
4	113000	202	61600	144000	205	79700	237000	364	232000
5	123000	308	109000	146000	179	70700	229000	361	223000
6	158000	214	90900	152000	311	129000	215000	358	207000
7	150000	189	76200	169000	597	274000	197000	355	188000
8	136000	230	84500	173000	714	333000	173000	352	164000
9	135000	183	66800	163000	385	170000	167000	350	157000
10	134000	171	61900	157000	188	80000	165000	347	155000
11	128000	126	43500	153000	154	63600	177000	344	164000
12	119000	129	41600	149000	197	79500	183000	341	169000
13	111000	159	47300	142000	207	79700	188000	339	172000
14	104000	188	52700	141000	290	110000	195000	336	177000
15	96500	172	44700	144000	263	102000	209000	334	188000
16	94100	176	44700	144000	281	109000	214000	331	191000
17	91500	126	31100	137000	261	96400	211000	328	187000
18	90200	124	30200	131000	242	85500	216000	326	190000
19	88800	145	34800	131000	248	87900	221000	323	193000
20	89700	271	65800	157000	396	171000	215000	321	186000
21	90600	172	42000	180000	451	219000	214000	318	184000
22	90300	140	34100	180000	319	155000	221000	316	189000
23	89200	383	92100	185000	290	145000	231000	313	195000
24	90100	162	39200	196000	294	155000	218000	311	183000
25	89900	130	31500	191000	341	175000	217000	308	181000
26	93900	166	42400	184000	356	177000	221000	306	183000
27	102000	213	58500	197000	323	172000	226000	304	186000
28	107000	273	79300	205000	219	121000	231000	306	191000
29	113000	350	107000	195000	160	84200	237000	355	227000
30	123000	398	133000	192000	138	71700	230000	283	176000
31	123000	140	46900	---	---	---	213000	243	140000

MISSISSIPPI RIVER MAIN STEM

07020500 MISSISSIPPI RIVER AT CHESTER, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	190000	216	110000	133000	168	60300	195000	257	135000
2	179000	191	92700	132000	227	81000	188000	218	110000
3	173000	170	79300	131000	223	78800	174000	244	114000
4	163000	180	78900	127000	100	34300	162000	205	89600
5	157000	159	67400	122000	159	52500	161000	219	95300
6	149000	123	49400	118000	115	36600	163000	198	87500
7	149000	133	53500	119000	88	28100	175000	245	116000
8	150000	161	65100	121000	84	27400	187000	273	138000
9	153000	156	64500	127000	92	31600	194000	286	150000
10	156000	152	64100	128000	133	46000	205000	300	166000
11	152000	150	61600	128000	113	39300	214000	316	183000
12	154000	148	61500	125000	81	27300	227000	364	224000
13	156000	143	60600	118000	61	19300	240000	390	253000
14	158000	132	56200	114000	71	21800	243000	402	264000
15	158000	120	51300	113000	135	41400	243000	366	241000
16	155000	109	45900	125000	138	46900	243000	323	211000
17	149000	101	40800	157000	146	62100	242000	298	195000
18	134000	109	39300	169000	173	78900	243000	288	189000
19	120000	120	38800	168000	192	87300	251000	377	256000
20	107000	125	36100	181000	143	70100	264000	366	262000
21	100000	102	27700	186000	185	93400	280000	432	327000
22	103000	116	32300	212000	247	143000	306000	622	518000
23	108000	190	55900	234000	454	288000	343000	869	807000
24	116000	174	54600	232000	676	423000	341000	710	654000
25	116000	177	55400	216000	452	264000	316000	779	664000
26	117000	141	44400	202000	318	173000	298000	809	651000
27	126000	110	37400	202000	345	188000	287000	932	721000
28	136000	105	38800	204000	353	194000	274000	436	323000
29	138000	193	71800	200000	312	169000	263000	254	180000
30	135000	128	46400	---	---	---	274000	191	142000
31	133000	124	44600	---	---	---	293000	281	224000
APRIL			MAY			JUNE			
1	299000	931	751000	365000	289	285000	142000	223	85300
2	287000	301	234000	355000	311	298000	139000	218	81900
3	280000	193	146000	344000	352	327000	137000	171	63300
4	273000	199	146000	338000	376	343000	135000	134	49100
5	257000	213	147000	329000	280	248000	132000	132	46800
6	242000	244	160000	319000	292	251000	125000	118	39800
7	230000	348	216000	308000	384	319000	125000	116	39100
8	218000	317	186000	297000	299	240000	123000	118	39200
9	213000	257	148000	286000	228	176000	124000	120	40100
10	215000	168	97500	272000	194	142000	125000	121	41000
11	212000	163	93200	254000	192	132000	119000	106	34000
12	209000	172	97300	238000	150	96400	117000	107	33700
13	197000	177	94100	224000	163	98800	119000	105	33700
14	192000	159	82600	208000	180	101000	125000	130	43800
15	198000	143	76600	195000	216	114000	122000	171	56500
16	205000	159	88500	185000	132	66200	121000	222	72400
17	219000	285	169000	172000	92	42600	113000	232	70700
18	230000	315	195000	159000	116	49600	114000	164	50400
19	241000	321	209000	151000	126	51300	132000	148	52800
20	286000	328	255000	146000	102	40100	134000	151	54700
21	334000	348	314000	146000	156	61400	133000	153	55100
22	351000	462	440000	148000	130	52100	132000	147	52300
23	390000	808	863000	157000	137	58200	144000	144	56200
24	426000	1540	1770000	166000	140	62900	150000	179	72500
25	428000	1300	1500000	173000	143	66900	148000	226	90300
26	417000	1090	1220000	177000	137	65500	148000	276	111000
27	408000	1110	1220000	177000	132	63000	151000	298	122000
28	397000	1050	1130000	169000	173	79200	148000	357	143000
29	384000	932	967000	164000	247	109000	144000	407	158000
30	374000	600	607000	156000	233	98100	132000	345	123000
31	---	---	---	147000	227	89800	---	---	---

MISSISSIPPI RIVER MAIN STEM

07020500 MISSISSIPPI RIVER AT CHESTER, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	121000	328	107000	346000	1490	1390000	107000	126	36200
2	119000	377	121000	338000	1170	1060000	101000	122	33300
3	122000	231	76300	354000	1000	961000	98700	126	33700
4	139000	247	93400	358000	1600	1550000	99000	117	31200
5	153000	337	139000	326000	1670	1470000	104000	121	34000
6	140000	217	82300	293000	1230	973000	108000	130	37900
7	128000	230	79500	271000	975	713000	110000	140	41800
8	131000	234	82900	256000	835	576000	124000	154	51800
9	136000	212	77600	247000	590	394000	133000	208	74400
10	146000	169	67200	240000	572	371000	140000	251	96200
11	171000	374	174000	240000	622	404000	178000	510	250000
12	182000	393	194000	244000	655	431000	209000	719	408000
13	184000	210	104000	227000	624	381000	223000	705	424000
14	188000	308	157000	210000	589	333000	211000	517	295000
15	193000	300	156000	196000	557	294000	195000	418	219000
16	212000	351	205000	185000	526	263000	173000	363	170000
17	303000	834	705000	174000	497	233000	160000	324	140000
18	352000	2520	2400000	167000	470	211000	169000	321	147000
19	331000	2070	1850000	161000	444	193000	189000	398	203000
20	315000	1470	1250000	156000	419	177000	205000	468	260000
21	302000	975	796000	150000	396	161000	233000	565	357000
22	284000	890	681000	144000	374	145000	250000	679	459000
23	274000	828	612000	138000	354	131000	254000	662	454000
24	271000	751	548000	132000	334	119000	258000	691	482000
25	266000	738	530000	121000	316	103000	249000	600	404000
26	253000	765	522000	110000	298	88600	235000	540	342000
27	258000	728	508000	103000	282	78100	227000	524	321000
28	298000	685	555000	107000	258	74800	221000	499	297000
29	355000	1150	1110000	119000	168	53900	213000	463	267000
30	376000	2320	2360000	123000	140	46800	202000	413	225000
31	363000	1940	1910000	113000	113	34500	---	---	---

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL

LOCATION.--Lat 37°13'00", long 89°27'50", in NW 1/4 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 U.S. 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"; 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 sea level. Mar. 17, 1933 to Dec. 21 1934, nonrecording gage; 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; 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.--No estimated daily discharges. 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. U.S. Army Corps of Engineers satellite telemeter and telemark at station.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125000	132000	191000	205000	142000	200000	299000	355000	149000	131000	362000	111000
2	117000	136000	202000	188000	141000	193000	303000	345000	146000	123000	348000	104000
3	115000	145000	232000	182000	140000	184000	295000	334000	145000	122000	356000	98000
4	116000	147000	242000	175000	138000	170000	290000	327000	143000	129000	370000	97000
5	118000	152000	239000	166000	134000	161000	283000	321000	142000	146000	354000	97600
6	136000	154000	227000	161000	130000	160000	266000	312000	137000	152000	321000	105000
7	162000	163000	213000	155000	127000	163000	252000	305000	134000	140000	299000	109000
8	152000	175000	191000	158000	128000	174000	238000	296000	134000	134000	283000	115000
9	143000	174000	175000	161000	131000	184000	224000	288000	132000	137000	270000	128000
10	142000	165000	171000	163000	137000	192000	219000	277000	133000	141000	264000	135000
11	138000	160000	170000	162000	138000	203000	220000	264000	131000	156000	257000	153000
12	132000	157000	180000	160000	138000	214000	217000	248000	125000	177000	262000	189000
13	122000	152000	187000	162000	133000	231000	213000	235000	123000	185000	254000	218000
14	114000	147000	191000	165000	128000	246000	201000	219000	126000	188000	235000	220000
15	105000	148000	200000	168000	128000	250000	200000	204000	128000	193000	217000	204000
16	97400	150000	213000	165000	129000	250000	206000	192000	126000	199000	204000	187000
17	94200	148000	215000	162000	145000	248000	220000	183000	121000	247000	192000	168000
18	91000	141000	216000	152000	176000	247000	232000	168000	115000	326000	182000	163000
19	89100	140000	221000	138000	183000	252000	245000	159000	120000	335000	176000	178000
20	87700	168000	223000	125000	186000	262000	275000	151000	133000	315000	169000	194000
21	88400	193000	218000	112000	194000	274000	323000	149000	135000	303000	163000	221000
22	89200	197000	219000	106000	204000	287000	342000	149000	133000	290000	156000	247000
23	88800	195000	231000	111000	233000	313000	364000	156000	135000	280000	149000	257000
24	88000	201000	229000	117000	248000	340000	402000	165000	144000	278000	142000	260000
25	89300	206000	218000	123000	237000	334000	423000	172000	149000	275000	134000	259000
26	90400	196000	220000	122000	217000	313000	417000	178000	147000	268000	122000	245000
27	99300	195000	226000	126000	205000	300000	405000	180000	149000	265000	111000	234000
28	105000	206000	232000	136000	206000	290000	393000	176000	150000	288000	106000	227000
29	113000	202000	240000	145000	205000	278000	379000	170000	148000	331000	112000	219000
30	124000	193000	241000	145000	---	270000	366000	165000	142000	371000	123000	209000
31	135000	---	226000	142000	---	283000	---	157000	---	375000	121000	---
MEAN	113100	167900	212900	150300	164900	240800	290400	225800	135800	225800	219800	178400
MAX	162000	206000	242000	205000	248000	340000	423000	355000	150000	375000	370000	260000
MIN	87700	132000	170000	106000	127000	160000	200000	149000	115000	122000	106000	97000
IN.	.18	.26	.34	.24	.25	.39	.45	.37	.21	.37	.36	.28

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)**

MEAN	144900	150100	136800	130800	157100	247300	325200	303500	272200	225400	142800	137400
MAX	589600	389000	531700	333300	350400	542000	731000	655800	584100	687700	269200	325500
(WY)	1987	1986	1983	1973	1974	1985	1973	1973	1947	1951	1981	1951
MIN	45500	50080	53850	33650	46920	80260	115600	88170	72350	73290	45000	59890
(WY)	1940	1940	1956	1940	1940	1934	1934	1934	1934	1936	1936	1937

SUMMARY STATISTICS**

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	217600		194000		198000	
HIGHEST ANNUAL MEAN					359800	1973
LOWEST ANNUAL MEAN					71730	1934
HIGHEST DAILY MEAN	456000	Apr 24	423000	Apr 25	886000	May 27 1943
LOWEST DAILY MEAN	79200	Sep 10	87700	Oct 20	24700	Jan 21 1940
INSTANTANEOUS PEAK FLOW	--		426000	Apr 25	893000	May 27 1943
INSTANTANEOUS PEAK STAGE	--		30.80	Apr 25	43.43	Apr 30 1973
INSTANTANEOUS LOW FLOW	--		87300	Oct 20	23400	Dec 13 1937
ANNUAL SEVEN-DAY MINIMUM	84400	Sep 7	88600	Oct 19	26700	Jan 20 1940
ANNUAL RUNOFF (INCHES)	4.14		3.70		3.77	
10 PERCENT EXCEEDS	380000		299000		383000	
50 PERCENT EXCEEDS	194000		176000		160000	
90 PERCENT EXCEEDS	114000		119000		72700	

**Statistics based only on years with complete daily discharge record.

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

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 Sept. 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 and 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, 1,990 mg/L, Apr. 25; minimum daily mean, 51 mg/L, Oct. 25.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 2,280,000 tons, Apr. 25; minimum daily, 12,400 tons, Oct. 25

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORMS, FECA, UM-MF (COLS./100 ML) (31616)	STREPTOCOCCI, FECA, KF AGAR (COLS. PER 100 ML) (31673)
DEC 18...	1100	230000	518	8.1	4.0	45	11.2	87	29	680	--
FEB 04...	1031	123000	583	8.2	4.0	11	13.0	98	21	680	700
MAR 25...	1200	340000	474	7.7	7.0	210	11.6	98	51	5300	2200
MAY 19...	1330	169000	519	8.5	24.0	19	8.2	94	19	3700	K55
JUL 01...	1315	131000	493	7.9	25.0	68	6.0	71	36	4800	K360
SEP 22...	1200	242000	400	7.8	22.0	61	7.6	84	30	18000	1300

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

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB TOT FLD (MG/L AS CACO3) (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKALINITY, TOT IT FLD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
DEC 18...	240	93	62	59	23	22	22	22	3.4	3.1	147	58
FEB 04...	250	60	62	62	23	23	26	28	3.5	4.0	190	74
MAR 25...	265	101	68	58	23	19	18	18	6.1	4.3	164	54
MAY 19...	240	68	61	60	22	21	24	24	4.1	3.1	172	69
JUL 01...	200	44	55	47	22	19	24	23	4.4	4.0	156	--
SEP 22...	207	63	52	44	19	16	21	19	5.8	4.8	144	59

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	CHLORIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUORIDE, TOTAL (MG/L AS F) (00951)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLATILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN- IONIZED (MG/L AS N) (00619)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)
DEC 18...	28	0.2	92	12	4.40	4.10	0.170	0.003	1.8	0.260	0.110	2000
FEB 04...	30	0.3	55	10	4.20	4.20	0.160	0.003	0.90	0.180	0.120	<150
MAR 25...	20	0.2	645	60	4.00	4.00	0.10	<0.001	2.6	0.52	0.110	13000
MAY 19...	22	0.3	137	13	2.90	2.90	0.060	0.009	1.0	0.190	0.080	1500
JUL 01...	--	--	254	28	2.00	2.00	0.060	0.003	1.6	0.460	0.120	6600
SEP 22...	1.0	0.3	652	80	1.69	1.69	0.020	0.001	0.8	0.49	0.150	5000
DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHROMIUM, DIS- SOLVED (UG/L AS CR) (01030)
DEC 18...	<150	1	100	78	<1.0	<1	70	70	<5	<5.0	7	<5
FEB 04...	120	1	70	--	<1.0	<0.5	130	<50	<5	<3.0	<5	<5
MAR 25...	150	3.7	260	72	<1.0	<1	25	25	<5	<5.0	17	<5
MAY 19...	790	2	100	86	<1.0	<1	70	--	<5	<5.0	<5	<5
JUL 01...	<150	6	200	77	<1.0	<1	60	50	<5	<5.0	8	<5
SEP 22...	150	5.8	170	82	<1.0	<1	39	33	<5	<5.0	9	<5
DATE	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	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)	MANGANESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGANESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)
DEC 18...	<5	<5	15	<5	4000	<50	<5	<5	190	<15	--	<15
FEB 04...	<5	<5	<5	<5	<50	<50	10	<5	<15	7	--	<15
MAR 25...	20	<5	10	<5	17000	190	13.4	<5	840	<15	<0.05	22
MAY 19...	10	6	<5	<5	2100	<50	5	<5	160	<15	<0.05	<15
JUL 01...	<5	<5	18	<5	8900	<50	--	<5	500	<15	--	<15
SEP 22...	8	<5	15	<5	8000	<50	<5	8.5	460	25	0.05	16

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, TOTAL RECOV- ERABLE (UG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, TOTAL (UG/L AS V) (01087)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)
DEC 18...	<15	<5	<5.0	190	180	7	<5	90	<50	10	<0.005	<5
FEB 04...	<15	<5	<3.0	230	--	<5	<5	<50	<50	8	<0.005	<5
MAR 25...	<15	<5	<5.0	220	180	30	<5	91	<50	13	--	<10
MAY 19...	<15	<5	<5.0	220	220	6	<5	<50	<50	10	0.030	25
JUL 01...	<15	<5	<5.0	280	230	18	<5	130	<50	11	0.020	<5
SEP 22...	15	<5	<5.0	230	190	19	7	65	<50	9	<0.010	<10

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	125000	86	28900	132000	94	33600	191000	210	108000
2	117000	80	25200	136000	86	31700	202000	236	129000
3	115000	102	31800	145000	80	31500	232000	256	161000
4	116000	109	34300	147000	115	45900	242000	309	202000
5	118000	86	27600	152000	122	49900	239000	330	214000
6	136000	99	36900	154000	127	52800	227000	380	233000
7	162000	135	59200	163000	139	59100	213000	348	200000
8	152000	152	62200	175000	265	125000	191000	299	154000
9	143000	155	59800	174000	263	124000	175000	265	125000
10	142000	116	44200	165000	245	109000	171000	257	119000
11	138000	157	58600	160000	234	101000	170000	255	117000
12	132000	150	53400	157000	228	96600	180000	276	134000
13	122000	141	46700	152000	218	89500	187000	291	147000
14	114000	135	41600	147000	208	82600	191000	299	154000
15	105000	108	30800	148000	210	83400	200000	319	172000
16	97400	98	25700	150000	166	67300	213000	348	200000
17	94200	94	23900	148000	151	60300	215000	353	205000
18	91000	87	21400	141000	133	50700	216000	355	207000
19	89100	102	24600	140000	184	70500	221000	366	218000
20	87700	153	36300	168000	452	205000	223000	210	126000
21	88400	95	22600	193000	292	152000	218000	221	130000
22	89200	80	19300	197000	224	119000	219000	287	170000
23	88800	68	16300	195000	238	126000	231000	348	217000
24	88000	83	19800	201000	264	144000	229000	272	168000
25	89300	51	12400	206000	267	148000	218000	242	142000
26	90400	192	47000	196000	216	114000	220000	205	122000
27	99300	281	75200	195000	210	111000	226000	241	147000
28	105000	120	34000	206000	250	139000	232000	238	149000
29	113000	58	17700	202000	268	146000	240000	299	193000
30	124000	78	26000	193000	241	126000	241000	322	209000
31	135000	79	28800	---	---	---	226000	257	157000
JANUARY			FEBRUARY			MARCH			
1	205000	175	96400	142000	129	49200	200000	206	111000
2	188000	173	87900	141000	151	57600	193000	211	110000
3	182000	149	73400	140000	152	57600	184000	248	123000
4	175000	134	63300	138000	145	54000	170000	174	79800
5	166000	136	61100	134000	178	64300	161000	130	56800
6	161000	117	50900	130000	153	53600	160000	119	51300
7	155000	126	52700	127000	124	42300	163000	111	49300
8	158000	125	53400	128000	143	49400	174000	147	69100
9	161000	123	53300	131000	170	60400	184000	164	81800
10	163000	182	80400	137000	218	80500	192000	211	110000
11	162000	190	83100	138000	471	175000	203000	206	113000
12	160000	163	70400	138000	212	78700	214000	221	128000
13	162000	212	92900	133000	106	37900	231000	382	239000
14	165000	219	97300	128000	112	38800	246000	308	205000
15	168000	251	114000	128000	132	45800	250000	280	189000
16	165000	245	109000	129000	101	35600	250000	264	178000
17	162000	238	104000	145000	188	74200	248000	298	200000
18	152000	218	89500	176000	221	105000	247000	326	217000
19	138000	191	71200	183000	251	124000	252000	311	211000
20	125000	166	56000	186000	255	128000	262000	329	233000
21	112000	143	43200	194000	207	109000	274000	268	199000
22	106000	133	38100	204000	246	136000	287000	283	220000
23	111000	141	42300	233000	288	182000	313000	378	321000
24	117000	179	57600	248000	360	241000	340000	546	502000
25	123000	169	56000	237000	412	263000	334000	578	521000
26	122000	170	56200	217000	342	201000	313000	419	354000
27	126000	151	51600	205000	249	138000	300000	449	363000
28	136000	186	68900	206000	238	132000	290000	440	345000
29	145000	248	96900	205000	223	123000	278000	395	296000
30	145000	218	85200	---	---	---	270000	323	235000
31	142000	156	59900	---	---	---	283000	387	296000

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	299000	293	237000	355000	756	725000	149000	368	148000
2	303000	318	260000	345000	539	502000	146000	286	113000
3	295000	223	178000	334000	473	426000	145000	231	90100
4	290000	232	182000	327000	432	381000	143000	254	98400
5	283000	234	178000	321000	414	358000	142000	248	94900
6	266000	265	190000	312000	319	269000	137000	225	83200
7	252000	273	185000	305000	287	236000	134000	223	80500
8	238000	343	219000	296000	252	201000	134000	164	59100
9	224000	410	248000	288000	205	160000	132000	127	45300
10	219000	355	210000	277000	233	174000	133000	131	47000
11	220000	310	184000	264000	319	227000	131000	132	46600
12	217000	263	154000	248000	281	189000	125000	125	42100
13	213000	217	125000	235000	253	160000	123000	102	34000
14	201000	295	160000	219000	301	177000	126000	157	53600
15	200000	217	117000	204000	362	199000	128000	139	48100
16	206000	228	127000	192000	241	125000	126000	120	40900
17	220000	259	154000	183000	192	94700	121000	170	55700
18	232000	329	206000	168000	169	76800	115000	147	45600
19	245000	450	299000	159000	176	75200	120000	115	37100
20	275000	589	437000	151000	240	98000	133000	130	47100
21	323000	489	429000	149000	266	107000	135000	205	74500
22	342000	663	614000	149000	176	70700	133000	190	67900
23	364000	724	713000	156000	163	68800	135000	188	68600
24	402000	975	1070000	165000	258	115000	144000	212	82900
25	423000	1990	2280000	172000	289	134000	149000	225	90400
26	417000	1970	2220000	178000	259	124000	147000	261	104000
27	405000	1440	1570000	180000	237	115000	149000	373	150000
28	393000	1110	1180000	176000	188	89400	150000	338	137000
29	379000	965	986000	170000	245	112000	148000	441	176000
30	366000	830	820000	165000	334	149000	142000	456	175000
31	---	---	---	157000	376	160000	---	---	---
JULY			AUGUST			SEPTEMBER			
1	131000	381	135000	362000	1470	1430000	111000	194	58100
2	123000	318	105000	348000	1110	1050000	104000	165	46400
3	122000	254	84000	356000	1030	992000	98000	147	38900
4	129000	254	89100	370000	993	993000	97000	143	37500
5	146000	371	146000	354000	935	893000	97600	135	35500
6	152000	221	90500	321000	879	760000	105000	134	38000
7	140000	189	67700	299000	826	666000	109000	142	41600
8	134000	136	45600	283000	777	594000	115000	153	47500
9	137000	132	48900	270000	730	533000	128000	183	63600
10	141000	114	43400	264000	686	488000	135000	249	90900
11	156000	149	63700	257000	645	447000	153000	320	133000
12	177000	264	126000	262000	606	430000	189000	470	242000
13	185000	226	113000	254000	570	390000	218000	547	322000
14	188000	249	126000	235000	536	339000	220000	510	302000
15	193000	301	157000	217000	504	295000	204000	492	271000
16	199000	352	189000	204000	473	260000	187000	443	223000
17	247000	401	276000	192000	453	235000	168000	431	195000
18	326000	659	584000	182000	438	215000	163000	407	179000
19	335000	1000	906000	176000	377	178000	178000	409	196000
20	315000	1010	859000	169000	389	177000	194000	373	196000
21	303000	789	646000	163000	433	191000	221000	480	287000
22	290000	610	478000	156000	366	154000	247000	589	396000
23	280000	566	428000	149000	364	146000	257000	1070	744000
24	278000	498	373000	142000	338	130000	260000	1070	753000
25	275000	435	323000	134000	334	121000	259000	1030	721000
26	268000	365	265000	122000	310	102000	245000	876	580000
27	265000	343	246000	111000	314	94400	234000	689	434000
28	288000	387	302000	106000	293	83700	227000	556	341000
29	331000	568	512000	112000	299	90500	219000	459	272000
30	371000	892	897000	123000	258	85600	209000	386	218000
31	375000	1400	1420000	121000	263	86400	---	---	---

ST. FRANCIS RIVER BASIN

07034000 ST. FRANCIS RIVER NEAR ROSELLE, MO

LOCATION.--Lat 37°35'45", long 90°29'50", in NE 1/4 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.--Data-collection platform used as primary recorder. Datum of gage is 684.99 ft above sea level.

REMARKS.--Estimated daily discharge: Oct. 31. Records fair except for flow above 2,000 ft³/s, 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	931	496	167	90	101	286	143	100	25	8.5	6.9
2	4.5	454	569	160	85	94	225	126	88	22	8.1	5.4
3	5.3	228	937	152	82	93	189	115	279	23	8.6	4.6
4	4.2	155	460	147	78	86	170	101	604	21	7.9	4.4
5	10	120	324	134	76	83	155	91	395	25	6.9	33
6	31	102	267	126	73	80	134	84	257	25	6.4	27
7	28	90	230	118	71	80	124	80	358	20	5.2	15
8	18	79	205	316	67	97	116	74	427	17	5.2	11
9	12	69	188	427	62	90	107	71	239	15	5.2	7.9
10	10	62	162	285	58	96	122	69	165	14	6.4	8.6
11	9.6	59	137	226	57	98	143	63	130	12	14	13
12	7.9	56	153	198	76	88	133	62	111	10	41	14
13	7.2	52	194	199	181	83	128	60	96	8.8	24	15
14	6.4	50	161	252	252	79	114	54	86	11	15	11
15	6.9	48	146	234	581	75	109	51	81	17	10	9.1
16	6.4	46	121	172	439	72	196	48	78	25	7.5	7.0
17	6.0	44	116	174	321	71	237	76	66	26	6.4	5.2
18	5.7	209	109	162	432	404	1570	240	57	64	5.3	4.5
19	5.7	556	95	136	371	1240	3780	314	51	35	4.9	3.8
20	5.8	3260	92	136	274	655	5150	228	46	20	4.3	5.8
21	6.1	1120	296	138	226	422	2500	187	40	101	3.6	17
22	5.7	545	335	143	197	318	749	459	32	81	3.2	214
23	5.6	359	303	158	177	258	492	1120	29	36	3.1	72
24	5.5	267	273	151	171	214	372	645	29	111	3.0	41
25	6.2	207	224	129	154	203	284	337	39	95	2.9	26
26	145	171	188	118	139	216	246	231	32	61	2.6	20
27	240	151	170	110	129	194	211	177	33	30	3.3	18
28	142	136	151	105	119	165	189	143	41	20	4.4	16
29	472	126	218	99	110	156	178	130	36	15	9.1	14
30	783	796	226	97	---	436	166	136	29	12	12	15
31	658	---	186	94	---	406	---	118	---	10	10	---
MEAN	86.0	352	249	170	178	218	619	188	135	32.5	8.32	22.2
MAX	783	3260	937	427	581	1240	5150	1120	604	111	41	214
MIN	4.2	44	92	94	57	71	107	48	29	8.8	2.6	3.8
IN.	.42	1.68	1.23	.84	.82	1.07	2.95	.93	.64	.16	.04	.11

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	104	636	517	242	455	522	408	393	270	32.9	52.3	26.1
MAX	550	2017	1233	532	1165	1130	722	1423	1617	73.0	341	118	
(WY)	1985	1986	1991	1991	1985	1985	1984	1990	1985	1986	1985	1984	
MIN	8.28	11.5	11.9	57.0	178	218	186	28.8	7.70	7.78	1.65	1.54	
(WY)	1988	1990	1990	1986	1992	1992	1986	1987	1988	1983	1983	1983	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	231	187	304
HIGHEST ANNUAL MEAN			710
LOWEST ANNUAL MEAN			124
HIGHEST DAILY MEAN	11000	5150	28000
LOWEST DAILY MEAN	2.4	2.6	.83
INSTANTANEOUS PEAK FLOW	---	6950	43000
INSTANTANEOUS PEAK STAGE	---	10.92	20.40
INSTANTANEOUS LOW FLOW	---	2.4	.76
ANNUAL SEVEN-DAY MINIMUM	3.0	3.1	1.1
ANNUAL RUNOFF (INCHES)	13.43	10.89	17.67
10 PERCENT EXCEEDS	532	379	552
50 PERCENT EXCEEDS	109	95	77
90 PERCENT EXCEEDS	5.6	6.4	5.8

ST. FRANCIS RIVER BASIN

07035800 ST. FRANCIS RIVER NEAR MILL CREEK, MO

LOCATION.--Lat 37°30'09", long 90°27'28", in NE 1/4 sec.36, T.33 N., R.5 E, Madison County, Hydrologic Unit 08020202, on downstream side of Highway E bridge, 8.7 mi southwest of Mill Creek and 2.9 mi downstream from Little St. Francis River.

DRAINAGE AREA.--505 mi².

PERIOD OF RECORD.--February 1987 to current year.

GAGE.--Data-collection platform used as primary recorder. Datum of gage is 556.27 ft above sea level.

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 gage-height and satellite telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	1720	1480	396	231	294	661	311	253	69	27	14
2	12	1140	1820	378	223	278	532	279	221	61	24	14
3	15	589	2310	375	212	268	459	256	501	65	22	14
4	20	427	1260	353	201	257	416	230	1230	65	21	15
5	34	350	877	329	194	248	377	207	839	61	22	12
6	30	304	730	309	187	244	338	191	582	58	26	18
7	56	269	639	295	181	232	315	178	576	54	22	42
8	49	236	568	571	172	224	296	166	781	47	21	39
9	35	207	507	976	163	224	276	157	491	39	35	43
10	28	188	431	670	155	236	304	150	376	33	95	47
11	21	172	378	544	151	245	327	140	312	27	105	34
12	17	161	446	498	200	228	307	139	266	24	67	32
13	15	150	577	507	371	217	296	132	227	20	75	30
14	14	139	501	626	527	210	274	125	235	17	53	28
15	12	132	422	586	1400	200	260	118	225	18	39	24
16	12	125	384	474	1070	193	301	111	185	33	31	19
17	11	122	359	448	771	192	397	195	156	49	26	15
18	11	437	330	422	1040	753	2690	484	126	57	22	13
19	11	1280	294	379	901	2870	7220	676	103	104	19	11
20	12	7780	275	362	685	1500	11500	493	90	64	17	17
21	12	2750	648	350	565	957	4420	405	80	42	15	45
22	12	1330	788	352	495	730	1790	986	71	125	13	301
23	11	863	746	380	451	594	1150	1640	65	108	12	214
24	13	637	671	360	437	501	826	1750	105	138	11	111
25	20	526	555	321	399	467	638	785	363	279	10	72
26	57	478	483	296	371	476	529	543	174	154	9.9	54
27	513	433	432	279	358	429	465	438	117	121	14	48
28	289	397	400	266	338	379	413	371	96	78	13	42
29	629	369	474	256	315	365	372	337	89	55	11	36
30	1820	2010	501	247	---	801	348	341	77	41	10	28
31	983	---	437	238	---	917	---	302	---	34	11	---
MEAN	154	857	668	414	440	507	1283	408	300	69.0	29.0	47.7
MAX	1820	7780	2310	976	1400	2870	11500	1750	1230	279	105	301
MIN	11	122	275	238	151	192	260	111	65	17	9.9	11
IN.	.35	1.89	1.53	.95	.94	1.16	2.84	.93	.66	.16	.07	.11

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	83.4	506	1120	756	984	901	871	733	227	70.5	50.4	32.4
MAX	154	892	2428	1342	1745	1296	1283	2911	595	109	139	54.2	
(WY)	1992	1991	1991	1991	1989	1988	1992	1990	1989	1989	1990	1988	
MIN	16.5	45.9	32.7	414	440	507	444	64.5	16.4	37.7	4.18	11.5	
(WY)	1988	1990	1990	1992	1992	1992	1987	1987	1988	1988	1988	1987	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	543		429		549	
HIGHEST ANNUAL MEAN					691	1991
LOWEST ANNUAL MEAN					429	1992
HIGHEST DAILY MEAN	15700	Apr 14	11500	Apr 20	16700	May 26 1990
LOWEST DAILY MEAN	5.5	Aug 5	9.9	Aug 26	1.8	Aug 18-19 1988
INSTANTANEOUS PEAK FLOW	---		16500	Apr 20	25900	May 26 1990
INSTANTANEOUS PEAK STAGE	---		13.93	Apr 20	17.13	May 26 1990
INSTANTANEOUS LOW FLOW	---		9.5	Aug 26	1.7	Aug 18 1988
ANNUAL SEVEN-DAY MINIMUM	6.3	Jul 30	11	Aug 24	2.2	Aug 16 1988
ANNUAL RUNOFF (INCHES)	14.61		11.58		14.78	
10 PERCENT EXCEEDS	1360		808		1130	
50 PERCENT EXCEEDS	289		246		156	
90 PERCENT EXCEEDS	14		17		14	

ST. FRANCIS RIVER BASIN

07036100 ST. FRANCIS RIVER NEAR SACO, MO

LOCATION.--Lat 37°23'06", long 90°28'27", in NE 1/4 SE 1/4 NE 1/4 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.--Data-collection platform used as primary recorder. Datum of gage is 472.00 ft above sea level.

REMARKS.--No estimated daily discharges. Water-discharge records good. U.S. Army Corps of Engineers gage-height and satellite telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	2170	2440	526	258	373	1000	429	272	102	55	19
2	25	1990	2930	491	250	348	795	376	236	91	49	20
3	27	930	3810	476	235	329	669	339	317	83	45	23
4	27	614	2080	450	221	317	593	302	1520	79	45	24
5	37	466	1390	413	211	306	527	266	1090	77	47	24
6	44	382	1090	382	203	299	464	240	698	76	43	26
7	46	324	920	357	194	294	423	220	593	73	42	34
8	55	277	794	514	184	271	391	205	819	69	42	66
9	63	236	691	1360	174	283	360	192	552	63	39	71
10	52	207	591	1010	166	289	367	181	407	56	39	69
11	45	187	493	800	159	302	403	170	330	48	95	68
12	38	170	536	706	189	294	396	167	278	43	98	59
13	32	157	813	701	376	275	372	162	239	38	72	52
14	29	145	767	854	642	266	355	153	233	34	68	48
15	26	135	628	869	2040	253	333	143	237	36	60	45
16	25	128	547	716	1770	240	337	136	207	39	51	43
17	25	122	495	627	1220	237	452	175	180	44	43	38
18	24	354	444	592	1520	680	2890	416	155	64	39	34
19	22	1580	392	526	1450	4180	9020	862	132	62	35	30
20	21	10400	350	474	1070	2450	17100	628	114	86	32	66
21	23	4660	658	459	860	1540	7150	471	102	70	29	141
22	23	2140	1120	445	732	1140	2920	964	94	56	26	216
23	23	1340	1110	449	648	917	1860	1330	88	94	24	300
24	22	956	1100	449	611	752	1330	2710	84	98	24	188
25	27	738	890	402	559	677	1010	1110	539	137	23	135
26	69	643	742	362	502	664	830	678	337	191	21	108
27	324	559	640	335	474	613	704	510	197	227	20	94
28	330	493	570	315	440	535	611	415	149	132	21	82
29	423	447	594	297	405	498	536	362	125	94	23	73
30	2590	2390	678	283	---	835	488	348	112	75	24	64
31	1750	---	593	271	---	1390	---	318	---	63	21	---
MEAN	203	1178	997	546	613	705	1823	483	348	80.6	41.8	75.3
MAX	2590	10400	3810	1360	2040	4180	17100	2710	1520	227	98	300
MIN	21	122	350	271	159	237	333	136	84	34	20	19
IN.	.35	1.98	1.73	.95	1.00	1.22	3.06	.84	.58	.14	.07	.13

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	390	1698	1599	920	1419	1600	1343	1219	758	98.9	175	86.5
MEAN	390	1698	1599	920	1419	1600	1343	1219	758	98.9	175	86.5
MAX	2404	4900	3451	1993	2846	2858	1951	4125	4250	170	1215	304
(WY)	1985	1986	1991	1991	1985	1985	1984	1990	1985	1985	1985	1984
MIN	27.1	65.2	44.1	179	613	705	606	94.7	29.1	39.7	10.7	6.53
(WY)	1988	1990	1990	1986	1992	1992	1987	1987	1988	1983	1988	1983

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	811	588	941
HIGHEST ANNUAL MEAN			2084
LOWEST ANNUAL MEAN			356
HIGHEST DAILY MEAN	26000	Apr 14	38200
LOWEST DAILY MEAN	9.7	Aug 4	4.7
INSTANTANEOUS PEAK FLOW	--		65800
INSTANTANEOUS PEAK STAGE	--		25.80
INSTANTANEOUS LOW FLOW	--		4.0
ANNUAL SEVEN-DAY MINIMUM	12	Jul 30	5.1
ANNUAL RUNOFF (INCHES)	16.58		19.26
10 PERCENT EXCEEDS	2080		2020
50 PERCENT EXCEEDS	413		252
90 PERCENT EXCEEDS	27		28

ST. FRANCIS RIVER BASIN

07036100 ST. FRANCIS RIVER NEAR SACO, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SEDIMENT RECORDS: November 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 824 mg/L, Apr. 19, 1992; minimum daily mean, 1 mg/L, several days.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 28,100 tons, Apr. 14, 1991; minimum daily, .01 tons, Sept. 5, 1991.

EXTREMES FOR CURRENT YEAR.--

SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 824 mg/L, Apr. 19; minimum daily mean, 1 mg/L, Feb. 24.

SUSPENDED-SEDIMENT LOADS: Maximum daily, 20,600 tons, Apr. 19; minimum daily, 0.65 tons, Aug. 31.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	29	40	3.0	2170	46	294	2440	113	747
2	25	63	4.3	1990	44	238	2930	163	1320
3	27	53	3.8	930	39	99	3810	216	2220
4	27	33	2.4	614	40	66	2080	115	683
5	37	47	4.6	466	42	52	1390	9	38
6	44	57	6.8	382	44	45	1090	2	5.9
7	46	63	7.8	324	42	37	920	2	5.1
8	55	36	5.2	277	44	33	794	3	7.4
9	63	49	8.3	236	45	29	691	5	10
10	52	36	5.1	207	40	22	591	5	8.2
11	45	45	5.4	187	33	17	493	3	3.6
12	38	47	4.8	170	27	12	536	2	2.8
13	32	22	1.9	157	22	9.3	813	2	3.7
14	29	23	1.8	145	18	7.1	767	2	4.1
15	26	31	2.1	135	15	5.4	628	2	3.4
16	25	39	2.6	128	12	4.2	547	2	3.0
17	25	82	5.4	122	11	3.7	495	2	2.7
18	24	49	3.1	354	24	30	444	2	2.4
19	22	45	2.6	1580	140	804	392	2	2.1
20	21	33	1.9	10400	163	4690	350	2	1.9
21	23	39	2.4	4660	49	620	658	2	3.6
22	23	38	2.4	2140	42	244	1120	2	6.2
23	23	33	2.0	1340	40	144	1110	4	11
24	22	36	2.2	956	35	89	1100	2	7.4
25	27	40	2.9	738	27	55	890	2	4.8
26	69	39	7.2	643	21	37	742	2	4.0
27	324	42	37	559	17	25	640	2	3.6
28	330	52	45	493	13	17	570	4	6.1
29	423	69	84	447	26	31	594	5	8.2
30	2590	85	533	2390	126	869	678	8	14
31	1750	41	191	---	---	---	593	3	5.7

ST. FRANCIS RIVER BASIN

07036100 ST. FRANCIS RIVER NEAR SACO, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	526	4	5.0	258	7	4.9	373	2	1.8
2	491	7	9.7	250	7	4.7	348	8	7.6
3	476	12	15	235	5	3.4	329	15	13
4	450	13	16	221	4	2.3	317	16	14
5	413	6	6.8	211	4	2.0	306	15	13
6	382	6	6.2	203	7	3.6	299	14	12
7	357	7	6.8	194	8	4.2	294	14	11
8	514	11	17	184	8	4.0	271	18	13
9	1360	44	168	174	8	3.8	283	14	10
10	1010	16	45	166	8	3.5	289	16	13
11	800	10	21	159	4	1.8	302	17	14
12	706	8	16	189	6	3.4	294	17	14
13	701	8	15	376	10	9.9	275	16	12
14	854	13	30	642	14	27	266	14	9.8
15	869	16	38	2040	87	492	253	12	8.0
16	716	16	31	1770	56	271	240	11	6.8
17	627	15	25	1220	47	154	237	13	8.4
18	592	8	12	1520	86	353	680	18	39
19	526	9	12	1450	82	314	4180	258	2800
20	474	10	12	1070	38	115	2450	284	2020
21	459	9	12	860	7	17	1540	42	183
22	445	12	14	732	6	12	1140	20	61
23	449	17	20	648	2	3.8	917	17	43
24	449	19	23	611	1	1.9	752	18	36
25	402	5	5.0	559	7	9.9	677	19	34
26	362	6	5.6	502	9	12	664	18	32
27	335	5	4.4	474	6	7.3	613	18	30
28	315	5	4.0	440	4	4.8	535	14	21
29	297	5	4.0	405	2	1.7	498	11	15
30	283	5	3.9	---	---	---	835	24	60
31	271	6	4.7	---	---	---	1390	119	431
APRIL			MAY			JUNE			
1	1000	37	105	429	17	19	272	20	15
2	795	15	32	376	21	21	236	20	13
3	669	15	27	339	17	15	317	29	29
4	593	14	23	302	22	17	1520	55	227
5	527	15	22	266	25	18	1090	15	44
6	464	16	20	240	19	12	698	15	28
7	423	12	14	220	18	11	593	15	25
8	391	9	9.3	205	8	4.4	819	13	30
9	360	7	6.4	192	4	2.2	552	12	18
10	367	7	6.6	181	4	2.0	407	11	12
11	403	6	6.1	170	5	2.4	330	15	13
12	396	6	6.8	167	4	1.6	278	35	26
13	372	8	8.3	162	2	1.0	239	56	36
14	355	6	5.7	153	4	1.7	233	35	22
15	333	4	3.2	143	6	2.5	237	22	14
16	337	3	2.8	136	8	2.8	207	18	10
17	452	9	11	175	5	2.4	180	12	5.8
18	2890	462	4550	416	7	9.3	155	14	5.7
19	9020	824	20600	862	36	87	132	18	6.4
20	17100	373	17400	628	6	11	114	19	5.7
21	7150	457	9110	471	5	6.6	102	22	6.1
22	2920	306	2420	964	9	23	94	37	9.4
23	1860	251	1250	1330	49	247	88	50	12
24	1330	142	518	2710	212	1440	84	37	8.4
25	1010	68	187	1110	154	491	539	29	42
26	830	32	73	678	39	73	337	26	24
27	704	15	29	510	13	18	197	25	13
28	611	8	13	415	14	15	149	29	12
29	536	3	5.0	362	15	14	125	30	10
30	488	5	6.6	348	14	13	112	23	7.1
31	---	---	---	318	16	13	---	---	---

ST. FRANCIS RIVER BASIN

07036100 ST. FRANCIS RIVER NEAR SACO, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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	102	21	5.7	55	21	3.1	19	14	.70
2	91	26	6.4	49	19	2.6	20	16	.87
3	83	29	6.5	45	8	.98	23	19	1.2
4	79	21	4.5	45	6	.70	24	19	1.2
5	77	17	3.5	47	6	.76	24	18	1.2
6	76	20	4.0	43	6	.70	26	19	1.3
7	73	21	4.1	42	6	.68	34	19	1.8
8	69	18	3.2	42	6	.73	66	20	3.6
9	63	15	2.5	39	7	.75	71	20	3.8
10	56	18	2.7	39	8	.84	69	20	3.7
11	48	25	3.2	95	9	2.3	68	20	3.7
12	43	24	2.7	98	11	2.9	59	20	3.1
13	38	20	2.0	72	16	3.0	52	19	2.7
14	34	16	1.5	68	21	3.9	48	19	2.5
15	36	13	1.3	60	20	3.3	45	22	2.6
16	39	9	.95	51	17	2.4	43	25	2.9
17	44	10	1.2	43	15	1.7	38	30	3.0
18	64	10	1.7	39	16	1.7	34	29	2.7
19	62	9	1.4	35	20	1.8	30	27	2.2
20	86	12	2.9	32	19	1.6	66	25	4.4
21	70	21	3.9	29	16	1.2	141	23	8.8
22	56	15	2.2	26	14	1.0	216	21	13
23	94	26	7.0	24	13	.85	300	21	17
24	98	26	7.0	24	12	.77	188	21	11
25	137	26	9.9	23	14	.82	135	21	7.5
26	191	26	13	21	13	.74	108	21	6.0
27	227	24	15	20	12	.67	94	20	5.2
28	132	21	7.6	21	12	.66	82	20	4.5
29	94	24	6.1	23	11	.69	73	20	4.0
30	75	23	4.7	24	10	.67	64	20	3.5
31	63	21	3.6	21	11	.65	---	---	---

ST. FRANCIS RIVER BASIN

07037000 BIG CREEK AT DES ARC, MO

LOCATION.--Lat 37°17'35", long 90°37'45", in SE ¼ 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 6.0 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 sea level.

REMARKS.--No estimated daily discharges. Records 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	658	298	72	34	58	102	119	63	26	24	17
2	17	496	402	66	33	54	92	106	57	25	20	16
3	19	311	473	61	34	50	84	93	65	25	19	16
4	23	229	318	58	32	48	79	81	171	25	25	18
5	33	184	240	56	30	45	75	72	134	24	26	18
6	36	158	194	49	29	42	68	65	99	22	25	22
7	32	132	165	43	28	40	64	59	84	22	24	22
8	28	111	145	64	27	39	61	54	72	22	23	23
9	26	93	122	125	26	40	57	51	63	21	22	26
10	24	88	104	125	26	38	61	47	59	19	21	27
11	22	77	94	107	25	37	63	43	55	17	21	24
12	22	68	99	99	28	38	62	46	49	16	20	23
13	21	61	105	97	37	36	60	44	47	14	19	22
14	22	57	103	107	60	37	59	38	46	14	17	23
15	21	52	93	107	193	38	56	37	48	19	16	20
16	20	50	85	98	202	37	57	35	44	32	16	20
17	20	52	75	93	165	35	60	53	42	30	16	19
18	20	251	69	84	164	120	114	114	40	27	15	19
19	19	549	62	75	153	445	734	296	36	24	17	18
20	18	2000	59	72	133	281	3790	180	34	22	16	46
21	18	680	91	68	118	207	1370	143	31	22	15	113
22	18	355	128	65	106	167	807	155	29	21	15	137
23	19	253	142	61	101	140	576	288	26	21	15	87
24	19	192	145	57	93	120	426	358	27	21	16	65
25	21	152	129	53	82	112	329	219	31	44	16	54
26	44	129	115	48	76	104	269	161	33	50	14	46
27	105	112	100	45	73	96	222	127	27	40	17	43
28	101	99	95	42	68	88	179	104	25	32	20	38
29	254	95	93	40	62	84	157	93	24	28	22	34
30	593	211	86	39	---	91	139	86	26	25	19	36
31	425	---	80	37	---	108	---	73	---	25	19	---
MEAN	67.1	265	145	71.4	77.2	92.7	342	111	52.9	25.0	19.0	36.4
MAX	593	2000	473	125	202	445	3790	358	171	50	26	137
MIN	17	50	59	37	25	35	56	35	24	14	14	16
IN.	.78	2.97	1.68	.83	.84	1.07	3.84	1.28	.59	.29	.22	.41

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	83.9	247	252	154	184	230	239	171	134	34.4	30.1	26.0
MAX	396	610	632	382	400	357	404	494	587	95.7	102	43.5	
(WY)	1985	1986	1988	1991	1989	1985	1991	1990	1985	1987	1985	1988	
MIN	21.7	32.5	25.5	37.0	59.9	92.7	106	28.9	15.0	11.9	7.67	6.50	
(WY)	1988	1990	1990	1984	1991	1992	1987	1987	1988	1991	1983	1983	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	160		108		149	
HIGHEST ANNUAL MEAN					267	1985
LOWEST ANNUAL MEAN					71.8	1987
HIGHEST DAILY MEAN	4820	Apr 14	3790	Apr 20	6350	Nov 19 1985
LOWEST DAILY MEAN	7.6	Aug 3, 6	14	Jul 13-14, Aug 26	4.9	Sep 3 1983
INSTANTANEOUS PEAK FLOW	--		5590	Apr 20	16000	Nov 19 1985
INSTANTANEOUS PEAK STAGE	--		8.60	Apr 20	12.92	Nov 19 1985
INSTANTANEOUS LOW FLOW	--		13	Jul 13-14, Aug 26-27	4.9	Sep 3, 5 1983
ANNUAL SEVEN-DAY MINIMUM	7.7	Aug 1	15	Aug 20	5.1	Aug 31 1983
ANNUAL RUNOFF (INCHES)	21.80		14.80		20.31	
10 PERCENT EXCEEDS	388		196		313	
50 PERCENT EXCEEDS	69		54		54	
90 PERCENT EXCEEDS	11		19		16	

ST. FRANCIS RIVER BASIN

07037500 ST. FRANCIS RIVER NEAR PATTERSON, MO

LOCATION.--Lat 37°11'40", long 90°30'12", in NE ¼ sec.16, T.29 N., R.5 E., Wayne County, Hydrologic Unit 08020202, near left bank on downstream side of bridge pier 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 from Oct. 1 to July 11. Data Collection Platform used as primary recorder July 12 to present. Datum of gage is 370.45 ft above sea level. 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.--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 gage-height and satellite telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	2310	3480	904	477	653	1470	843	511	193	124	38
2	85	3420	3880	851	457	611	1210	752	455	175	108	40
3	94	1920	5150	811	445	573	1030	674	433	158	97	39
4	94	1260	3630	777	421	542	924	603	851	143	93	47
5	100	975	2360	741	400	516	836	542	1550	135	90	45
6	103	819	1830	696	383	519	762	485	1160	132	91	47
7	102	701	1550	651	370	496	701	445	928	129	89	70
8	103	605	1370	718	350	463	657	408	844	124	85	73
9	103	529	1200	1220	334	440	619	382	940	117	80	74
10	109	469	1060	1560	324	444	594	360	716	108	76	93
11	110	420	940	1290	312	434	589	338	595	97	77	94
12	103	381	904	1130	327	440	595	333	499	88	86	89
13	94	352	1050	1090	390	428	575	322	431	78	125	85
14	89	327	1200	1170	686	413	557	300	390	72	112	77
15	84	307	1070	1280	1550	397	531	290	367	76	98	70
16	80	289	952	1170	2490	379	577	275	361	89	93	65
17	76	283	877	1040	1900	370	1080	284	330	115	85	61
18	74	371	810	968	1840	488	1460	357	291	102	75	59
19	71	1590	742	907	2040	2970	9100	793	255	98	68	53
20	69	11700	689	840	1690	3680	24500	1070	224	109	61	757
21	68	9600	755	792	1400	2330	19100	863	196	121	55	622
22	68	3840	1260	769	1200	1740	5260	769	174	126	52	450
23	67	2390	1510	755	1080	1420	3240	1370	162	111	49	417
24	68	1750	1600	744	1000	1200	2400	2700	151	117	45	444
25	70	1370	1470	720	928	1070	1910	2040	149	157	44	358
26	110	1150	1270	657	857	993	1580	1270	522	197	41	290
27	163	1030	1120	615	797	948	1350	939	416	401	39	245
28	441	926	1010	578	752	869	1180	773	298	347	43	206
29	590	843	967	547	700	806	1040	676	236	251	43	178
30	1640	1460	989	524	---	843	929	613	207	184	41	155
31	3220	---	987	500	---	1450	---	563	---	146	39	---
MEAN	269	1780	1538	871	893	933	2879	724	488	145	74.3	178
MAX	3220	11700	5150	1560	2490	3680	24500	2700	1550	401	125	757
MIN	67	283	689	500	312	370	531	275	149	72	39	38
IN.	.32	2.08	1.86	1.05	1.01	1.13	3.36	.87	.57	.17	.09	.21

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	370	935	1322	1423	1563	2165	2310	1707	935	332	219	237
MEAN	370	935	1322	1423	1563	2165	2310	1707	935	332	219	237
MAX	3391	5638	12380	6725	4577	6981	9221	7145	8724	2513	1478	2103
(WY)	1985	1985	1983	1950	1951	1945	1927	1943	1928	1957	1985	1965
MIN	29.0	48.1	60.9	64.9	125	178	287	139	33.6	21.3	11.2	14.8
(WY)	1954	1954	1954	1956	1963	1941	1981	1930	1936	1936	1936	1955

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	1183	893	1124
HIGHEST ANNUAL MEAN			2731
LOWEST ANNUAL MEAN			343
HIGHEST DAILY MEAN	21800	Apr 14	24500
LOWEST DAILY MEAN	36	Aug 5	38
INSTANTANEOUS PEAK FLOW	--		29300
INSTANTANEOUS PEAK STAGE	--		20.72
INSTANTANEOUS LOW FLOW	--		38
ANNUAL SEVEN-DAY MINIMUM	38	Jul 31	40
ANNUAL RUNOFF (INCHES)	16.80		12.72
10 PERCENT EXCEEDS	3040		1580
50 PERCENT EXCEEDS	683		492
90 PERCENT EXCEEDS	68		75
			51

ST. FRANCIS RIVER BASIN

07039000 WAPPAPELLO LAKE AT WAPPAPELLO, MO

LOCATION.--Lat 36°55'42", long 90°17'04", in NW 1/4 SE 1/4 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 sea level. 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 ac-ft; at conservation pool level (gage height, 7.0 ft), 30,900 ac-ft; at spillway crest (gage height, 47.0 ft), 613,000 ac-ft; at maximum pool level (gage height, 62.4 ft), uncontrollable above spillway crest, 1,022,000 ac-ft. Lake is used for flood control, power and recreational purposes. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 729,800 ac-ft, Apr. 16, 1945, gage height, 51.35 ft; minimum, since initial filling to conservation pool level, 23,340 ac-ft, Mar. 1-3, 1970; minimum gage height, 4.20 ft, Sept. 26-27, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 160,000 ac-ft, Apr. 24, elevation, 369.52 ft; minimum, 28,300 ac-ft, July 4, elevation, 354.32 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	359.81	361.33	363.88	355.92	354.88	354.81	355.15	366.85	359.61	359.92	359.71	359.74
2	359.78	361.62	364.04	355.73	354.86	354.77	355.57	366.36	359.60	359.95	359.69	359.75
3	359.80	361.84	364.80	355.60	354.84	354.79	355.86	365.86	359.66	359.99	359.70	359.79
4	359.79	361.64	365.30	355.22	354.82	354.82	356.17	365.33	359.74	359.92	359.73	359.81
5	359.86	361.33	365.36	355.00	354.80	354.83	356.44	364.77	359.79	359.89	359.73	359.82
6	359.80	360.97	365.20	354.93	354.75	354.82	356.70	364.22	359.91	359.91	359.75	359.77
7	359.76	360.73	364.89	354.76	354.73	354.84	356.83	363.62	360.04	359.89	359.78	359.79
8	359.72	360.48	364.51	354.69	354.71	354.79	356.89	363.10	360.05	359.88	359.76	359.85
9	359.73	360.26	364.10	354.74	354.66	354.54	356.92	362.64	360.03	359.87	359.74	359.83
10	359.78	360.11	363.65	354.77	354.61	354.48	357.07	362.23	359.97	359.83	359.73	359.85
11	359.80	360.02	363.16	354.80	354.61	354.39	356.97	361.91	359.93	359.80	359.75	359.79
12	359.81	359.90	362.62	354.78	354.66	354.32	356.90	361.60	359.87	359.76	359.74	359.75
13	359.79	359.82	362.14	354.78	354.76	354.38	356.79	361.31	359.81	359.75	359.75	359.73
14	359.76	359.75	361.67	354.89	354.75	354.45	356.78	361.00	359.82	359.74	359.77	359.70
15	359.76	359.71	361.13	354.94	354.98	354.52	356.75	360.72	359.84	359.79	359.75	359.70
16	359.74	359.68	360.60	354.90	355.29	354.58	356.71	360.51	359.84	359.90	359.72	359.72
17	359.71	359.69	360.09	354.80	355.80	354.60	356.95	360.32	359.82	359.98	359.69	359.73
18	359.70	359.67	359.69	354.76	356.11	354.65	357.18	360.19	359.83	359.97	359.70	359.73
19	359.70	359.69	359.30	354.67	356.22	354.99	357.81	360.12	359.81	359.95	359.71	359.76
20	359.66	362.66	358.88	354.56	356.13	355.71	360.45	360.12	359.78	359.93	359.73	359.74
21	359.64	365.44	358.52	354.47	355.90	355.96	366.49	360.06	359.74	359.91	359.74	360.37
22	359.64	366.66	358.20	354.42	355.71	355.92	369.20	359.99	359.72	359.89	359.74	360.62
23	359.66	366.92	357.96	354.54	355.53	355.68	369.50	360.04	359.70	359.89	359.75	360.61
24	359.69	366.78	357.83	354.68	355.50	355.44	369.52	360.01	359.68	359.89	359.75	360.60
25	359.71	366.48	357.69	354.74	355.38	355.11	369.32	360.12	359.72	359.87	359.76	360.47
26	359.79	366.06	357.52	354.83	355.16	354.89	369.01	360.03	359.75	359.83	359.77	360.37
27	359.92	365.60	357.30	354.89	355.02	354.77	368.66	359.89	359.82	360.05	359.88	360.31
28	360.00	365.14	357.03	354.92	354.95	354.65	368.25	359.80	359.85	359.96	359.89	360.25
29	360.11	364.62	356.75	354.96	354.88	354.64	367.79	359.76	359.88	359.84	359.85	360.15
30	360.38	364.16	356.41	354.94	---	354.77	367.36	359.73	359.88	359.75	359.78	360.10
31	360.71	---	356.12	354.90	---	354.83	---	359.66	---	359.73	359.75	---
(-)	68900	101000	36600	30500	30400	30200	135000	60200	61900	60800	60900	63700
(=)	+5200	+32100	-64400	-6100	-100	-200	+104800	-74800	+1700	-1100	+100	+2800
MAX	360.71	366.92	365.36	355.92	356.22	355.96	369.52	366.85	360.05	360.05	359.89	360.62
MIN	359.64	359.67	356.12	354.42	354.61	354.32	355.15	359.66	359.60	359.73	359.69	359.70

CAL YR 1991. . . . -239400

WTR YR 1992. . . . 0

(-) Contents, in acre-feet, at end of month.

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

ST. FRANCIS RIVER BASIN

07039000 WAPPAPELLO LAKE AT WAPPAPELLO, MO--Continued

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61400	74400	98400	35500	30400	30200	31600	129000	59900	62200	60600	60800
2	61200	77000	100000	34600	30400	30000	33800	124000	59800	62400	60500	60900
3	61300	79000	108000	33900	30300	30100	35200	119000	60200	62700	60600	61200
4	61200	77200	113000	32000	30200	30200	36900	113000	60800	62200	60800	61400
5	61800	74400	113000	30900	30100	30200	38500	107000	61200	62000	60800	61400
6	61300	71100	112000	30600	30000	30200	40000	102000	62100	62100	60900	61100
7	61000	69100	108000	30000	29900	30300	40800	95900	63100	62000	61200	61200
8	60700	66900	105000	29700	29800	30100	41200	90900	63200	61900	61000	61700
9	60800	65000	101000	29900	29600	29200	41300	86500	63100	61800	60800	61500
10	61200	63800	96200	30000	29400	28900	42200	82700	62600	61500	60800	61700
11	61300	63000	91400	30100	29400	28600	41600	79700	62300	61300	60900	61200
12	61400	62000	86300	30100	29600	28300	41200	76900	61800	61000	60800	60900
13	61200	61400	81800	30100	30000	28500	40600	74200	61400	60900	60900	60800
14	61000	60900	77500	30500	30000	28800	40500	71400	61400	60800	61100	60600
15	61000	60600	72600	30700	30800	29100	40300	69000	61600	61200	60900	60600
16	60800	60400	68000	30500	32400	29300	40100	67200	61600	62000	60700	60700
17	60600	60500	63600	30100	34900	29400	41500	65600	61400	62600	60500	60800
18	60600	60300	60500	30000	36600	29600	43000	64400	61500	62600	60600	60800
19	60600	60500	57600	29600	37200	30900	47100	63800	61400	62400	60600	61000
20	60200	86700	54500	29200	36700	34400	66700	63800	61200	62300	60800	60800
21	60100	114000	51900	28900	35400	35700	125000	63300	60800	62100	60800	66000
22	60100	127000	49700	28700	34400	35500	156000	62700	60700	62000	60800	68100
23	60200	130000	48000	29200	33600	34300	160000	63100	60600	62000	60900	68000
24	60500	129000	47200	29700	33400	33100	160000	62900	60400	62000	60900	68000
25	60600	125000	46300	29900	32800	31400	158000	63800	60700	61800	61000	66800
26	61200	121000	45200	30200	31700	30500	154000	63100	60900	61500	61100	66000
27	62200	116000	43800	30500	31000	30000	150000	62000	61400	63200	61900	65500
28	62800	111000	42000	30600	30700	29600	145000	61300	61700	62500	62000	65000
29	63800	106000	40300	30800	30400	29500	140000	61000	61900	61600	61700	64100
30	66100	101000	38300	30700	---	30000	135000	60800	61900	60900	61200	63700
31	68900	---	36600	30500	---	30200	---	60200	---	60800	60900	---
MAX	68900	130000	113000	35500	37200	35700	160000	129000	63200	63200	62000	68100
MIN	60100	60300	36600	28700	29400	28300	31600	60200	59800	60800	60500	60600

ST. FRANCIS RIVER BASIN

07039500 ST. FRANCIS RIVER AT WAPPAPELLO, MO

LOCATION.--Lat 36°55'41", long 90°15'55", in NW 1/4 SE 1/4 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 U.S. Army Corps of Engineers.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 315.15 ft (revised) above sea level. 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 fair. Flow completely regulated by Wappapello Lake (station 07039000) 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.

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, as determined by U.S. Army Corps of Engineers, 85,000 ft³/s, Aug. 1915 (stage unknown).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	205	1090	3630	1790	688	1090	624	3600	671	89	210	81
2	208	1600	3780	1700	680	808	435	3560	465	136	160	78
3	211	2350	3830	1590	678	680	331	3520	378	252	85	77
4	211	2510	3750	1560	677	707	193	3480	442	342	79	78
5	214	2510	3730	1550	677	762	186	3430	878	317	78	140
6	213	2340	3790	1440	643	812	384	3370	873	226	78	211
7	215	1970	3810	1250	580	1060	625	3220	735	214	103	216
8	176	1690	3830	1110	572	1390	642	2890	760	214	212	218
9	74	1420	3790	1190	573	1250	646	2490	1000	213	219	215
10	64	1130	3730	1590	495	959	808	2150	1030	212	218	215
11	96	998	3690	1740	370	858	1140	1960	960	212	189	214
12	191	917	3650	1560	362	607	1070	1830	759	184	87	214
13	198	716	3610	1530	529	472	863	1740	548	92	80	213
14	199	640	3560	1560	952	460	757	1620	381	84	103	162
15	200	632	3500	1640	1170	457	744	1430	364	87	208	81
16	201	581	3380	1920	1510	458	701	1200	363	85	219	76
17	201	512	3020	1650	1560	483	654	1080	361	119	161	82
18	201	508	2660	1590	1770	646	651	963	360	205	82	92
19	201	635	2440	1540	2410	1040	826	866	360	212	77	92
20	202	935	2390	1390	2750	2090	1310	1030	356	213	76	95
21	146	1100	2370	1290	2550	2760	1960	1250	326	212	77	88
22	70	2250	2340	980	2270	2760	3120	1090	236	211	77	213
23	67	3030	2330	713	2010	2630	3340	1290	227	211	78	449
24	67	3480	2320	691	1850	2300	3450	1830	206	211	77	605
25	67	3560	2300	686	1820	2140	3690	2240	93	261	77	802
26	70	3700	2280	686	1710	1880	3720	2070	123	339	77	732
27	67	3710	2260	728	1420	1560	3710	1580	207	503	80	602
28	108	3680	2240	783	1220	1330	3690	1180	212	774	136	588
29	367	3630	2220	790	1180	1050	3660	1010	213	679	214	539
30	654	3610	2160	790	---	904	3630	860	172	424	218	430
31	943	---	1940	760	---	856	---	808	---	288	160	---
MEAN	203	1914	3043	1283	1230	1202	1585	1956	469	252	129	263
MAX	943	3710	3830	1920	2750	2760	3720	3600	1030	774	219	802
MIN	64	508	1940	686	362	457	186	808	93	84	76	76
IN.	.18	1.63	2.68	1.13	1.01	1.06	1.35	1.72	.40	.22	.11	.22

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	398	885	1883	2319	2302	2716	2914	2458	1374	739	396	406
MAX	3239	4959	8897	8867	7796	7072	11920	9243	5860	4866	3385	2239	
(WY)	1950	1952	1983	1950	1949	1979	1945	1983	1957	1945	1945	1982	
MIN	33.9	43.8	167	188	286	308	63.5	62.3	6.00	87.1	40.0	34.0	
(WY)	1949	1954	1990	1981	1963	1941	1981	1987	1978	1980	1965	1955	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	1979	1128	1562	
HIGHEST ANNUAL MEAN			3534	1985
LOWEST ANNUAL MEAN			406	1941
HIGHEST DAILY MEAN	7140	Jan 13	21800	Apr 16 1945
LOWEST DAILY MEAN	62	Sep 22-23	.00	Several Years
INSTANTANEOUS PEAK FLOW	--		3910	Dec 2
INSTANTANEOUS PEAK STAGE	--		21.22	Dec 2
INSTANTANEOUS LOW FLOW	--		63	Oct 10
ANNUAL SEVEN-DAY MINIMUM	65	Sep 17	74	Oct 22
ANNUAL RUNOFF (INCHES)	20.50		11.71	16.19
10 PERCENT EXCEEDS	4410		3350	4050
50 PERCENT EXCEEDS	1300		704	647
90 PERCENT EXCEEDS	75		91	40

WHITE RIVER BASIN

07050700 JAMES RIVER NEAR SPRINGFIELD, MO

LOCATION.--Lat 37°09'00", long 93°12'12", in SW 1/4 SE 1/4 SW 1/4 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 sea level (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 the pumping of 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 1909 reached a stage of about 22 ft, from information by local resident, discharge not determined.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	302	543	210	87	125	99	84	70	51	19	13
2	15	310	560	193	86	126	91	80	65	45	20	12
3	20	189	1100	177	82	122	87	75	318	44	21	11
4	19	124	701	162	80	142	88	71	704	53	20	11
5	19	85	523	147	79	139	85	66	313	1040	159	10
6	22	64	423	142	79	148	81	61	209	547	183	11
7	20	41	354	134	77	149	77	58	420	320	95	11
8	18	34	301	123	74	137	75	56	291	221	59	20
9	20	30	250	117	71	145	73	54	210	152	37	41
10	18	26	211	106	71	168	71	52	659	110	26	36
11	18	19	179	101	72	168	69	51	1700	91	27	23
12	17	15	177	97	96	152	71	59	1010	77	24	20
13	18	13	185	95	192	137	73	74	620	54	23	16
14	17	14	180	97	1170	138	76	68	440	53	19	12
15	16	15	164	93	1280	128	74	63	350	59	19	12
16	16	21	152	87	741	120	73	58	281	58	18	9.6
17	15	204	135	85	566	115	73	82	224	55	18	10
18	15	731	121	83	588	137	84	309	186	51	20	12
19	15	763	109	81	475	206	113	643	146	53	15	13
20	15	1580	185	79	381	194	161	337	117	44	14	97
21	16	1100	1670	79	317	188	208	467	92	41	12	293
22	16	676	947	91	270	176	186	394	72	30	12	161
23	16	481	683	98	234	146	148	288	64	29	9.8	96
24	17	368	536	108	203	142	134	215	63	29	11	58
25	18	285	435	112	171	136	131	164	71	23	18	42
26	20	233	360	111	151	127	117	122	71	27	16	43
27	22	188	308	105	133	119	108	106	71	23	17	42
28	61	167	275	99	128	111	101	103	65	19	15	32
29	98	233	273	93	128	107	95	100	62	23	15	26
30	68	1510	259	88	---	108	89	89	61	27	13	20
31	63	---	231	85	---	105	---	78	---	21	13	---
MEAN	24.6	327	404	112	279	141	100	146	301	112	31.9	40.5
MAX	98	1580	1670	210	1280	206	208	643	1700	1040	183	293
MIN	15	13	109	79	71	105	69	51	61	19	9.8	9.6
IN.	.12	1.49	1.89	.53	1.22	.66	.46	.68	1.36	.52	.15	.18

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	108	235	314	206	268	422	402	385	192	117	40.7	88.1
MEAN	108	235	314	206	268	422	402	385	192	117	40.7	88.1
MAX	587	1327	1370	786	972	1041	1193	1672	873	1148	262	881
(WY)	1971	1973	1983	1991	1985	1978	1965	1961	1985	1958	1958	1977
MIN	2.74	9.39	8.26	5.56	8.35	16.4	16.3	38.3	28.1	12.2	3.22	1.05
(WY)	1957	1964	1956	1981	1981	1981	1981	1977	1972	1962	1962	1956

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	293	167	231
HIGHEST ANNUAL MEAN			465
LOWEST ANNUAL MEAN			52.8
HIGHEST DAILY MEAN	5560	1700	13900
LOWEST DAILY MEAN	5.2	9.6	.30
INSTANTANEOUS PEAK FLOW	--	3340	24800
INSTANTANEOUS PEAK STAGE	--	10.89	18.20
INSTANTANEOUS LOW FLOW	--	7.6	0.1
ANNUAL SEVEN-DAY MINIMUM	7.0	11	.53
ANNUAL RUNOFF (INCHES)	16.18	9.27	12.77
10 PERCENT EXCEEDS	735	385	503
50 PERCENT EXCEEDS	111	88	76
90 PERCENT EXCEEDS	11	16	12

WHITE RIVER BASIN

07052500 JAMES RIVER AT GALENA, MO

LOCATION.--Lat 36°48'19", long 93°27'41", in SW 1/4 SE 1/4 SW 1/4 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 old State Highways 13 and 248 in Galena, 0.7 mi upstream from Ralley 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 sea level. 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.--Estimated daily discharges: Oct. 29 to Nov. 7 and Nov. 18-20. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137	420	2340	968	433	664	551	434	355	502	312	143
2	136	600	1880	908	422	632	521	406	328	446	310	138
3	132	850	3010	855	406	616	498	370	392	401	609	136
4	140	790	3160	802	401	612	482	332	974	378	433	129
5	164	650	2350	754	382	634	472	300	1200	2230	386	124
6	178	540	1880	710	381	640	450	285	918	3110	802	123
7	154	450	1590	672	356	642	432	265	745	1790	788	129
8	140	371	1370	641	351	648	421	251	849	1240	640	594
9	139	318	1190	597	332	705	414	244	2070	984	520	3640
10	134	267	1060	567	329	909	403	237	3630	814	421	2160
11	133	256	951	537	349	1050	388	231	12100	708	339	1600
12	126	246	913	516	432	980	396	238	7080	696	292	1080
13	121	232	925	506	699	894	395	245	4080	566	266	822
14	119	209	880	510	997	806	378	246	2800	500	234	642
15	112	203	865	501	3330	748	371	246	2370	444	221	506
16	111	222	823	478	2890	683	363	245	1920	441	207	425
17	111	590	778	464	2200	636	366	318	1580	462	197	364
18	112	4300	725	447	1880	696	408	680	1560	470	184	325
19	108	4800	663	427	1760	1290	527	956	1340	386	180	301
20	105	5600	731	416	1530	1350	696	1150	1140	348	170	398
21	106	4750	2800	413	1320	1150	1080	1020	996	390	160	1990
22	105	3330	4180	429	1180	1040	1110	1110	874	437	159	1650
23	106	2340	2920	452	1080	939	993	1040	794	464	151	1390
24	111	1780	2300	482	1010	853	851	890	732	377	145	1080
25	113	1430	1880	503	934	791	735	752	664	328	135	900
26	134	1190	1610	508	860	726	653	623	621	297	142	756
27	138	1040	1410	507	798	671	583	535	563	527	206	646
28	187	932	1260	500	746	616	534	487	518	656	233	557
29	400	868	1150	463	697	582	495	464	514	478	186	471
30	520	2410	1090	467	---	589	465	439	522	382	163	411
31	470	---	1030	454	---	578	---	392	---	335	152	---
MEAN	161	1399	1604	563	982	786	548	498	1808	696	301	788
MAX	520	5600	4180	968	3330	1350	1110	1150	12100	3110	802	3640
MIN	105	203	663	413	329	578	363	231	328	297	135	123
IN.	.19	1.58	1.87	.66	1.07	.92	.62	.58	2.04	.81	.35	.89

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	501	810	962	877	1100	1493	1733	1585	1167	593	406	366
MEAN	501	810	962	877	1100	1493	1733	1585	1167	593	406	366
MAX	2494	4407	5435	3443	3485	5372	8376	9549	6383	4010	5159	2004
(WY)	1942	1973	1983	1937	1966	1945	1927	1943	1935	1951	1927	1977
MIN	58.0	65.3	79.2	68.8	87.4	129	145	179	87.6	46.0	22.6	45.8
(WY)	1954	1954	1956	1956	1954	1954	1954	1936	1936	1954	1954	1953

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

	1097	841	964
ANNUAL MEAN	1097	841	964
HIGHEST ANNUAL MEAN			2499
LOWEST ANNUAL MEAN			119
HIGHEST DAILY MEAN	13500	Apr 19	46900
LOWEST DAILY MEAN	105	Aug 23, Oct 20, 22	11
INSTANTANEOUS PEAK FLOW	--		52700
INSTANTANEOUS PEAK STAGE	--		29.82
INSTANTANEOUS LOW FLOW	--		10
ANNUAL SEVEN-DAY MINIMUM	108	Oct 17	12
ANNUAL RUNOFF (INCHES)	15.09		13.28
10 PERCENT EXCEEDS	2450		2100
50 PERCENT EXCEEDS	671		425
90 PERCENT EXCEEDS	128		117

WHITE RIVER BASIN

07053400 TABLE ROCK LAKE NEAR BRANSON, MO

LOCATION.--Lat 36°35'46", long 93°18'35", in NW ¼ sec.22, T.22 N., R.22 W., Taney County, Hydrologic Unit 11010001, at dam on White River, 3.0 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 sea level (levels by U.S. Army Corps of Engineers). Prior to July 18, 1958, nonrecording 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 881.0 ft and capacity 1,520,500 ac-ft began Nov. 24, 1958, and was reached Dec. 19, 1959. Capacity is 3,567,500 ac-ft at top of spillway gates, elevation 933.0 ft. Capacity is 3,462,000 ac-ft at top of flood control pool, elevation 931.0 ft. Capacity between elevations 915.0 ft and 931.0 ft is reserved for flood control, 760,000 ac-ft. The capacity at the lowest outlet, elevation 721.96 ft., is 3,530 ac-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 ac-ft, May 10, 1961, elevation, 932.52 ft; minimum, since initial filling to bottom of power pool level, 1,536,000 ac-ft, Feb. 8, 1965, elevation, 881.54 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,960,000 ac-ft, June 12, elevation, 920.87 ft; minimum, 2,410,000 ac-ft, Oct. 24, elevation, 907.86 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
OBSERVATION AT 24:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	910.53	910.05	913.34	915.54	913.35	912.81	910.88	912.50	916.27	917.23	916.82	914.68
2	910.30	910.20	913.61	915.38	913.38	912.83	910.73	912.57	916.49	917.18	916.89	914.67
3	910.06	910.14	914.06	915.13	913.49	912.86	910.65	912.61	916.77	917.13	916.88	914.45
4	909.95	910.05	914.40	914.87	913.32	912.92	910.65	912.56	916.93	917.11	916.76	914.22
5	909.86	910.13	914.54	914.58	913.15	912.96	910.67	912.57	917.09	917.48	916.62	914.26
6	909.84	910.12	914.47	914.41	913.01	913.06	910.64	912.43	917.34	917.49	916.46	914.27
7	909.66	910.15	914.61	914.29	912.71	913.10	910.64	912.42	917.66	917.36	916.28	914.20
8	909.44	909.96	914.82	914.22	912.51	913.17	910.61	912.42	917.62	917.20	916.12	915.39
9	909.27	909.88	914.88	914.10	912.53	912.93	910.47	912.44	917.46	917.01	916.13	915.87
10	909.10	909.89	914.98	913.83	912.61	912.51	910.35	912.45	919.46	916.91	916.01	916.53
11	908.95	909.91	915.04	913.61	912.65	912.10	910.38	912.61	920.61	916.88	915.94	916.67
12	908.93	909.81	915.08	913.61	912.93	911.85	910.42	912.70	920.87	916.84	915.86	916.62
13	908.91	909.68	915.11	913.49	913.10	911.85	910.33	912.77	920.56	916.77	915.71	916.49
14	908.78	909.53	915.20	913.29	913.48	911.94	910.24	912.80	920.17	916.84	915.61	916.20
15	908.75	909.34	915.28	912.97	913.74	912.05	910.26	912.82	919.80	916.80	915.50	915.83
16	908.70	909.66	915.33	912.92	914.06	911.96	910.21	912.87	919.44	916.92	915.53	915.54
17	908.64	910.58	915.15	912.88	914.32	911.93	910.30	913.11	919.02	916.98	915.51	915.32
18	908.44	911.30	914.94	912.96	914.50	911.75	910.35	913.29	918.59	916.98	915.47	915.23
19	908.35	911.82	914.91	913.02	914.33	911.52	910.46	913.54	918.13	917.01	915.43	915.28
20	908.30	912.30	915.30	913.06	913.96	911.34	910.74	913.84	917.72	916.98	915.35	915.45
21	908.10	912.95	915.69	913.07	913.60	911.45	910.76	914.07	917.43	917.01	915.17	915.64
22	908.04	913.32	916.04	913.14	913.51	911.54	910.97	914.34	917.13	917.07	915.18	915.79
23	907.93	913.36	916.36	913.17	913.44	911.53	911.28	914.64	917.01	916.93	915.08	915.91
24	907.86	913.63	916.41	913.17	913.11	911.48	911.61	914.90	916.94	916.80	914.92	916.02
25	907.95	913.58	916.35	913.22	912.76	911.41	911.90	915.09	916.93	916.79	914.78	915.97
26	908.04	913.40	916.24	913.26	912.70	911.26	912.08	915.25	917.04	916.94	914.88	916.02
27	908.13	913.23	915.91	913.32	912.73	911.13	912.23	915.32	917.11	916.93	914.88	916.06
28	908.52	913.27	915.90	913.21	912.69	911.19	912.35	915.51	917.17	916.84	914.89	916.02
29	909.19	913.35	915.82	913.21	912.74	911.27	912.45	915.73	917.31	916.71	914.89	916.02
30	909.53	913.42	915.76	913.27	---	911.21	912.49	915.91	917.37	916.81	914.90	915.92
31	909.76	---	915.68	913.35	---	911.00	---	916.04	---	916.79	914.74	---
(-)	2480000	2630000	2730000	2630000	2610000	2530000	2600000	2750000	2800000	2780000	2690000	2740000
(=)	-40000	+150000	+100000	-100000	-20000	-80000	+70000	+150000	+50000	-20000	-90000	+50000
MAX	910.53	913.63	916.41	915.54	914.50	913.17	912.49	916.04	920.87	917.49	916.89	916.67
MIN	907.86	909.34	913.34	912.88	912.51	911.00	910.21	912.42	916.27	916.71	914.74	914.20

CAL YR 1991. . . .+110000

WTR YR 1992. . . .+220000

(-) Contents, in acre-feet, at end of month.

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

WHITE RIVER BASIN

07053450 WHITE RIVER BELOW TABLE ROCK DAM NEAR BRANSON, MO

WATER-QUALITY RECORDS

LOCATION.--Lat 36°35'42", long 93°18'32", sec.22, T.22 N., R.22 W., Taney County, Hydrologic Unit 11010003, on left bank in SW corner of U.S. Army Corps of Engineers' carpentry building, 600 ft below Table Rock Dam.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1987 to current year. (See remarks).

DISSOLVED OXYGEN: June 1987 to current year. (See remarks).

INSTRUMENTATION.--Water quality monitor since June 1987.

REMARKS.--The number of missing days of water temperature and dissolved oxygen record exceeds 20 percent of the year. The monitor was not operated from Jan. 8 to June 10.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	11.4	10.7	11.0	12.4	10.9	11.9	11.5	11.3	11.4	9.7	9.4	9.5
2	12.6	10.8	11.2	12.4	11.2	12.1	11.4	11.1	11.3	9.6	9.4	9.5
3	11.4	10.9	11.2	12.7	11.2	12.3	11.6	11.2	11.4	9.6	9.3	9.4
4	12.1	10.8	11.4	12.5	12.3	12.4	11.7	11.0	11.2	9.5	9.3	9.4
5	11.9	10.8	11.3	12.3	11.4	12.1	11.2	10.9	11.0	9.4	9.2	9.3
6	12.4	10.7	11.2	12.2	11.5	12.0	11.1	10.9	11.0	9.5	9.2	9.3
7	11.7	10.7	11.2	12.1	11.9	12.1	11.3	11.0	11.1	9.4	9.2	9.3
8	11.6	11.3	11.4	12.3	11.8	12.2	12.2	11.0	11.5	---	---	---
9	11.6	10.9	11.3	12.2	11.1	11.9	11.2	11.0	11.1	---	---	---
10	11.6	11.0	11.4	12.2	11.2	11.7	11.7	10.9	11.1	---	---	---
11	11.5	10.8	11.3	12.0	11.4	11.7	11.6	10.8	11.1	---	---	---
12	12.3	11.0	11.5	12.2	11.4	11.9	11.4	10.9	11.1	---	---	---
13	12.0	10.9	11.3	12.1	11.1	11.9	11.1	10.9	11.0	---	---	---
14	11.7	11.0	11.4	12.1	11.5	12.0	11.1	10.6	10.9	---	---	---
15	12.1	10.9	11.4	12.1	11.5	11.8	11.5	10.4	10.8	---	---	---
16	11.9	10.8	11.2	11.8	11.4	11.6	11.3	10.4	10.8	---	---	---
17	12.2	10.8	11.3	11.8	11.4	11.6	10.8	10.5	10.7	---	---	---
18	11.6	10.9	11.4	11.7	11.3	11.5	10.9	10.5	10.7	---	---	---
19	11.6	11.0	11.5	11.7	11.1	11.6	10.6	10.4	10.5	---	---	---
20	11.5	10.9	11.3	11.7	11.2	11.6	10.5	10.3	10.4	---	---	---
21	11.6	10.7	11.4	11.7	11.1	11.5	10.4	10.2	10.3	---	---	---
22	12.1	11.0	11.5	11.7	10.9	11.4	10.3	10.1	10.2	---	---	---
23	12.1	11.2	11.6	11.9	10.7	11.6	10.3	10.1	10.2	---	---	---
24	11.7	11.2	11.5	12.4	11.6	11.9	10.1	10.0	10.1	---	---	---
25	11.7	11.2	11.5	11.8	11.4	11.5	10.0	9.9	10.0	---	---	---
26	12.5	11.2	11.5	11.6	11.3	11.4	9.9	9.8	9.9	---	---	---
27	11.9	11.2	11.3	11.7	11.4	11.5	9.8	9.8	9.8	---	---	---
28	---	---	---	11.8	11.4	11.6	9.9	9.7	9.8	---	---	---
29	---	---	---	11.8	11.4	11.6	9.9	9.6	9.7	---	---	---
30	---	---	---	11.8	11.3	11.6	9.8	9.6	9.7	---	---	---
31	11.7	11.4	11.7	---	---	---	9.8	9.5	9.6	---	---	---

WHITE RIVER BASIN

07053450 WHITE RIVER BELOW TABLE ROCK DAM NEAR BRANSON, MO--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	9.3	8.7	8.9	10.9	9.5	9.8	9.6	8.9	9.1
2	---	---	---	9.8	8.8	9.1	10.5	8.2	9.3	9.3	8.8	9.1
3	---	---	---	9.9	8.8	9.3	8.5	8.0	8.2	9.7	8.9	9.2
4	---	---	---	---	---	---	8.6	8.0	8.3	9.8	9.0	9.4
5	---	---	---	---	---	---	8.8	8.2	8.5	9.6	9.0	9.3
6	---	---	---	---	---	---	8.8	8.3	8.6	9.8	9.0	9.3
7	---	---	---	---	---	---	9.0	8.4	8.7	9.6	9.0	9.3
8	---	---	---	10.0	9.4	9.7	9.0	8.5	8.7	9.8	9.1	9.4
9	---	---	---	10.0	9.5	9.8	9.6	7.5	8.8	10.3	9.0	9.4
10	9.4	8.6	9.0	10.2	9.4	9.8	---	---	---	9.8	9.2	9.4
11	9.2	8.8	9.0	10.8	9.5	9.8	9.4	8.7	8.9	9.7	9.2	9.5
12	9.2	9.0	9.2	11.1	9.5	10.0	9.2	8.7	8.9	9.6	9.1	9.5
13	9.2	9.1	9.2	10.5	9.5	9.8	9.2	8.7	9.0	9.8	9.2	9.6
14	9.4	8.9	9.2	10.8	9.5	10.0	9.2	8.8	9.0	10.0	9.3	9.8
15	9.4	9.0	9.2	11.1	9.5	9.8	9.4	8.7	9.0	10.1	8.7	9.6
16	9.2	9.0	9.2	10.0	9.5	9.7	9.9	8.7	9.0	10.1	9.4	10.0
17	9.4	9.1	9.2	12.1	9.5	10.0	9.7	8.7	9.1	10.2	9.4	9.9
18	9.3	9.1	9.2	11.7	9.5	9.9	9.4	8.7	9.0	10.2	9.5	9.9
19	9.2	9.1	9.2	11.6	9.5	9.9	9.8	8.8	9.0	10.2	9.6	9.8
20	9.2	9.0	9.1	10.5	9.5	9.7	9.3	8.8	9.0	10.1	9.6	9.8
21	10.1	8.8	9.1	11.6	9.5	9.9	9.2	8.6	8.9	10.4	9.7	10.1
22	9.4	8.8	9.1	10.8	9.5	9.8	9.6	8.6	8.9	10.3	9.7	10.0
23	9.1	8.7	8.9	10.1	9.4	9.7	9.2	8.6	8.8	10.4	9.6	9.9
24	9.0	8.3	8.5	10.0	9.4	9.7	9.1	8.3	8.7	10.9	9.4	10.0
25	9.2	8.3	8.6	10.4	9.5	9.8	9.1	8.4	8.8	10.2	9.6	9.9
26	9.8	8.3	8.8	10.9	9.5	9.9	9.2	8.5	8.8	10.3	9.7	10.0
27	9.9	8.4	8.9	10.4	9.4	9.7	9.4	8.7	8.9	10.4	9.7	10.0
28	9.7	8.4	8.7	10.1	9.4	9.7	9.5	8.5	8.9	10.5	9.7	10.1
29	9.6	8.5	8.7	10.9	9.6	9.9	9.8	8.6	9.0	10.6	9.6	10.0
30	9.1	8.6	8.8	10.0	9.5	9.7	9.5	8.7	9.0	10.4	9.6	10.1
31	---	---	---	10.9	9.4	9.8	9.3	8.8	9.1	---	---	---

WHITE RIVER BASIN

07053450 WHITE RIVER BELOW TABLE ROCK DAM NEAR BRANSON, MO--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	9.5	4.2	5.7	9.3	4.5	5.9	---	---	---	12.8	9.5	10.1
2	8.5	3.9	5.5	9.2	4.6	6.0	---	---	---	11.5	9.6	10.1
3	8.6	4.0	5.6	9.2	5.2	6.6	---	---	---	11.7	9.6	10.2
4	10.0	3.2	6.7	6.5	3.3	5.6	---	---	---	11.8	9.6	10.1
5	11.0	3.5	7.7	9.6	5.2	6.2	9.7	5.0	7.1	11.7	9.9	10.3
6	10.8	3.6	6.2	8.6	4.7	5.7	8.9	6.2	7.4	11.9	9.8	10.4
7	9.5	4.4	5.9	6.2	4.2	5.3	9.6	5.7	7.6	11.7	9.7	10.5
8	7.9	3.4	4.7	5.7	3.0	4.3	9.8	6.6	8.7	---	---	---
9	8.6	3.6	5.5	8.9	3.1	5.7	10.8	6.8	8.5	---	---	---
10	8.7	4.2	5.9	8.9	4.7	6.6	10.9	6.9	9.1	---	---	---
11	8.8	4.4	5.8	8.4	3.8	6.1	10.9	7.2	9.2	---	---	---
12	10.8	4.2	7.8	9.0	3.9	6.1	10.3	6.3	8.2	---	---	---
13	9.6	4.1	6.7	8.9	2.7	5.6	10.3	6.8	8.2	---	---	---
14	8.5	4.4	5.6	8.1	2.4	5.4	10.1	8.0	8.7	---	---	---
15	10.8	3.6	7.4	7.4	2.3	4.7	9.6	7.2	8.7	---	---	---
16	10.9	4.1	7.0	6.4	4.2	5.1	9.9	7.6	8.7	---	---	---
17	10.6	4.0	6.4	7.8	2.7	4.7	10.4	8.1	8.8	---	---	---
18	8.7	4.0	5.4	7.8	3.2	4.6	11.5	8.9	9.7	---	---	---
19	8.5	3.5	5.9	8.5	3.1	4.5	12.2	7.2	8.8	---	---	---
20	8.3	3.6	5.8	8.5	2.6	4.5	9.6	7.2	8.6	---	---	---
21	14.4	4.0	5.5	---	---	---	11.0	8.6	9.2	---	---	---
22	10.1	3.7	6.2	---	---	---	10.8	8.8	9.4	---	---	---
23	9.5	3.4	5.4	8.6	3.0	6.6	10.7	9.1	9.6	---	---	---
24	8.2	3.8	5.3	10.7	7.3	9.0	10.3	9.4	9.8	---	---	---
25	8.4	3.7	5.8	10.4	5.7	7.3	9.7	9.0	9.4	---	---	---
26	9.2	4.5	5.7	9.2	5.9	7.0	9.7	9.4	9.6	---	---	---
27	7.1	3.4	5.5	9.5	6.0	7.8	9.8	9.5	9.6	---	---	---
28	7.2	4.1	5.5	8.9	5.2	7.1	12.1	9.5	9.9	---	---	---
29	9.0	4.2	5.4	9.3	5.2	7.1	12.1	9.7	10.2	---	---	---
30	9.7	4.0	5.9	---	---	---	11.0	9.3	9.8	---	---	---
31	8.1	4.2	4.5	---	---	---	11.4	9.5	9.9	---	---	---
JUNE				JULY			AUGUST			SEPTEMBER		
1	---	---	---	10.3	6.1	7.2	10.2	5.5	7.3	12.7	4.2	8.3
2	---	---	---	9.8	5.9	7.4	9.0	5.0	6.5	12.1	4.3	8.1
3	---	---	---	11.3	6.1	8.3	7.9	4.9	6.2	11.5	4.1	7.4
4	---	---	---	10.1	6.2	7.5	9.7	4.9	6.3	11.4	3.6	6.6
5	---	---	---	11.9	6.1	8.6	10.2	4.8	7.0	11.6	4.9	8.1
6	---	---	---	9.5	5.9	7.1	10.8	4.8	7.2	14.1	4.6	8.4
7	---	---	---	9.1	5.8	6.5	11.5	5.0	8.2	10.9	4.2	7.6
8	---	---	---	8.0	5.5	6.4	11.2	4.5	7.3	10.8	4.5	8.0
9	---	---	---	7.7	5.6	6.5	---	---	---	13.5	3.3	6.7
10	10.4	7.1	8.8	8.9	5.4	6.8	---	---	---	11.9	6.3	8.9
11	8.9	7.4	7.7	11.0	5.6	7.3	---	---	---	11.6	4.5	6.8
12	7.9	7.5	7.7	11.0	5.5	7.5	9.1	3.6	6.4	11.6	4.1	6.8
13	7.8	7.5	7.7	10.0	5.4	6.9	10.9	3.9	6.5	11.8	3.9	6.1
14	7.8	7.4	7.6	10.5	5.3	7.6	10.5	5.6	7.6	11.3	3.1	5.4
15	7.8	7.4	7.6	10.0	4.8	6.5	10.9	4.6	7.6	10.6	3.0	5.0
16	7.6	7.4	7.5	11.5	5.1	6.9	13.2	6.8	9.2	8.6	3.3	5.0
17	7.7	7.4	7.5	10.1	4.8	7.1	14.3	5.7	9.3	8.5	3.2	5.3
18	7.7	7.3	7.5	10.0	4.9	6.9	14.2	5.1	8.9	10.3	3.3	5.5
19	7.7	7.3	7.4	9.4	4.8	6.6	13.8	4.4	8.4	11.3	4.8	8.0
20	8.0	7.1	7.4	8.7	4.5	5.8	15.5	5.4	8.6	9.4	4.0	7.1
21	9.3	7.1	7.6	9.2	4.6	6.6	14.5	4.3	8.4	8.7	3.4	5.5
22	9.5	7.0	7.6	9.4	4.3	6.6	15.6	7.2	11.2	9.8	3.6	5.9
23	9.6	6.2	7.4	8.9	5.6	6.5	15.1	4.0	9.5	12.7	4.5	8.5
24	9.9	6.3	7.5	10.5	5.3	6.6	12.0	3.6	6.6	9.7	4.6	6.5
25	9.8	6.1	7.7	10.0	5.8	7.7	10.2	4.1	6.7	9.6	4.1	5.9
26	11.3	6.2	8.5	10.7	5.3	7.3	12.4	6.3	8.7	10.7	4.0	7.0
27	11.1	6.1	8.5	11.9	5.4	7.0	14.4	7.9	10.7	11.8	5.5	7.8
28	10.6	6.1	8.2	13.8	5.6	8.4	15.2	7.8	10.5	12.3	4.1	7.2
29	10.0	6.1	7.7	12.5	6.0	8.2	14.7	8.1	10.2	13.0	5.4	8.1
30	10.4	6.0	7.6	11.7	5.7	7.6	15.0	5.8	10.1	10.2	3.9	5.7
31	---	---	---	10.7	5.4	7.7	9.6	5.3	7.3	---	---	---

WHITE RIVER BASIN

07053500 WHITE RIVER NEAR BRANSON, MO

LOCATION.--Lat 36°35'51", long 93°17'42", in SE 1/4 NE 1/4 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, 5.0 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 sea level (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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 16, 1945, reached a stage of 52.8 ft, from floodmark, discharge, 203,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	570	3100	7670	8060	1040	40	3780	770	1010	4400	1390	2260
2	4870	2850	6820	8370	260	2590	4020	280	2680	5860	190	3130
3	5190	3040	6980	9030	200	2410	1940	370	1390	1820	2570	4770
4	4260	4870	3480	8040	4290	1370	160	1520	7570	2190	4170	5640
5	540	2770	4860	8400	5240	1940	40	150	8200	560	4310	700
6	140	3520	7420	7380	3700	410	2290	3580	5320	4730	6210	820
7	3340	4370	2540	6170	7630	40	740	330	3230	6760	7130	2840
8	4450	10000	40	4930	4320	40	1330	570	8650	6280	5220	1970
9	3590	3320	3530	6200	210	9580	3740	120	13900	6630	1630	3360
10	3130	360	960	8640	730	11500	3400	140	1560	3520	7580	750
11	3220	1210	1110	5570	600	10000	40	140	7240	2220	3820	3100
12	360	2140	2640	1020	2430	6530	40	2580	14400	1910	3630	4420
13	210	3420	4240	6960	2820	2700	2510	210	18900	2600	4630	6120
14	2620	3430	1100	4350	1510	1140	2590	980	18800	160	2910	8900
15	310	4560	200	8020	4690	40	40	880	16500	2450	2980	10100
16	470	40	2800	1890	1570	5070	2410	340	14900	560	560	8770
17	1330	1070	5450	1290	3840	3950	40	140	14900	160	470	6940
18	3380	3290	5260	40	3580	8640	170	270	14500	140	990	4130
19	1680	5200	9100	40	9600	7130	40	860	14800	190	1430	140
20	890	7280	9890	40	13100	5790	40	290	12900	1500	2610	470
21	3250	4840	11100	950	11800	40	7420	340	9720	150	3670	5220
22	1040	7320	11300	1210	5370	40	2320	170	9040	190	140	2910
23	2400	6350	9180	1280	3130	1640	310	140	6010	3450	3180	700
24	2180	1570	13000	1440	10700	2880	40	140	3690	3460	6390	730
25	410	9440	13300	40	11300	2710	40	150	3090	1370	5100	2540
26	270	7870	13500	40	3850	4520	40	400	260	160	850	1220
27	140	5500	15100	1460	1620	4250	40	200	130	1940	140	290
28	510	1610	7870	4120	3180	40	40	130	140	5140	150	2140
29	1470	2270	8250	1520	40	40	40	140	150	4000	330	320
30	2350	3540	7910	40	---	330	40	750	1110	940	380	4410
31	3240	---	7920	120	---	4950	---	140	---	860	3990	---
MEAN	1994	4005	6597	3763	4219	3302	1323	555	7823	2461	2863	3327
MAX	5190	10000	15100	9030	13100	11500	7420	3580	18900	6760	7580	10100
MIN	140	40	40	40	40	40	40	120	130	140	140	140

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920
MEAN	1613	2795	3860	3517	3947	5330	5983	5898	4014	3248	2711	1999
MAX	5437	13110	15210	16070	11970	14800	14800	22650	19950	11660	11390	8988
(WY)	1971	1975	1986	1985	1969	1985	1985	1961	1957	1957	1957	1957
MIN	128	189	267	201	420	419	341	415	519	140	51.3	136
(WY)	1957	1954	1956	1990	1964	1964	1981	1981	1954	1954	1954	1953

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	4519	3509	3742
HIGHEST ANNUAL MEAN			7797
LOWEST ANNUAL MEAN			729
HIGHEST DAILY MEAN	15100	18900	72000
LOWEST DAILY MEAN	40	40	.00
INSTANTANEOUS PEAK FLOW	---	*****	89100
INSTANTANEOUS PEAK STAGE	---	*****	36.9
INSTANTANEOUS LOW FLOW	---	*****	.00
ANNUAL SEVEN-DAY MINIMUM	164	40	8.4
ANNUAL RUNOFF (INCHES)	15.26	11.88	12.64
10 PERCENT EXCEEDS	9580	8640	9450
50 PERCENT EXCEEDS	3540	2570	2190
90 PERCENT EXCEEDS	170	140	140

*****Indicates not enough data, therefore, statistic is not computed.

WHITE RIVER BASIN

07053600 LAKE TANEYCOMO AT COLLEGE 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 College of the Ozarks water intake pump house, and 4.75 mi below Table Rock Dam.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: May 1984 to current year. (See remarks).
DISSOLVED OXYGEN: May 1984 to current year. (See remarks).

INSTRUMENTATION.--Water-quality monitor since May 1984.

REMARKS.--The number of missing days of water temperature and dissolved oxygen record exceeds 20 percent of the year. The monitor was not operated from Jan. 8 to June 10.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	13.5	11.2	12.2	12.3	10.8	11.8	12.2	11.5	11.9	10.2	9.0	9.6
2	13.1	11.4	12.0	12.6	10.6	11.9	12.0	11.3	11.8	10.2	6.8	9.0
3	11.8	10.8	11.3	13.1	10.1	11.7	12.3	11.1	11.8	10.1	7.9	9.3
4	---	---	---	13.4	11.5	12.1	11.8	10.8	11.5	10.2	7.4	9.3
5	---	---	---	12.1	11.0	11.8	12.0	10.6	11.3	10.0	7.8	9.0
6	---	---	---	12.0	10.7	11.5	11.9	11.0	11.4	10.2	9.0	9.7
7	---	---	---	11.8	10.8	11.4	12.3	10.9	11.6	10.2	9.4	9.9
8	---	---	---	11.6	10.3	11.1	12.4	11.2	11.9	10.2	8.9	9.6
9	---	---	---	11.9	9.9	11.1	12.5	10.7	11.8	---	---	---
10	---	---	---	11.4	10.2	10.8	11.8	9.8	10.7	---	---	---
11	---	---	---	11.3	10.3	10.7	12.2	10.3	11.2	---	---	---
12	---	---	---	12.4	11.2	11.7	12.0	10.4	11.3	---	---	---
13	---	---	---	12.0	10.6	11.4	11.8	10.2	10.9	---	---	---
14	---	---	---	12.9	11.7	12.5	11.2	9.9	10.5	---	---	---
15	---	---	---	13.3	12.6	12.9	10.7	9.4	10.0	---	---	---
16	---	---	---	13.2	11.8	12.8	11.4	9.1	10.3	---	---	---
17	13.7	11.5	13.3	13.8	12.8	13.3	11.6	9.6	10.6	---	---	---
18	12.4	10.9	11.6	13.4	12.3	12.9	10.8	9.7	10.3	---	---	---
19	12.1	10.9	11.5	12.8	11.8	12.5	10.8	9.4	10.3	---	---	---
20	11.8	10.1	11.2	13.0	12.3	12.7	10.8	9.8	10.5	---	---	---
21	12.5	10.6	11.6	13.3	12.0	12.7	10.8	9.5	10.4	---	---	---
22	13.3	11.1	11.9	12.9	11.9	12.5	10.9	10.3	10.7	---	---	---
23	13.5	11.4	12.0	12.8	11.6	12.5	10.9	10.4	10.6	---	---	---
24	12.0	11.1	11.7	12.4	10.3	11.8	10.9	9.6	10.5	---	---	---
25	12.6	11.1	11.7	12.8	11.7	12.3	10.8	9.5	10.3	---	---	---
26	13.4	12.1	12.7	12.6	11.6	12.2	10.6	9.6	10.2	---	---	---
27	13.3	12.4	12.9	13.0	12.1	12.6	10.7	9.9	10.4	---	---	---
28	14.4	12.4	13.3	13.0	12.3	12.7	10.6	10.0	10.5	---	---	---
29	14.3	11.8	13.0	13.0	12.4	12.8	10.5	9.5	10.1	---	---	---
30	12.0	10.7	11.2	12.7	12.0	12.4	10.3	9.4	9.8	---	---	---
31	12.0	10.7	11.5	---	---	---	10.3	9.2	9.9	---	---	---

WHITE RIVER BASIN

07053600 LAKE TANEYCOMO AT COLLEGE OF THE OZARKS, MO--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	11.0	7.8	9.3	---	---	---	9.8	8.5	8.9
2	---	---	---	10.4	8.7	9.3	---	---	---	9.3	8.5	8.9
3	---	---	---	12.8	9.0	10.1	---	---	---	9.9	8.6	9.0
4	---	---	---	11.4	8.4	9.3	---	---	---	9.7	8.9	9.2
5	---	---	---	16.7	8.9	11.7	---	---	---	11.1	8.9	9.9
6	---	---	---	12.9	8.8	10.3	9.4	8.8	9.1	11.3	9.7	10.5
7	---	---	---	10.3	9.2	9.7	9.4	8.9	9.1	11.4	9.2	9.9
8	---	---	---	10.3	9.0	9.6	10.2	9.0	9.4	11.8	8.7	9.8
9	---	---	---	10.5	9.3	9.9	11.4	9.3	10.0	14.2	9.1	11.3
10	16.7	11.4	12.8	11.6	9.3	10.1	10.1	9.4	9.6	12.9	9.0	10.6
11	15.3	8.1	11.7	13.4	10.0	10.8	---	---	---	10.6	9.0	9.8
12	11.6	8.3	9.3	14.0	9.8	10.9	---	---	---	10.4	9.0	9.7
13	12.0	11.0	11.6	12.7	9.9	10.7	---	---	---	10.2	9.3	9.8
14	12.5	11.1	11.7	12.5	10.3	11.3	---	---	---	10.4	9.6	10.0
15	12.1	8.9	10.7	15.7	10.6	12.9	---	---	---	10.4	9.6	10.0
16	9.6	8.6	9.1	11.6	10.6	11.0	---	---	---	10.6	10.1	10.3
17	9.8	8.9	9.5	14.5	11.1	12.4	---	---	---	10.7	10.2	10.4
18	10.2	9.2	9.6	18.0	13.3	15.3	---	---	---	10.6	10.1	10.4
19	10.0	9.1	9.5	18.0	15.1	16.2	---	---	---	12.0	10.0	10.8
20	10.2	9.4	9.8	16.3	11.4	14.4	---	---	---	13.8	11.2	12.3
21	10.2	9.5	9.9	14.0	11.3	12.6	---	---	---	12.6	10.4	11.3
22	10.6	9.5	10.1	23.2	13.3	14.6	---	---	---	11.3	10.1	10.7
23	11.7	8.8	9.8	13.8	9.9	12.0	---	---	---	12.0	9.2	10.6
24	10.1	8.0	8.9	11.7	9.7	10.3	10.1	9.1	9.9	11.8	9.9	10.8
25	9.8	8.0	8.8	12.6	9.7	10.5	10.0	8.7	9.3	---	---	---
26	11.8	8.8	10.0	12.1	9.9	10.8	10.9	9.0	9.6	---	---	---
27	14.2	10.6	12.7	14.4	9.7	12.3	11.2	9.4	10.2	---	---	---
28	14.2	12.7	13.4	10.9	9.2	9.9	13.6	9.9	11.1	---	---	---
29	13.9	12.3	13.0	11.1	8.3	9.9	13.7	11.1	12.0	11.5	10.5	11.0
30	13.8	8.8	11.8	---	---	---	13.3	10.7	12.0	11.2	10.0	10.6
31	---	---	---	---	---	---	11.0	8.5	10.0	---	---	---

WHITE RIVER BASIN

07053600 LAKE TANEYCOMO AT COLLEGE OF THE OZARKS, MO--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	8.0	5.3	6.4	6.9	5.1	5.9	7.0	5.1	5.9	9.2	8.6	8.9
2	7.3	4.7	5.7	7.0	5.1	6.0	6.2	5.0	5.6	9.9	8.5	9.0
3	6.0	4.3	5.0	7.9	5.9	6.7	7.6	5.4	6.6	9.9	8.5	9.1
4	---	---	---	7.0	4.8	6.2	8.4	6.0	6.9	9.4	8.7	9.1
5	---	---	---	7.6	6.1	6.5	8.4	5.5	6.4	9.9	8.7	9.3
6	---	---	---	7.3	5.9	6.5	7.9	6.6	7.1	10.2	8.5	9.3
7	---	---	---	6.7	6.0	6.3	8.0	6.6	7.3	10.7	8.5	9.4
8	---	---	---	6.6	4.0	5.3	6.6	4.9	6.0	9.3	8.1	9.1
9	---	---	---	6.8	4.4	6.0	8.5	4.9	7.0	---	---	---
10	---	---	---	7.2	6.4	6.8	8.2	7.5	7.7	---	---	---
11	---	---	---	7.3	5.5	6.4	8.2	6.7	7.7	---	---	---
12	---	---	---	7.2	6.1	6.6	8.0	6.3	7.2	---	---	---
13	---	---	---	7.6	5.6	6.2	7.7	6.5	6.9	---	---	---
14	---	---	---	6.7	4.9	5.7	8.2	7.5	8.0	---	---	---
15	---	---	---	5.9	3.9	5.1	8.3	7.6	7.9	---	---	---
16	---	---	---	5.6	2.8	4.2	8.5	7.1	7.8	---	---	---
17	---	---	---	8.4	4.3	6.3	8.2	7.2	7.6	---	---	---
18	6.6	4.8	5.6	6.2	4.1	4.9	8.7	7.8	8.2	---	---	---
19	7.9	5.8	6.6	5.4	3.9	4.6	9.0	7.3	8.0	---	---	---
20	8.0	5.3	6.2	5.3	4.0	4.7	8.5	7.3	7.9	---	---	---
21	8.9	5.3	6.6	6.8	4.1	5.3	8.5	8.0	8.2	---	---	---
22	8.3	5.2	6.1	5.7	4.1	4.7	8.5	8.0	8.2	---	---	---
23	7.7	4.0	5.3	6.7	4.3	5.8	8.6	8.0	8.4	---	---	---
24	6.5	3.3	4.8	8.4	5.5	6.7	9.2	8.3	8.7	---	---	---
25	6.5	4.4	5.4	8.0	5.6	6.5	8.7	8.2	8.4	---	---	---
26	8.0	5.1	6.5	7.3	5.4	5.9	9.2	8.3	8.7	---	---	---
27	7.6	5.3	6.5	8.1	4.9	6.3	8.7	8.5	8.6	---	---	---
28	7.5	6.1	6.8	7.2	4.4	5.9	9.4	8.3	8.8	---	---	---
29	7.0	5.2	6.1	6.8	4.7	6.0	9.2	8.4	8.8	---	---	---
30	6.5	4.8	5.8	7.6	5.2	6.6	9.2	8.4	8.7	---	---	---
31	6.0	4.6	5.3	---	---	---	9.4	8.3	8.7	---	---	---
JUNE			JULY			AUGUST			SEPTEMBER			
1	---	---	---	9.5	6.6	7.4	---	---	---	7.6	4.2	5.2
2	---	---	---	9.0	6.3	7.0	---	---	---	7.7	4.5	6.0
3	---	---	---	10.5	6.2	7.7	---	---	---	7.7	4.3	5.6
4	---	---	---	9.3	5.9	7.1	---	---	---	6.3	3.7	4.5
5	---	---	---	9.7	6.8	7.5	5.8	4.6	5.2	8.3	3.9	5.7
6	---	---	---	9.2	6.4	7.2	5.9	4.4	4.9	9.2	5.9	7.5
7	---	---	---	8.3	5.7	7.0	---	---	---	8.9	4.1	5.9
8	---	---	---	8.1	6.8	7.5	---	---	---	7.3	4.1	5.5
9	---	---	---	8.8	6.8	7.7	---	---	---	7.8	4.0	6.4
10	8.8	7.8	8.1	8.7	6.3	7.1	---	---	---	8.1	4.6	6.5
11	8.6	7.2	8.0	11.1	6.4	8.2	---	---	---	7.3	4.8	6.5
12	8.5	7.8	8.1	11.3	6.0	7.5	---	---	---	6.9	4.9	5.4
13	8.8	8.3	8.5	10.1	6.4	7.5	---	---	---	6.5	4.0	5.3
14	8.7	8.3	8.4	9.1	6.7	7.9	---	---	---	5.4	3.5	4.3
15	8.6	7.5	8.2	11.9	6.4	9.0	---	---	---	5.4	3.1	3.9
16	8.0	7.5	7.7	8.0	6.3	7.3	---	---	---	7.2	3.3	4.1
17	8.0	7.4	7.7	10.0	7.4	8.6	---	---	---	6.6	3.1	4.7
18	8.2	7.4	7.7	12.0	9.0	10.8	---	---	---	7.6	4.0	5.4
19	8.2	7.4	7.7	11.4	9.5	10.5	---	---	---	8.1	4.5	6.1
20	8.1	7.5	7.9	10.6	7.2	9.1	---	---	---	10.6	5.4	8.0
21	8.5	7.4	8.0	9.9	7.2	8.3	---	---	---	8.5	5.0	6.6
22	8.4	6.8	7.7	10.4	7.8	9.1	---	---	---	8.5	4.8	6.4
23	10.2	6.8	7.8	10.2	5.8	8.0	---	---	---	9.9	6.3	7.5
24	10.0	6.6	7.6	8.4	5.5	6.4	5.2	4.3	4.5	10.1	6.2	7.6
25	9.1	7.0	7.9	10.1	5.9	7.2	7.8	4.6	5.3	9.6	6.0	8.4
26	10.5	8.0	9.0	8.5	6.6	7.3	8.8	4.7	6.2	6.6	5.0	5.7
27	13.4	9.1	11.1	10.3	5.5	7.9	8.5	6.1	7.3	8.3	5.1	6.4
28	11.2	9.2	10.3	8.2	5.1	5.9	10.8	6.8	8.2	9.3	4.8	7.1
29	11.1	9.8	10.4	8.3	4.7	5.5	11.7	8.5	9.8	7.3	4.6	5.5
30	10.4	7.2	9.4	---	---	---	11.6	8.1	10.0	9.1	5.5	6.6
31	---	---	---	---	---	---	10.0	4.9	7.9	---	---	---

WHITE RIVER BASIN

07057500 NORTH FORK RIVER NEAR TECUMSEH, MO

LOCATION.--Lat 36°37'22", long 92°14'53", in NE 1/4 SE 1/4 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.

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

GAGE.--Water-stage recorder. Datum of gage is 584.67 ft above sea level (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.--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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	309	2310	1030	760	474	588	601	847	728	536	482	372
2	310	1900	1340	742	467	573	584	808	701	524	479	372
3	317	1310	2280	731	460	568	574	768	891	518	485	366
4	321	1040	1880	712	454	573	572	734	1170	509	487	363
5	318	903	1500	690	448	623	565	709	1310	806	493	353
6	310	810	1300	676	447	683	547	679	1150	828	513	348
7	303	732	1150	649	444	741	536	651	1700	678	537	342
8	302	667	1060	651	436	759	528	636	1460	605	519	351
9	300	625	967	654	423	754	522	624	1200	562	487	362
10	299	595	884	662	422	795	518	610	1160	538	474	373
11	300	571	828	644	422	808	514	600	1590	520	477	363
12	299	548	818	637	444	783	507	727	1480	507	451	350
13	295	527	811	640	465	745	489	876	1240	500	437	342
14	294	512	810	642	518	708	482	758	1120	493	424	340
15	292	503	759	623	765	675	478	696	1020	489	413	337
16	288	523	728	597	933	642	474	663	927	501	406	335
17	288	598	710	589	875	626	475	624	853	495	402	330
18	287	1020	685	578	860	699	504	616	796	490	399	337
19	284	1170	656	559	814	863	2210	662	748	475	400	338
20	280	1120	666	553	756	893	4810	1130	714	498	403	392
21	284	1140	849	550	721	836	3530	1010	679	492	391	814
22	284	1070	1130	559	699	813	2340	1060	646	506	383	686
23	286	960	1150	562	695	768	1810	1080	629	494	380	537
24	295	856	1080	547	692	722	1520	1630	615	490	375	469
25	306	780	1000	531	668	696	1310	1180	600	482	371	436
26	404	726	941	519	649	673	1170	984	585	478	370	420
27	456	692	890	508	639	645	1060	874	564	499	404	406
28	431	665	864	494	628	616	982	831	551	513	417	389
29	3190	649	846	484	611	614	928	832	541	500	413	375
30	2060	720	821	482	---	637	887	830	541	519	387	365
31	1290	---	787	481	---	620	---	777	---	507	378	---
MEAN	493	875	1007	603	598	701	1068	823	930	534	433	399
MAX	3190	2310	2280	760	933	893	4810	1630	1700	828	537	814
MIN	280	503	656	481	422	568	474	600	541	475	370	330
IN.	1.01	1.74	2.07	1.24	1.15	1.44	2.12	1.69	1.85	1.10	.89	.79

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	406	617	709	712	853	1044	1242	1124	773	551	415	393
MAX	1040	2751	2842	2322	2872	2473	3623	2775	2515	1632	889	1015	
(WY)	1985	1986	1983	1950	1985	1945	1945	1957	1945	1951	1958	1975	
MIN	214	224	223	201	261	290	370	352	276	239	204	193	
(WY)	1957	1955	1956	1956	1964	1981	1963	1977	1954	1954	1954	1954	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	853	705	735
HIGHEST ANNUAL MEAN			1555
LOWEST ANNUAL MEAN			299
HIGHEST DAILY MEAN	4500	Apr 14	45100
LOWEST DAILY MEAN	280	Oct 20	187
INSTANTANEOUS PEAK FLOW	---		133000
INSTANTANEOUS PEAK STAGE	---		28.10
INSTANTANEOUS LOW FLOW	---		187
ANNUAL SEVEN-DAY MINIMUM	285	Oct 17	188
ANNUAL RUNOFF (INCHES)	20.65		17.81
10 PERCENT EXCEEDS	1570		1310
50 PERCENT EXCEEDS	669		498
90 PERCENT EXCEEDS	328		287

WHITE RIVER BASIN

07061500 BLACK RIVER NEAR ANNAPOLIS, MO

LOCATION.--Lat 37°20'10", long 90°47'19", in SW 1/4 NW 1/4 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 sea level (levels by U.S. Army Corps of Engineers). Prior to Aug. 21, 1942, at site 415 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature and specific conductance were made during the year. Occasional slight regulation from upstream reservoir since Feb. 1963. U.S. Army Corps of Engineers gage-height and satellite telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	2220	704	417	280	354	474	470	424	172	125	112
2	131	2360	803	418	278	346	458	434	397	172	123	114
3	145	1190	1120	398	276	346	422	415	409	171	123	116
4	171	871	1160	389	272	328	422	406	608	166	121	117
5	201	712	886	380	268	317	392	399	546	162	121	115
6	222	561	757	366	258	312	378	357	486	162	123	115
7	197	487	664	348	253	296	379	330	445	161	122	116
8	170	486	607	363	250	295	332	348	426	158	122	120
9	157	405	544	422	248	301	322	338	398	155	124	123
10	147	358	492	399	245	305	387	329	371	152	131	128
11	140	343	439	390	248	301	391	317	362	148	139	131
12	133	336	447	367	277	304	393	323	329	140	134	130
13	128	316	452	378	317	308	371	359	330	133	130	126
14	124	296	429	394	395	294	372	336	303	140	126	122
15	122	289	392	402	673	287	341	345	287	150	123	119
16	119	284	391	394	839	281	357	336	275	168	121	116
17	120	287	363	355	699	280	346	373	282	188	119	115
18	120	386	347	349	832	653	453	602	244	188	118	115
19	114	620	333	352	860	2050	1980	790	227	173	115	114
20	111	3700	321	345	753	1680	8230	890	216	162	113	134
21	110	2770	413	340	674	1330	6650	1210	208	155	111	190
22	109	1790	697	347	587	1150	3060	1290	201	153	112	217
23	111	1060	695	337	554	937	2120	1070	195	151	112	201
24	119	831	637	307	520	735	1600	2040	191	153	111	176
25	129	681	583	313	494	641	1140	1190	199	151	112	164
26	161	590	523	316	479	559	916	891	202	147	110	158
27	269	507	485	309	418	524	797	700	198	144	116	156
28	333	465	463	303	389	489	679	624	189	139	116	151
29	1030	441	470	298	370	462	764	570	180	137	117	145
30	2330	496	439	288	---	477	524	547	175	131	116	141
31	1530	---	447	283	---	510	---	465	---	128	114	---
MEAN	295	871	565	357	448	563	1182	616	310	155	120	137
MAX	2330	3700	1160	422	860	2050	8230	2040	608	188	139	217
MIN	109	284	321	283	245	280	322	317	175	128	110	112
IN.	.70	2.01	1.35	.85	1.00	1.34	2.72	1.47	.72	.37	.29	.31

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	269	611	683	589	737	997	1131	862	517	269	205	215
MAX	1151	3619	3913	2509	2091	2903	3467	2928	4263	1800	1289	1005	
(WY)	1942	1986	1983	1950	1985	1945	1957	1957	1945	1951	1982	1965	
MIN	84.8	111	119	108	147	161	372	232	140	88.5	76.7	72.4	
(WY)	1957	1965	1956	1956	1963	1941	1956	1988	1972	1954	1965	1955	

SUMMARY STATISTICS

	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	570	467	588
HIGHEST ANNUAL MEAN			1420
LOWEST ANNUAL MEAN			244
HIGHEST DAILY MEAN	11200	8230	44600
LOWEST DAILY MEAN	103	109	66
INSTANTANEOUS PEAK FLOW	---	14000	98500
INSTANTANEOUS PEAK STAGE	---	11.69	25.81
INSTANTANEOUS LOW FLOW	---	109	65
ANNUAL SEVEN-DAY MINIMUM	105	112	67
ANNUAL RUNOFF (INCHES)	15.98	13.13	16.51
10 PERCENT EXCEEDS	1170	834	1150
50 PERCENT EXCEEDS	386	330	268
90 PERCENT EXCEEDS	116	120	116

WHITE RIVER BASIN

07062000 CLEARWATER LAKE NEAR PIEDMONT, MO

LOCATION.--Lat 37°08'00", long 90°46'31", NW 1/4 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 sea level (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 ac-ft at elevation 567.0 ft, of which 391,800 ac-ft is available for flood-control storage, and 21,920 ac-ft is permanent storage which under normal operating conditions will be maintained for purposes of conservation and recreation at elevation 494.0 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 ac-ft, May 28, 1957, elevation, 565.59 ft; minimum, since initial filling to conservation pool level, 15,800 ac-ft, Jan. 20, 23, 1972, elevation, 490.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 71,700 ac-ft, Apr. 3, elevation, 514.57 ft; minimum contents, 21,800 ac-ft, Mar. 28-29, elevation, 493.92 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
OBSERVATION AT 24:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	494.81	499.57	501.04	494.05	494.07	494.02	494.14	503.63	498.09	497.16	497.16	496.20
2	494.71	501.07	502.05	494.07	494.06	493.99	494.13	502.10	498.05	497.21	497.22	496.28
3	494.77	501.05	503.00	494.09	494.07	494.10	494.09	500.47	498.19	497.30	497.27	496.38
4	494.71	500.41	503.32	494.07	494.10	494.19	494.08	499.39	497.88	497.38	497.30	496.52
5	494.64	499.52	503.14	494.04	494.11	494.20	494.08	499.11	497.69	497.49	497.30	496.58
6	494.57	498.40	502.60	494.03	494.10	494.27	494.05	498.87	497.51	497.57	497.29	496.75
7	494.52	497.09	501.96	494.02	494.09	494.33	494.03	498.60	497.54	497.70	497.25	496.83
8	494.40	495.68	501.25	494.08	494.07	494.30	494.01	498.38	497.62	497.77	497.22	496.85
9	494.19	494.62	500.45	494.16	494.05	494.26	494.11	498.22	497.71	497.76	497.19	496.57
10	494.01	494.23	499.54	494.26	494.05	494.15	494.42	498.03	497.83	497.73	497.18	496.41
11	494.00	494.09	498.57	494.34	494.07	494.04	494.57	497.94	497.69	497.74	497.20	496.41
12	494.02	494.04	497.95	494.42	494.15	494.09	494.68	497.98	497.45	497.76	497.19	496.47
13	494.06	494.08	497.63	494.49	494.21	494.19	494.65	498.02	497.33	497.75	497.17	496.53
14	494.11	494.07	497.09	494.45	494.37	494.29	494.45	498.12	497.25	497.61	497.15	496.61
15	494.12	494.09	496.46	494.32	494.94	494.33	494.23	498.14	497.32	497.52	497.10	496.65
16	494.12	494.16	495.81	494.24	495.88	494.29	494.11	498.11	497.46	497.52	497.06	496.58
17	494.13	494.20	495.44	494.19	496.80	494.23	494.10	498.34	497.68	497.52	497.03	496.27
18	494.13	494.40	495.27	494.13	496.92	494.29	494.10	498.60	497.85	497.48	497.05	496.05
19	494.15	494.49	494.87	494.10	496.06	495.71	494.88	498.69	497.82	497.40	497.05	495.94
20	494.17	500.45	494.53	494.10	495.12	496.56	507.30	498.79	497.57	497.34	497.06	496.76
21	494.18	503.44	494.38	494.10	494.54	496.61	513.40	498.81	497.31	497.34	497.00	497.10
22	494.17	504.26	494.45	494.10	494.55	496.44	514.55	498.56	497.21	497.33	496.82	496.92
23	494.17	504.30	494.66	494.11	494.49	495.87	514.57	498.71	497.31	497.31	496.69	496.40
24	494.16	503.95	494.38	494.08	494.33	494.70	514.08	499.85	497.41	497.28	496.61	495.85
25	494.16	503.32	494.25	494.06	494.11	494.02	513.21	499.65	497.50	497.25	496.65	495.53
26	494.29	502.58	494.29	494.09	493.99	494.00	512.13	498.99	497.62	497.25	496.73	495.41
27	494.69	501.71	494.28	494.13	494.03	493.93	510.81	498.41	497.72	497.27	496.87	495.27
28	494.96	500.68	494.26	494.15	494.07	493.92	509.19	498.19	497.75	497.26	496.85	495.10
29	495.17	499.62	494.21	494.15	494.06	493.92	507.46	498.14	497.63	497.22	496.57	494.92
30	497.73	500.17	494.13	494.13	---	493.99	505.50	498.21	497.37	497.17	496.30	494.79
31	498.40	---	494.05	494.10	---	494.09	---	498.18	---	497.14	496.17	---
(-)	29600	33100	22000	22100	22000	22100	45100	29200	27700	27300	25600	23200
(=)	+6200	+3500	-11100	+100	-100	+100	+23000	-15900	-1500	-400	-1700	-2400
MAX	498.40	504.30	503.32	494.49	496.92	496.61	514.57	503.63	498.19	497.77	497.30	497.10
MIN	494.00	494.04	494.05	494.02	493.99	493.92	494.01	497.94	497.21	497.14	496.17	494.79

CAL YR 1991. . . . -54300

WTR YR 1992. . . . -200

(-) Contents, in acre-feet, at end of month.
(=) Change in contents, in acre-feet.

07062500 BLACK RIVER AT LEEPER, MO

LOCATION.--Lat 37°03'32", long 90°41'12", in NE ¼ SE ¼ NE ¼ 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 sea level. 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 at datum 11.97 ft higher.

REMARKS.--Estimated daily discharges: Nov. 13-14. Records 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	365	1250	572	653	484	620	704	3300	846	411	390	321
2	360	1340	609	607	479	607	702	2600	773	425	384	318
3	370	1810	685	592	479	598	700	2510	764	420	380	318
4	375	1910	1330	579	479	592	668	2110	884	416	376	347
5	377	1940	1720	562	479	592	639	1120	960	415	375	340
6	375	1920	1880	530	479	616	633	980	1050	415	374	344
7	370	2000	1860	505	479	656	628	955	705	412	365	348
8	367	1960	1840	520	474	614	607	910	634	410	365	349
9	365	1680	1810	511	474	627	600	816	530	409	365	342
10	365	971	1780	510	474	672	593	795	510	406	378	340
11	362	579	1750	510	474	640	592	739	554	405	387	333
12	361	530	1520	513	481	596	592	624	654	401	381	326
13	358	500	1080	533	484	592	633	600	534	400	376	318
14	356	464	1220	606	492	592	755	594	493	407	371	314
15	352	464	1220	679	490	587	764	592	427	426	367	313
16	351	467	1200	610	489	587	738	611	425	425	361	313
17	347	471	1010	588	491	587	697	626	425	420	361	309
18	346	476	717	570	753	603	670	653	420	415	356	308
19	346	892	872	530	1790	725	860	913	417	410	354	305
20	342	1130	857	505	1820	1240	4900	1110	433	415	351	617
21	341	687	754	504	1510	1700	1160	1410	432	415	351	373
22	338	1670	737	504	938	1720	2440	2010	428	412	348	461
23	337	1720	814	504	925	1810	3070	1750	421	411	346	668
24	337	1780	1150	501	931	2060	3140	1300	420	414	341	683
25	337	1870	1040	499	963	1680	3270	2050	416	405	341	533
26	352	1850	810	495	825	951	3220	2080	415	408	338	420
27	361	1860	794	491	664	833	3280	1890	411	410	337	411
28	432	1920	790	484	633	776	3500	1290	410	405	333	406
29	750	1890	785	484	624	756	3540	1150	405	402	332	401
30	567	900	765	484	---	718	3550	875	405	395	328	397
31	1090	---	723	484	---	708	---	853	---	392	327	---
MEAN	402	1297	1119	537	709	860	1595	1284	553	411	359	386
MAX	1090	2000	1880	679	1820	2060	4900	3300	1050	426	390	683
MIN	337	464	572	484	474	587	592	592	405	392	327	305
IN.	.47	1.47	1.31	.63	.77	1.00	1.80	1.50	.63	.48	.42	.44

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	472	675	1000	1132	1219	1492	1690	1463	1101	559	464	445
MAX	1748	2030	3227	3607	4172	4755	7365	4962	6910	2506	3162	2000	
(WY)	1950	1973	1983	1937	1949	1945	1927	1946	1945	1957	1957	1985	
MIN	177	218	224	209	274	314	410	280	210	170	166	183	
(WY)	1956	1965	1965	1956	1963	1941	1932	1932	1936	1934	1936	1954	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1135		791		974	
HIGHEST ANNUAL MEAN					2219	
LOWEST ANNUAL MEAN					431	
HIGHEST DAILY MEAN	4040	Jan 19	4900	Apr 20	52900	Mar 11 1935
LOWEST DAILY MEAN	203	Aug 26	305	Sep 19	62	Sep 23 1966
INSTANTANEOUS PEAK FLOW	--		11600	Apr 20	78400	May 14 1933
INSTANTANEOUS PEAK STAGE	--		11.40	Apr 20	20.01	May 14 1933
INSTANTANEOUS LOW FLOW	--		303	Sep 19-20	62	Sep 22-23 1966
ANNUAL SEVEN-DAY MINIMUM	205	Aug 22	311	Sep 13	83	Sep 20 1966
ANNUAL RUNOFF (INCHES)	15.61		10.92		13.41	
10 PERCENT EXCEEDS	3210		1800		2390	
50 PERCENT EXCEEDS	680		558		512	
90 PERCENT EXCEEDS	296		348		244	

WHITE RIVER BASIN

07063000 BLACK RIVER AT POPLAR BLUFF, MO

LOCATION.--Lat 36°45'34", long 90°23'17", in SW 1/4 NW 1/4 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 Business Route 60, 4.8 mi downstream from Indian Creek and at mile 211.2.

DRAINAGE AREA.--1,245 mi².

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 sea level. 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 0.10 ft lower.

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature and specific conductance were made during the year. 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1904 reached a maximum discharge of 100,000 ft³/s, and flood of March 12, 1935, reached a stage of 21.1 ft, present datum (affected by levees constructed since 1904).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	446	1630	1960	1160	844	1030	1120	3720	1150	707	524	552
2	444	1600	2200	1120	828	1000	1080	3470	1120	715	462	443
3	468	1640	3560	1100	793	961	1060	2930	1070	537	447	420
4	481	1930	2370	1060	760	868	1050	2740	1070	467	441	410
5	483	2040	2080	1040	745	841	1010	2320	1130	458	438	400
6	509	2080	2250	1020	735	872	973	1600	1210	455	448	390
7	507	2090	2320	983	732	971	962	1390	1250	451	455	380
8	507	2130	2290	1110	736	1020	945	1320	1010	445	458	380
9	522	2110	2250	1180	722	983	975	1250	934	441	456	391
10	588	1840	2200	1080	700	991	962	1160	898	464	455	566
11	580	1350	2140	1040	676	1000	850	1110	963	485	469	579
12	493	1040	2130	1040	679	973	887	1050	963	455	462	452
13	449	945	1970	1080	729	878	879	942	1030	446	452	375
14	443	864	1640	1430	997	806	919	880	955	450	446	346
15	433	819	1650	1340	1670	787	1030	849	904	554	444	329
16	433	772	1620	1290	1090	784	1060	839	775	664	443	327
17	437	776	1610	1210	899	805	1210	884	658	705	441	404
18	441	770	1400	1180	944	916	1120	899	574	639	430	558
19	441	941	1210	1130	1310	1490	1880	916	526	620	420	580
20	441	6520	1280	1080	1990	1370	2600	1090	559	595	415	541
21	440	5680	1330	1040	2080	1650	6490	1280	760	588	410	924
22	440	2690	1260	1030	1810	1920	4460	1560	782	545	428	757
23	441	2330	1270	1040	1460	1940	3540	2120	716	523	483	863
24	456	2240	1370	1010	1470	2040	3590	1990	537	532	501	1050
25	497	2190	1560	983	1420	2210	3560	1670	491	527	486	1060
26	525	2210	1450	942	1390	1860	3590	2100	480	539	410	921
27	561	2180	1290	888	1270	1390	3520	2160	466	1040	400	761
28	501	2160	1260	870	1130	1240	3540	1990	458	726	390	711
29	590	2180	1250	858	1060	1180	3680	1600	466	611	390	685
30	1290	2310	1230	857	---	1220	3730	1440	572	576	530	668
31	954	---	1210	852	---	1160	---	1220	---	553	584	---
MEAN	524	2002	1762	1066	1092	1199	2076	1629	816	565	452	574
MAX	1290	6520	3560	1430	2080	2210	6490	3720	1250	1040	584	1060
MIN	433	770	1210	852	676	784	850	839	458	441	390	327
IN.	.49	1.79	1.63	.99	.95	1.11	1.86	1.51	.73	.52	.42	.51

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	633	956	1391	1609	1698	2060	2266	1977	1303	790	640	601
MEAN	633	956	1391	1609	1698	2060	2266	1977	1303	790	640	601
MAX	1913	2962	5501	5637	4938	5465	7499	5894	7741	3153	3232	2071
(WY)	1983	1973	1983	1937	1949	1945	1945	1946	1945	1957	1957	1985
MIN	259	315	335	309	376	430	710	556	415	293	270	268
(WY)	1957	1954	1954	1956	1963	1941	1956	1987	1941	1944	1944	1954

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	1602	1144	1325
HIGHEST ANNUAL MEAN			2858
LOWEST ANNUAL MEAN			564
HIGHEST DAILY MEAN	9230	Apr 15	43400
LOWEST DAILY MEAN	322	Aug 28	186
INSTANTANEOUS PEAK FLOW	---		65600
INSTANTANEOUS PEAK STAGE	---		21.68
INSTANTANEOUS LOW FLOW	---		180
ANNUAL SEVEN-DAY MINIMUM	325	Aug 24	243
ANNUAL RUNOFF (INCHES)	17.47		14.46
10 PERCENT EXCEEDS	3760		3200
50 PERCENT EXCEEDS	1140		772
90 PERCENT EXCEEDS	404		368

WHITE RIVER BASIN

07066000 JACKS FORK AT EMINENCE, MO

LOCATION.--Lat 37°09'18", long 91°21'31", in SW ¼ NW ¼ 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.
WDR MO-85-1(M).

GAGE.--Water-stage recorder. Datum of gage is 617.87 ft above sea level. 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: Oct. 28, Nov. 1, 2, 19, 20, and Dec. 18 to Jan. 27. Records fair. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of 1895 and March 1904 reached a stage of about 25 ft, present site and datum, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	149	2700	543	400	235	286	302	480	334	240	301	171
2	149	1640	651	380	231	276	292	455	323	235	280	171
3	156	865	1260	360	226	269	285	429	355	229	268	168
4	159	669	1020	340	223	263	284	407	421	237	265	166
5	171	560	743	330	222	262	277	388	441	269	255	166
6	165	491	627	320	220	317	265	370	423	270	266	164
7	158	439	550	310	220	410	257	350	459	268	330	163
8	155	396	497	310	219	404	251	338	554	260	296	166
9	153	364	450	330	215	400	257	328	477	241	267	166
10	150	343	412	320	209	419	707	320	468	227	258	175
11	152	317	381	310	206	427	732	313	907	220	276	173
12	152	298	373	300	219	403	565	368	835	210	264	169
13	152	282	369	290	230	373	484	549	649	206	253	166
14	152	271	366	300	276	346	441	436	556	209	234	162
15	152	261	346	310	462	324	414	379	507	211	223	158
16	150	256	324	310	569	305	389	346	457	262	213	157
17	149	269	314	305	494	295	392	328	411	306	207	155
18	149	506	300	300	466	379	458	319	375	258	203	157
19	148	2600	290	300	450	511	2910	356	347	240	198	161
20	144	1640	280	295	414	548	7980	424	325	229	194	615
21	145	1040	350	290	382	495	4030	434	307	234	189	1230
22	144	772	500	280	362	464	1930	625	293	247	188	776
23	149	628	840	275	354	430	1290	606	283	230	187	509
24	162	531	760	270	347	396	996	639	274	249	181	397
25	194	461	680	265	334	374	815	560	285	359	180	336
26	202	418	610	260	323	354	702	473	275	391	177	300
27	330	385	550	255	315	337	625	420	269	690	190	277
28	432	352	475	244	306	317	574	385	260	637	187	257
29	2000	339	450	238	299	309	539	383	248	474	187	239
30	1820	368	420	235	---	309	510	375	245	390	180	223
31	877	---	410	235	---	305	---	356	---	337	172	---
MEAN	307	682	521	299	311	365	998	417	412	292	228	276
MAX	2000	2700	1260	400	569	548	7980	639	907	690	330	1230
MIN	144	256	280	235	206	262	251	313	245	206	172	155
IN.	.89	1.91	1.51	.87	.84	1.06	2.80	1.21	1.16	.85	.66	.78

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	223	390	451	465	552	700	837	730	469	257	205	188
MAX	1092	1786	2462	2065	1906	1944	2920	2168	2745	1682	984	466
(WY)	1985	1974	1983	1949	1985	1945	1927	1950	1928	1951	1927	1975
MIN	76.5	98.1	96.9	89.8	120	139	203	129	109	84.8	82.6	73.1
(WY)	1957	1955	1956	1956	1934	1956	1954	1936	1936	1934	1954	1956

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	486	425	454
HIGHEST ANNUAL MEAN			1072
LOWEST ANNUAL MEAN			154
HIGHEST DAILY MEAN	5950	Apr 14	7980
LOWEST DAILY MEAN	142	Aug 29	144
INSTANTANEOUS PEAK FLOW	--		11600
INSTANTANEOUS PEAK FLOW	--		9.79
INSTANTANEOUS LOW FLOW	--		144
ANNUAL SEVEN-DAY MINIMUM	145	Aug 25	147
ANNUAL RUNOFF (INCHES)	16.60		14.53
10 PERCENT EXCEEDS	894		631
50 PERCENT EXCEEDS	301		314
90 PERCENT EXCEEDS	153		167
			122
			175
			185
			1954
			24100
			67
			55800
			17.58
			64
			70
			15.50
			881
			240
			122

WHITE RIVER BASIN

07067000 CURRENT RIVER AT VAN BUREN, MO

LOCATION.--Lat 36°59'29", long 91°00'53", in NE 1/4 NW 1/4 sec.25, T.27 N., R.1 W., Carter County, Hydrologic Unit 11010008, near right bank on downstream side of bridge pier 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 sea level. 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.--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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 26, 1904, reached a stage of 29.0 ft, present datum, from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	851	5510	2500	1760	1130	1630	1860	2770	2080	1410	1390	1060
2	836	8470	3140	1700	1120	1570	1810	2600	2010	1390	1330	1080
3	889	4700	3970	1650	1110	1530	1750	2450	2040	1370	1340	1070
4	907	3420	4580	1600	1100	1510	1720	2310	2150	1360	1290	1070
5	931	2800	3750	1530	1090	1490	1690	2200	2150	1600	1260	1060
6	956	2440	3220	1470	1080	1510	1610	2100	2100	1550	1260	1050
7	903	2200	2870	1420	1070	2040	1550	2020	2070	1520	1280	1100
8	874	2020	2630	1480	1060	1830	1520	1950	2160	1440	1320	1100
9	861	1900	2410	1500	1040	1800	1530	1910	2110	1380	1270	1140
10	852	1820	2230	1460	1030	1880	2120	1860	2060	1340	1290	1140
11	846	1770	2110	1420	1030	1890	3350	1810	2130	1300	1450	1130
12	842	1720	2080	1400	1070	1860	2930	1890	3120	1280	1360	1090
13	834	1690	2050	1410	1150	1780	2530	2330	2640	1260	1290	1070
14	832	1660	2000	1470	1320	1710	2280	2420	2440	1260	1230	1050
15	837	1630	1920	1440	1790	1630	2150	2190	2190	1290	1200	1040
16	831	1600	1850	1380	2420	1560	2050	2030	2070	1320	1170	1040
17	832	1620	1790	1340	2430	1520	2010	2000	1930	1580	1150	1030
18	835	2560	1750	1320	2370	1910	2410	2070	1810	1460	1140	1030
19	826	3170	1700	1280	2350	3070	5290	2180	1720	1380	1140	1030
20	820	5250	1660	1250	2240	3280	26000	2250	1660	1370	1130	1980
21	823	4890	1980	1250	2110	2890	22300	2700	1600	1530	1110	4380
22	829	4010	2520	1260	2020	2620	10300	3220	1560	1420	1100	3170
23	833	3270	2810	1290	1970	2410	7150	4500	1530	1400	1110	2150
24	855	2780	2730	1280	1960	2210	5700	4240	1520	1370	1100	1700
25	937	2430	2520	1250	1890	2110	4770	3720	1520	1420	1110	1470
26	1020	2200	2320	1220	1810	2000	4160	3160	1520	1460	1090	1350
27	1200	2050	2150	1190	1760	1910	3730	2780	1470	1850	1130	1300
28	1540	1930	2040	1160	1720	1810	3430	2530	1440	2040	1160	1220
29	3330	1860	2010	1150	1670	1760	3190	2420	1410	1810	1130	1150
30	9930	2180	1940	1150	---	1780	2980	2340	1410	1590	1100	1130
31	4900	---	1850	1140	---	1820	---	2190	---	1470	1080	---
MEAN	1400	2852	2422	1375	1583	1946	4529	2488	1921	1459	1210	1379
MAX	9930	8470	4580	1760	2430	3280	26000	4500	3120	2040	1450	4380
MIN	820	1600	1660	1140	1030	1490	1520	1810	1410	1260	1080	1030
IN.	.97	1.91	1.68	.95	1.02	1.35	3.03	1.72	1.29	1.01	.84	.92

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)**

	MEAN	1073	1632	1902	1969	2218	2769	3390	3029	2119	1306	1083	987
MAX	4087	6473	10740	7357	6764	7148	11730	8256	9761	6465	3581	1958	
(WY)	1985	1986	1983	1950	1985	1945	1927	1957	1928	1951	1927	1951	
MIN	492	573	535	538	658	778	805	679	628	575	532	495	
(WY)	1957	1955	1956	1956	1934	1941	1956	1936	1936	1936	1954	1956	

SUMMARY STATISTICS**

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	2410		2043		1953	
HIGHEST ANNUAL MEAN					4811	1985
LOWEST ANNUAL MEAN					799	1954
HIGHEST DAILY MEAN	21200	Apr 14	26000	Apr 20	63000	Mar 12 1935
LOWEST DAILY MEAN	820	Oct 20	820	Oct 20	476	Oct 8 1956
INSTANTANEOUS PEAK FLOW	--		34400	Apr 20	125000	Aug 21 1915
INSTANTANEOUS PEAK STAGE	--		16.33	Apr 20	25.9	Aug 21 1915
INSTANTANEOUS LOW FLOW	--		810	Oct 21	473	Oct 7 1956
ANNUAL SEVEN-DAY MINIMUM	828	Oct 16	828	Oct 16	479	Oct 6 1956
ANNUAL RUNOFF (INCHES)	19.63		16.68		15.92	
10 PERCENT EXCEEDS	4630		3150		3700	
50 PERCENT EXCEEDS	1750		1660		1220	
90 PERCENT EXCEEDS	910		1060		688	

** Statistics based only on years with complete daily discharge record.

WHITE RIVER BASIN

07067500 BIG SPRING NEAR VAN BUREN, MO

LOCATION.--Lat 36°57'05", long 90°59'36", in SW 1/4 NE 1/4 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 sea level. 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 Mar. 15, 1978, at present datum.

REMARKS.--Estimated daily discharges: Oct. 29 to Nov. 6, Nov. 18-25, Dec. 1-13, 22-26, Mar. 18-23, Apr. 10-14, Apr. 20 to May 3, and May 20-28 due to backwater from Current River; Nov. 26-30, Jan. 1-3, and Apr. 7-10, when no gage-height readings were available. Records poor. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	338	600	495	465	392	428	428	590	455	426	428	373
2	338	650	500	470	391	427	422	580	456	424	427	375
3	337	600	550	475	389	425	421	570	475	422	425	371
4	333	575	600	482	388	424	418	555	475	421	421	368
5	326	525	590	476	388	427	410	532	475	426	420	368
6	325	490	580	475	386	428	404	531	473	421	420	363
7	319	482	570	472	385	429	398	517	462	426	420	359
8	315	459	560	471	385	442	440	500	460	425	420	354
9	312	452	550	468	385	445	450	504	455	417	415	351
10	309	447	540	461	385	443	470	510	459	417	413	350
11	308	439	530	452	385	439	460	480	458	417	410	348
12	308	427	520	452	387	438	455	470	456	424	407	348
13	308	418	510	453	388	438	449	468	456	419	406	350
14	308	411	498	456	388	438	442	465	456	415	406	347
15	308	407	497	462	388	438	434	464	456	413	406	347
16	304	406	489	463	388	438	424	452	456	418	406	344
17	303	409	480	447	390	438	421	441	448	420	406	338
18	303	460	476	431	417	438	433	468	440	420	401	344
19	303	500	475	428	442	460	438	487	438	418	399	348
20	303	600	475	428	456	450	600	502	438	418	399	351
21	303	600	472	427	451	450	750	502	438	430	398	389
22	301	580	499	425	444	446	800	510	436	438	393	401
23	300	560	508	421	442	435	750	550	435	445	392	377
24	298	550	516	417	442	435	700	550	435	442	392	363
25	297	540	516	411	442	431	680	530	435	442	392	356
26	297	530	507	404	436	428	660	515	430	442	392	346
27	297	520	493	402	432	424	645	500	427	442	392	332
28	297	510	484	397	431	424	630	487	430	442	391	326
29	297	505	473	395	428	424	615	475	431	434	389	336
30	350	500	468	395	---	424	600	469	431	434	383	345
31	500	---	461	395	---	424	---	462	---	432	379	---
MEAN	318	505	512	441	409	435	522	504	449	427	405	356
MAX	500	650	600	482	456	460	800	590	475	445	428	401
MIN	297	406	461	395	385	424	398	441	427	413	379	326
IN.	3.66	5.64	5.91	5.09	4.41	5.01	5.82	5.82	5.01	4.92	4.67	3.97

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	344	384	411	437	462	520	578	560	484	412	374	348
MAX	599	769	1070	828	823	836	902	944	950	772	702	525	
(WY)	1950	1986	1983	1937	1949	1945	1973	1957	1927	1928	1927	1927	
MIN	243	248	252	247	279	279	279	261	253	249	252	250	
(WY)	1957	1957	1956	1956	1977	1936	1936	1936	1936	1936	1936	1956	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	508	440	443	
HIGHEST ANNUAL MEAN			648	1950
LOWEST ANNUAL MEAN			289	1936
HIGHEST DAILY MEAN	920**	Apr 14	800**	Apr 22
LOWEST DAILY MEAN	297	Oct 25	297	Oct 25
ANNUAL SEVEN-DAY MINIMUM	298	Oct 23	298	Oct 23
10 PERCENT EXCEEDS	700		531	690
50 PERCENT EXCEEDS	478		433	390
90 PERCENT EXCEEDS	350		346	290

**Estimated due to backwater from Current River.

WHITE RIVER BASIN

07068000 CURRENT RIVER AT DONIPHAN, MO

LOCATION.--Lat 36°37'19", long 90°50'51", in NW 1/4 NW 1/4 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, 1.0 mi west of Doniphan, 2.5 mi upstream from Briar Creek and at mile 51.3.

DRAINAGE AREA.--2,038 mi².

PERIOD OF RECORD.--October 1918 to current year. Prior to July 1921 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 877: 1937-38(M). WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 321.21 ft above sea level. 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.--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.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1330	4780	3170	2450	1820	2080	2180	4110	2720	1760	1770	1310
2	1330	7240	4500	2400	1790	2030	2180	3870	2600	1740	1690	1300
3	1360	6380	4980	2350	1780	1990	2140	3650	2590	1710	1680	1310
4	1400	4260	5210	2310	1750	1960	2100	3470	2650	1680	1640	1320
5	1420	3480	4810	2260	1740	1940	2070	3300	2700	1780	1610	1310
6	1430	3010	4140	2210	1720	1930	2030	3150	2660	1970	1580	1290
7	1430	2680	3720	2160	1710	2070	1970	3020	2600	1870	1560	1290
8	1390	2440	3420	2210	1690	2240	1930	2910	2570	1790	1590	1340
9	1370	2260	3190	2290	1680	2130	1980	2830	2660	1730	1590	1340
10	1350	2120	2970	2280	1650	2140	2130	2750	2620	1670	1570	1360
11	1340	2020	2790	2250	1640	2150	2920	2680	2610	1620	1660	1350
12	1340	1930	2720	2230	1660	2150	3410	2680	2990	1580	1700	1320
13	1330	1850	2690	2250	1730	2100	3020	2790	3410	1560	1620	1290
14	1340	1790	2610	2360	1920	2040	2760	3240	3080	1540	1550	1280
15	1330	1750	2530	2350	2270	1980	2620	3080	2810	1580	1500	1260
16	1320	1740	2440	2300	2560	1920	2530	2880	2620	1580	1460	1250
17	1310	1730	2360	2250	2910	1880	2520	2790	2470	1810	1430	1250
18	1310	2090	2300	2200	2910	1930	2520	2780	2320	1860	1420	1240
19	1310	4670	2230	2150	2830	2500	3360	2810	2200	1770	1400	1240
20	1310	13300	2170	2110	2760	3290	17400	2940	2110	1670	1410	1370
21	1300	6910	2260	2080	2640	3220	39100	3110	2040	1760	1370	3870
22	1300	5580	2610	2070	2510	2970	25900	3650	1970	1820	1360	4080
23	1310	4590	3080	2070	2450	2790	11000	4550	1930	1740	1350	3200
24	1320	3920	3180	2060	2410	2630	8400	5000	1910	1750	1360	2420
25	1360	3480	3090	2020	2350	2510	6980	4680	1890	1710	1350	2020
26	1540	3140	2950	1980	2290	2400	6030	4180	1890	1810	1360	1840
27	1570	2910	2800	1940	2220	2310	5420	3670	1850	2050	1360	1720
28	1740	2730	2700	1900	2170	2220	4970	3370	1800	2380	1380	1630
29	2160	2600	2640	1870	2130	2160	4630	3150	1770	2340	1390	1540
30	5810	2740	2600	1850	---	2160	4360	3040	1760	2070	1360	1470
31	7900	---	2530	1830	---	2150	---	2880	---	1890	1330	---
MEAN	1754	3671	3077	2163	2127	2257	6019	3323	2393	1793	1497	1660
MAX	7900	13300	5210	2450	2910	3290	39100	5000	3410	2380	1770	4080
MIN	1300	1730	2170	1830	1640	1880	1930	2680	1760	1540	1330	1240
IN.	.99	2.01	1.74	1.22	1.13	1.28	3.30	1.88	1.31	1.01	.85	.91

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)**

	MEAN	1626	2296	2698	2835	3091	3800	4601	4112	2985	1965	1675	1537
MAX	4596	7343	16210	9054	7971	9260	16140	10430	12610	7676	5001	2765	
(WY)	1985	1986	1983	1949	1985	1935	1927	1957	1928	1951	1927	1982	
MIN	872	927	950	917	1122	1218	1476	1183	1075	959	951	903	
(WY)	1957	1955	1956	1956	1934	1941	1956	1936	1936	1934	1936	1954	

SUMMARY STATISTICS**

	FOR 1991 CALENDAR YEAR	FOR 1992 WATER YEAR	FOR PERIOD OF RECORD
ANNUAL MEAN	3192	2639	2764
HIGHEST ANNUAL MEAN			5856
LOWEST ANNUAL MEAN			1326
HIGHEST DAILY MEAN	28500	Apr 15	39100
LOWEST DAILY MEAN	1300	Oct 21-22	1240
INSTANTANEOUS PEAK FLOW	--		42900
INSTANTANEOUS PEAK STAGE	--		15.03
INSTANTANEOUS LOW FLOW	--		1240
ANNUAL SEVEN-DAY MINIMUM	1310	Oct 17	1260
ANNUAL RUNOFF (INCHES)	21.26		17.63
10 PERCENT EXCEEDS	5770		3760
50 PERCENT EXCEEDS	2340		2140
90 PERCENT EXCEEDS	1430		1350

** Statistics based only on years with complete daily discharge record.

WHITE RIVER BASIN

07071000 GREER SPRING AT GREER, MO

LOCATION.--Lat 36°47'11", long 91°20'53", in SE 1/4 SW 1/4 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 sea level. 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 fair. Several observations of water temperature and specific conductance were made during the year. Occasional runoff from drainage area of 2.97 mi² included in records.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	269	494	386	363	312	304	288	438	316	300	288	262
2	269	504	414	363	308	300	288	423	316	300	288	262
3	269	493	443	359	304	300	285	419	316	300	288	258
4	269	478	443	359	304	300	288	409	316	296	288	254
5	269	463	438	355	300	296	285	400	316	296	288	254
6	269	443	428	355	300	296	285	395	312	296	288	254
7	269	428	419	350	300	292	281	390	312	296	285	251
8	269	414	414	350	296	292	281	386	312	296	285	251
9	269	404	404	346	292	292	285	381	308	296	285	251
10	269	395	400	346	292	292	304	377	308	296	285	251
11	269	386	390	346	292	292	312	372	325	296	325	251
12	266	372	386	346	288	292	308	368	333	296	325	251
13	266	363	381	346	288	288	300	363	337	292	312	251
14	266	359	377	346	300	288	296	359	337	292	304	251
15	266	355	372	346	333	285	296	355	337	292	296	251
16	266	350	368	341	333	281	296	355	333	296	288	251
17	266	350	363	341	333	281	292	350	329	296	285	251
18	266	386	359	337	333	285	296	346	325	292	281	251
19	262	400	359	337	328	304	316	341	325	292	281	251
20	262	453	355	333	325	308	672	333	321	296	277	251
21	262	448	363	329	325	308	594	333	316	296	273	262
22	262	443	381	329	321	308	560	329	316	296	273	269
23	258	433	390	329	321	304	542	329	316	296	273	262
24	258	423	390	325	321	300	531	329	316	296	269	262
25	262	409	390	325	316	296	520	325	312	296	269	258
26	262	395	386	325	312	296	510	325	308	296	269	254
27	262	386	386	321	312	296	483	321	308	296	269	254
28	269	381	381	316	312	292	468	321	304	292	269	251
29	368	377	381	316	308	292	458	321	304	292	266	251
30	438	377	377	312	---	292	448	321	304	292	266	247
31	433	---	372	312	---	292	---	321	---	292	262	---
MEAN	280	412	390	339	311	295	379	359	318	296	284	254
MAX	438	504	443	363	333	308	672	438	337	304	321	269
MIN	258	350	355	312	288	281	281	321	304	292	262	247
IN.	3.23	4.60	4.50	3.91	3.35	3.40	4.23	4.14	3.55	3.41	3.27	2.84

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	255	280	302	326	344	390	443	443	401	334	293	265
MAX	448	586	750	648	652	674	724	776	861	611	563	503	
(WY)	1985	1985	1928	1928	1949	1975	1927	1927	1927	1945	1927	1928	
MIN	111	111	113	108	144	152	180	143	140	127	122	120	
(WY)	1957	1955	1956	1956	1981	1981	1936	1936	1936	1936	1936	1955	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	403		326		339	
HIGHEST ANNUAL MEAN					566	1928
LOWEST ANNUAL MEAN					174	1956
HIGHEST DAILY MEAN	751	Apr 14	672	Apr 20	1010	Dec 3 1982
LOWEST DAILY MEAN	258	Oct 23-24	247	Sep 30	104	Nov 16 1956
INSTANTANEOUS PEAK FLOW	--		1330	Apr 20	1770	Dec 3 1982
INSTANTANEOUS PEAK STAGE	--		2.41	Apr 20	2.97	Dec 3 1982
INSTANTANEOUS LOW FLOW	--		247	Sep 19-20, 30	104	Nov 16 1956
ANNUAL SEVEN-DAY MINIMUM	261	Oct 19	251	Sep 7	105	Nov 13 1956
10 PERCENT EXCEEDS	565		410		548	
50 PERCENT EXCEEDS	381		308		318	
90 PERCENT EXCEEDS	284		262		167	

WHITE RIVER BASIN

07071500 ELEVEN POINT RIVER NEAR BARDLEY, MO

LOCATION.--Lat 36°38'55", long 91°12'03", in NE 1/4 SE 1/4 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, 7.0 mi southwest of Bardley, 7.5 mi upstream from Fredericks Fork and at mile 53.7.

DRAINAGE AREA.--793 mi².

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 sea level. 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.--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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 19.7 ft, August 1915, from floodmarks, discharge, 44,000 ft³/s, from rating curve extended above 25,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	425	2150	1400	855	659	687	579	1180	677	610	511	436
2	425	1850	1850	849	647	675	571	1140	672	600	505	436
3	434	1380	2090	837	640	671	569	1090	741	597	512	436
4	428	1180	1740	820	632	665	574	1050	913	590	502	429
5	425	1070	1530	802	625	662	565	1010	863	612	507	427
6	414	982	1400	787	622	659	554	972	813	600	502	420
7	411	908	1290	771	621	650	551	941	772	633	495	415
8	411	842	1220	817	610	635	546	921	744	601	491	416
9	410	793	1160	877	596	634	566	905	723	584	484	414
10	407	756	1080	851	590	632	608	883	724	571	494	413
11	406	728	1030	826	586	619	633	862	731	561	940	405
12	405	700	1030	826	595	615	622	866	727	556	762	401
13	402	675	1020	841	612	605	599	835	725	550	632	399
14	406	656	982	877	688	600	589	816	718	551	573	398
15	399	640	932	873	968	590	587	802	708	559	543	397
16	395	631	898	841	945	580	600	784	698	573	522	392
17	394	644	881	835	902	580	653	803	682	576	509	390
18	394	1160	851	815	896	630	689	783	672	564	498	388
19	388	3200	821	787	866	653	1180	761	660	571	506	386
20	386	3590	815	776	827	651	11300	766	651	565	497	442
21	387	2190	880	767	803	640	6320	746	641	554	480	464
22	386	1700	980	770	784	642	2970	734	632	543	473	471
23	389	1470	1030	773	785	631	2250	748	632	537	472	451
24	392	1300	1040	751	777	618	1920	769	630	532	464	430
25	397	1190	1020	731	755	623	1710	745	623	527	456	421
26	418	1100	991	711	743	612	1570	728	642	539	450	419
27	410	1040	957	697	734	600	1450	712	657	691	471	412
28	467	992	941	686	724	589	1350	718	618	574	461	402
29	1340	954	933	673	707	592	1290	720	610	546	449	394
30	1930	1180	907	668	---	598	1240	713	616	533	445	388
31	1230	---	878	667	---	586	---	695	---	525	440	---
MEAN	513	1255	1115	789	722	627	1507	845	697	572	518	416
MAX	1930	3590	2090	877	968	687	11300	1180	913	691	940	471
MIN	386	631	815	667	586	580	546	695	610	525	440	386
IN.	.75	1.77	1.62	1.15	.98	.91	2.12	1.23	.98	.83	.75	.59

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	418	566	711	785	838	1054	1319	1155	897	610	486	424
MAX	1291	2003	4048	3007	2223	3556	5037	2952	3107	1559	1354	1183	
(WY)	1985	1985	1983	1985	1949	1945	1927	1973	1928	1951	1927	1975	
MIN	168	176	170	159	224	264	340	266	245	213	199	181	
(WY)	1957	1957	1956	1956	1963	1981	1981	1936	1936	1936	1936	1956	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

	1078	797	771
ANNUAL MEAN			
HIGHEST ANNUAL MEAN			1782
LOWEST ANNUAL MEAN			310
HIGHEST DAILY MEAN	14400	Apr 14	11300
LOWEST DAILY MEAN	386	Oct 20, 22	386
INSTANTANEOUS PEAK FLOW	---		18100
INSTANTANEOUS PEAK STAGE	---		14.33
INSTANTANEOUS LOW FLOW	---		385
ANNUAL SEVEN-DAY MINIMUM	389	Oct 18	389
ANNUAL RUNOFF (INCHES)	18.45		13.68
10 PERCENT EXCEEDS	1800		1170
50 PERCENT EXCEEDS	842		653
90 PERCENT EXCEEDS	458		415
			262

ARKANSAS RIVER BASIN

07186000 SPRING RIVER NEAR WACO, MO

LOCATION.--Lat 37°14'44", long 94°33'58", on line between SE 1/4 sec.7 and NE 1/4 sec.18, T.29 N., R.33 W., Jasper County, Hydrologic Unit 11070207, 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 sea level. Prior to Feb. 23, 1935, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Sept. 8 and 9. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	88	127	408	180	356	255	452	194	291	868	158
2	49	72	134	394	175	336	222	434	205	265	710	158
3	69	74	153	390	172	324	206	406	218	250	913	156
4	60	75	155	382	167	312	194	377	243	290	859	150
5	52	73	196	373	164	314	186	348	372	9880	649	143
6	45	74	193	364	162	307	178	319	291	14200	822	201
7	44	68	193	355	160	292	174	294	230	9860	911	174
8	45	65	192	338	156	281	167	277	200	4060	646	600
9	43	61	178	317	152	281	163	263	263	1090	562	5500
10	42	59	169	301	151	270	160	250	1480	1000	488	12000
11	40	56	160	287	155	264	157	246	4000	14100	431	7530
12	41	55	179	276	232	252	171	245	2140	14200	394	3400
13	40	54	189	272	279	242	490	232	1180	7620	362	1290
14	38	54	200	270	4220	231	536	249	914	3850	328	953
15	37	52	201	261	5760	224	348	264	834	1140	298	801
16	38	109	202	249	3130	217	310	269	737	4700	278	693
17	38	172	189	240	1650	211	402	302	660	7100	263	611
18	37	152	173	231	923	284	1040	353	884	4660	249	550
19	36	183	163	224	764	670	1540	374	869	2930	241	523
20	36	246	887	219	675	645	4090	479	726	1580	236	581
21	36	219	2660	214	611	469	6020	981	600	2650	229	2060
22	36	204	2070	212	562	362	3380	1470	523	2350	222	1810
23	38	199	1100	212	525	310	1390	625	505	7350	215	948
24	40	184	799	209	492	281	945	389	479	6800	208	742
25	41	168	691	206	462	262	779	319	472	1960	203	612
26	44	160	627	200	435	250	678	280	440	1390	194	557
27	46	151	553	195	416	240	608	251	405	2220	186	738
28	49	142	501	193	400	229	558	236	357	1600	178	1010
29	52	133	467	192	379	222	516	224	320	895	179	641
30	48	137	441	188	---	222	484	212	302	1370	171	491
31	64	---	418	183	---	230	---	200	---	1190	162	---
MEAN	44.4	118	470	270	818	303	878	375	701	4285	408	1526
MAX	69	246	2660	408	5760	670	6020	1470	4000	14200	913	12000
MIN	36	52	127	183	151	211	157	200	194	250	162	143
IN.	.04	.11	.47	.27	.76	.30	.84	.37	.67	4.25	.40	1.46

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	658	829	668	682	905	1208	1415	1451	1354	697	456	459
MAX	6997	6726	3878	3222	6372	5809	7542	11640	5521	4323	7812	3236	
(WY)	1942	1986	1988	1973	1985	1973	1927	1943	1928	1976	1927	1945	
MIN	21.0	30.5	33.3	29.7	31.0	33.6	38.2	120	73.4	15.2	7.71	22.0	
(WY)	1957	1954	1964	1964	1964	1954	1956	1932	1954	1954	1954	1956	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	386		850		891	
HIGHEST ANNUAL MEAN					2705	1927
LOWEST ANNUAL MEAN					61.4	1954
HIGHEST DAILY MEAN	9260	Jan 16	14200	Jul 6	81800	May 19 1943
LOWEST DAILY MEAN	36	Oct 19-22	36	Oct 19-22	4.5	Aug 28 1954
INSTANTANEOUS PEAK FLOW	--		17800	Jul 11	103000	May 19 1943
INSTANTANEOUS PEAK STAGE	--		19.12	Jul 11	30.94	May 19 1943
INSTANTANEOUS LOW FLOW	--		35	Oct 21-22	4.2	Jul 28 1954
ANNUAL SEVEN-DAY MINIMUM	37	Oct 16	37	Oct 16	5.0	Sep 2 1954
ANNUAL RUNOFF (INCHES)	4.50		9.95		10.40	
10 PERCENT EXCEEDS	776		1590		1760	
50 PERCENT EXCEEDS	184		276		287	
90 PERCENT EXCEEDS	47		63		63	

ARKANSAS RIVER BASIN

07187000 SHOAL CREEK ABOVE JOPLIN, MO

LOCATION.--Lat 37°01'23", long 94°30'58", in SE 1/4 NE 1/4 NE 1/4 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 sea level. Prior to July 21, 1966, water-stage recorder at site 1.8 mi upstream, at datum 15.5 ft higher. From Apr. 21, 1924 to Nov. 6, 1941, records were collected at site about 3 mi downstream, datum unknown.

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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	183	144	400	170	273	193	332	165	281	360	99
2	82	176	161	385	168	265	185	309	157	264	279	101
3	80	151	200	367	165	258	181	288	166	250	267	100
4	79	126	241	353	162	254	180	267	165	220	302	95
5	78	113	243	342	162	256	174	249	154	517	276	91
6	80	105	231	332	159	250	170	237	174	1390	252	96
7	82	99	221	321	156	240	164	224	182	753	235	93
8	81	93	210	314	154	234	162	214	177	587	237	158
9	80	88	196	298	150	240	159	208	271	490	226	1040
10	80	88	180	289	150	242	155	201	551	426	205	1770
11	80	86	171	281	157	228	154	198	462	413	195	1740
12	78	85	188	272	196	218	179	203	448	367	189	924
13	78	85	212	266	229	215	194	193	422	324	178	702
14	79	85	211	265	362	213	178	194	409	298	168	545
15	76	86	202	252	520	209	172	193	402	282	159	456
16	78	139	194	241	553	203	171	182	399	295	153	395
17	80	250	186	234	526	217	251	192	403	288	147	346
18	81	346	177	228	494	287	451	202	1200	269	142	311
19	76	309	168	219	461	293	464	218	1030	241	139	284
20	78	271	318	215	428	279	925	234	780	229	152	303
21	84	257	996	206	402	269	1070	241	654	220	143	466
22	82	250	935	208	382	262	858	219	557	346	134	445
23	83	230	813	211	367	253	734	204	514	385	130	413
24	92	204	722	198	350	240	635	194	505	325	123	358
25	89	183	642	194	331	237	559	187	448	275	117	322
26	108	168	583	188	316	230	505	179	405	253	114	304
27	114	159	538	185	307	222	456	173	365	243	111	286
28	122	149	502	183	297	212	417	188	333	292	109	260
29	120	151	470	179	282	209	390	184	313	241	107	224
30	114	157	440	176	---	206	360	183	301	284	103	213
31	131	---	414	173	---	201	---	170	---	288	99	---
MEAN	88.0	162	358	257	295	239	362	215	417	366	179	431
MAX	131	346	996	400	553	293	1070	332	1200	1390	360	1770
MIN	76	85	144	173	150	201	154	170	154	220	99	91
IN.	.24	.42	.97	.69	.75	.65	.94	.58	1.09	.99	.48	1.13

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	289	375	328	309	373	544	645	694	527	319	216	229
MAX	1709	2034	1570	1145	1233	1961	3281	4691	1969	1550	2337	1043	
(WY)	1960	1986	1974	1973	1968	1973	1945	1943	1957	1976	1950	1945	
MIN	48.3	55.4	57.3	54.9	61.7	57.9	56.0	121	81.4	47.0	37.1	47.0	
(WY)	1957	1964	1964	1964	1964	1954	1954	1963	1954	1954	1954	1953	

SUMMARY STATISTICS

FOR 1991 CALENDAR YEAR

FOR 1992 WATER YEAR

FOR PERIOD OF RECORD

ANNUAL MEAN	303		280		404	
HIGHEST ANNUAL MEAN					1008	1973
LOWEST ANNUAL MEAN					77.8	1954
HIGHEST DAILY MEAN	3010	Jan 16	1770	Sep 10	36700	May 18 1943
LOWEST DAILY MEAN	76	Oct 15	76	Oct 15	15	Sep 7 1954
INSTANTANEOUS PEAK FLOW	---		2560	Sep 11	62100	May 18 1943
INSTANTANEOUS PEAK STAGE	---		6.12	Sep 11	16.8	May 18 1943
INSTANTANEOUS LOW FLOW	---		73	Oct 15, 19	12	Sep 7 1954
ANNUAL SEVEN-DAY MINIMUM	78	Oct 13	78	Oct 13	16	Sep 1 1954
ANNUAL RUNOFF (INCHES)	9.65		8.93		12.85	
10 PERCENT EXCEEDS	646		496		804	
50 PERCENT EXCEEDS	211		220		226	
90 PERCENT EXCEEDS	86		96		84	

ARKANSAS RIVER BASIN

07189000 ELK RIVER NEAR TIFF CITY, MO

LOCATION.--Lat 36°37'53", long 94°35'12", in NE 1/4 NE 1/4 sec.22, T.22 N., R.34 W., McDonald County, Hydrologic Unit 11070208, near right abutment 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.

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 sea level (levels by U.S. Army Corps of Engineers). Sept. 6, 1960 to Aug. 25, 1961, at site 100 ft downstream.

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	345	396	814	257	590	260	588	589	567	514	123
2	89	460	457	774	255	567	248	535	579	534	439	145
3	84	437	995	718	255	538	243	474	589	496	404	137
4	76	376	1420	679	248	516	242	414	619	464	407	127
5	68	324	1210	662	238	498	237	358	567	484	398	115
6	65	262	970	633	233	489	236	319	1240	831	387	100
7	64	218	809	610	227	456	231	290	4240	642	359	120
8	63	192	706	587	214	435	224	272	2990	545	331	277
9	62	179	594	554	207	463	218	259	2950	503	311	614
10	62	162	521	493	218	477	214	247	16100	468	287	1220
11	59	146	486	477	249	467	215	240	10800	425	302	1480
12	58	127	477	477	501	463	214	254	6340	397	302	929
13	58	114	528	458	1360	463	213	272	3920	365	302	739
14	57	107	491	429	2450	456	207	238	2680	336	277	640
15	54	99	443	412	3390	426	201	233	2620	313	257	571
16	54	148	436	382	2490	409	192	224	2360	301	237	513
17	56	617	425	374	1910	391	281	214	1890	312	230	456
18	56	1640	392	366	1530	394	591	225	1620	306	211	422
19	54	1310	377	327	1290	400	503	256	1430	287	206	405
20	53	978	1450	310	1150	388	910	327	1230	273	209	427
21	54	1030	6610	316	1060	376	2030	398	1070	258	191	678
22	56	1080	4810	316	985	370	1750	406	965	267	173	939
23	57	892	3070	316	922	356	1360	384	888	280	167	925
24	56	683	2170	296	856	349	1170	366	865	283	163	738
25	61	563	1650	291	799	345	1050	354	824	249	153	606
26	118	464	1380	286	735	322	941	316	776	234	141	534
27	150	406	1210	285	710	313	840	288	735	227	134	485
28	203	371	1100	281	663	297	758	296	680	208	143	430
29	216	341	1000	268	615	289	674	360	634	206	137	380
30	235	311	921	267	---	285	656	484	605	250	126	351
31	246	---	852	260	---	277	---	574	---	385	115	---
MEAN	88.5	479	1237	443	897	415	570	338	2446	377	258	521
MAX	246	1640	6610	814	3390	590	2030	588	16100	831	514	1480
MIN	53	99	377	260	207	277	192	214	567	206	115	100
IN.	.12	.61	1.64	.59	1.11	.55	.73	.45	3.13	.50	.34	.67

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

	MEAN	436	677	723	657	853	1292	1618	1530	919	452	271	272
MAX	2938	4094	3430	2509	2971	5020	6119	8964	4160	2565	2418	1851	
(WY)	1942	1975	1988	1985	1951	1945	1945	1943	1974	1976	1950	1950	
MIN	25.7	49.8	58.5	55.9	70.7	75.7	145	227	78.6	14.3	12.0	30.9	
(WY)	1957	1964	1964	1964	1954	1956	1956	1964	1954	1954	1954	1953	

SUMMARY STATISTICS	FOR 1991 CALENDAR YEAR		FOR 1992 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	671		668		807	
HIGHEST ANNUAL MEAN					1783	
LOWEST ANNUAL MEAN					135	
HIGHEST DAILY MEAN	11800	Apr 14	16100	Jun 10	68600	Apr 19 1941
LOWEST DAILY MEAN	53	Aug 20	53	Oct 20	5.1	Sep 5-6 1954
INSTANTANEOUS PEAK FLOW	---		31700	Jun 10	137000	Apr 19 1941
INSTANTANEOUS LOW FLOW	---		20.33	Jun 10	28.4	Apr 19 1941
ANNUAL SEVEN-DAY MINIMUM	54	Oct 15	54	Oct 15	5.6	Sep 5-6 1954
ANNUAL RUNOFF (INCHES)	10.44		10.43		12.58	Sep 2 1954
10 PERCENT EXCEEDS	1400		1220		1680	
50 PERCENT EXCEEDS	349		389		329	
90 PERCENT EXCEEDS	70		127		84	

WATER RESOURCES DATA - MISSOURI, 1992

DISCHARGE AT PARTIAL-RECORD STATIONS

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Maximum discharge at crest-stage partial-record stations

Station name and number	Location and drainage area	Period of record	Water year 1992 maximum			Period of record maximum		
			Date	Gage height (feet)	Dis- charge (ft ³ /s)	Date	Gage height (feet)	Dis- charge (ft ³ /s)
Platte River basin								
Platte River at Ravenwood (06818900)	Lat 40°20'42", long 94°41'09", in SE 1/4 SE 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. Drainage area is 486 mi ² .	1922-71‡ 1972-92	4-20-92	15.68	8,790	9-9-89	21.5	16,500
Shoal Creek basin								
Crooked River near Richmond (06895000)	Lat 39°20'00", long 93°58'45", in NW 1/4 NW 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. Drainage area is 159 mi ² .	1948-70‡ 1971-92	4-20-92	25.67	6,890	7-20-65	30.7	29,000
Wakenda Creek basin								
Wakenda Creek at Carrollton (06896000)	Lat 39°20'48", long 93°29'44", in NE 1/4 SE 1/4 sec.5, T.52 N., R.23 W., Hydrologic Unit 10300101, Carroll County, on U.S. Highway 65 bridge in Carrollton. Drainage area is 248 mi ² .	1948-70‡ 1972-92	4-20-92	20.94	3,690	10-3-86	26.60	13,100
Grand River basin								
East Fork Big Creek near Bethany (06897000)	Lat 40°17'50", long 94°01'36", in SE 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. Drainage area is 95 mi ² .	1934-72‡ 1973-92	4-20-92	14.94	3,420	6-6-47	17.65	8,120
Locust Creek at Reger (06901100)	Lat 40°08'31", long 93°11'07", in NE 1/4 SW 1/4 SE 1/4 sec.30, T.62 N., R.20W., Hydrologic Unit 10280201, Sullivan County, on downstream side of State Highway 6 and 0.3 mi east of Reger. Drainage area is 232 mi ² .	1987-92	4-19-92	11.83	4,470	5-5-91	17.38	10,800
Moniteau Creek basin								
Moniteau Creek near Fayette (06909500)	Lat 39°07'15", long 92°33'40", in SE 1/4 SE 1/4 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. Drainage area is 81 mi ² .	1948-60 1962-69‡ 1979-92	4-20-92	13.50	914	7-10-69	21.59	11,300

Maximum discharge at crest-stage partial-record stations—Continued

Station name and number	Location and drainage area	Period of record	Water year 1992 maximum			Period of record maximum		
			Date	Gage height (feet)	Dis- charge (ft ³ /s)	Date	Gage height (feet)	Dis- charge (ft ³ /s)
Moreau River basin								
Moreau River near Jefferson City (06910500)	Lat 38°31'44", long 92°11'31", in SE 1/4 NW 1/4 SE 1/4 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. Drainage area is 561 mi ² .	1947-74‡ 1975-92	4-20-92	17.51	6,660	a12-3-82	29.83	30,000
Osage River basin								
Maries River at Westphalia (06927000)	Lat 38°25'55", long 91°59'23", in NE 1/4 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 mi 9.9. Drainage area is 257 mi ² .	1947-70‡ 1971-92	4-20-92	12.49	9,490	a12-3-82	21.31	27,300

‡ Operated as continuous-record gaging station.

a Revised from 1991.

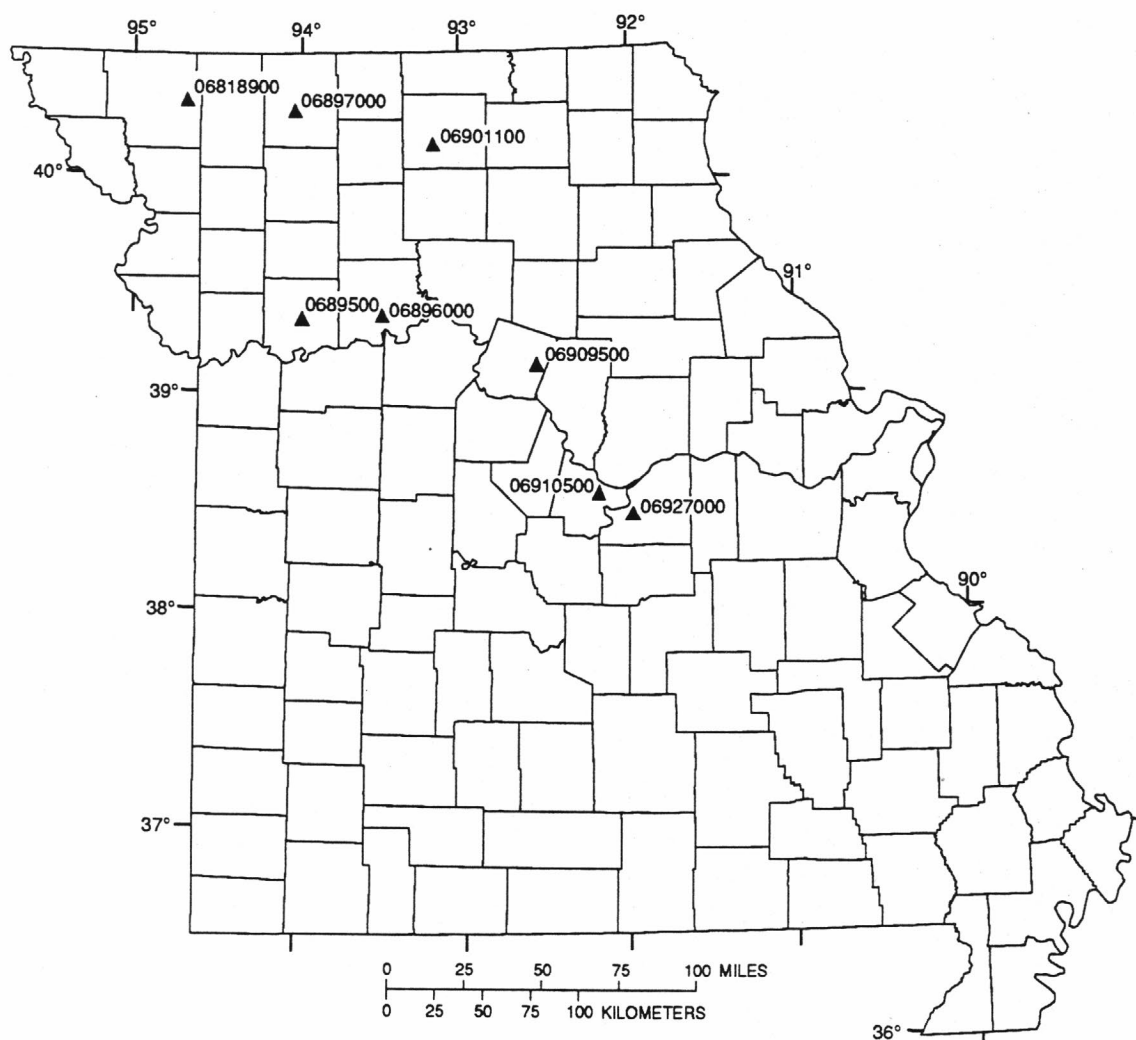


Figure 8.--Location of crest-stage partial-record stations.

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 1991 TO SEPTEMBER 1992

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCHI, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)
07064400 MONTAUK SPRINGS AT MONTAUK (LAT 37 27 36N LONG 91 40 59 W)										
OCT 22...	0930	69	313	7.4	13.0	9.1	87	K20	36	160
APR 14...	0930	85	272	7.4	13.0	8.7	83	K6	K14	132
SEP 30...	1200	79	319	7.2	13.0	10.0	93	K10	K18	160
07064440 CURRENT RIVER BELOW MONTAUK STATE PARK (LAT 37 27 01N LONG 91 29 41 W)										
OCT 22...	1030	81	315	7.7	12.5	9.9	93	K22	200	165
APR 14...	1020	122	272	8.0	13.5	10.3	99	K8	K16	134
SEP 30...	1110	100	320	7.4	12.5	11.9	109	K10	20	163
07064530 WELCH SPRING NEAR AKERS (LAT 37 23 38N LONG 91 34 25 W)										
OCT 22...	1000	117	344	7.6	13.5	9.3	89	K10	K8	186
APR 14...	1200	296	288	7.5	12.5	9.6	103	27	36	147
SEP 30...	0930	147	352	7.3	13.0	9.9	92	K5	K10	183
07064555 PULLTITE SPRING NEAR ROUND SPRING (LAT 37 20 03N LONG 91 29 24 W)										
OCT 22...	1330	34	326	7.5	13.5	9.1	87	K25	K8	171
APR 14...	1315	110	279	7.6	12.0	9.3	99	K16	K6	148
SEP 29...	0800	49	322	7.4	13.0	8.4	78	42	85	170
07065000 ROUND SPRING AT ROUND SPRING (LAT 37 16 57N LONG 91 24 27W)										
OCT 22...	1500	25	352	7.5	13.5	9.7	93	K0	270	194
APR 14...	1430	48	300	7.6	13.0	10.6	115	K1	K6	156
SEP 29...	0930	27	337	7.1	13.0	6.1	57	K20	K20	190
07065500 ALLEY SPRING AT ALLEY (LAT 37 09 14N LONG 91 26 29W)										
OCT 22...	1600	87	326	7.5	13.5	9.4	90	K1	21	171
APR 14...	1600	156	290	7.5	13.0	9.9	107	K4	K5	148
SEP 29...	1020	132	248	6.7	13.5	8.4	78	260	K1300	140
07066110 JACKS FORK ABOVE TWO RIVERS (LAT 37 10 53N LONG 91 17 36W)										
OCT 23...	1335	166	354	8.1	16.0	9.4	95	K10	53	218
APR 15...	1410	453	316	8.2	17.5	10.7	111	K7	K8	156
SEP 30...	0730	244	344	7.6	14.5	10.4	99	36	55	189
07066510 CURRENT RIVER ABOVE POWDER MILL (LAT 37 10 32N LONG 91 12 48W)										
OCT 23...	1300	659	348	8.1	15.0	9.9	97	K4	30	193
APR 15...	1320	1440	308	8.1	17.0	10.2	105	K9	K14	160
SEP 29...	1700	820	347	7.5	17.0	10.4	104	K6	K11	182

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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)	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 (LAT 37 27 36N LONG 91 40 59 W)									
OCT 22...	<0.010	0.900	<0.010	<0.20	0.020	<1	8	<1	<10
APR 14...	<0.010	0.900	<0.010	<0.20	<0.010	<1	<1	<1	<10
SEP 30...	<0.010	0.930	<0.010	<0.20	<0.010	<1	<1	<1	<10
07064440 CURRENT RIVER BELOW MONTAUK STATE PARK (LAT 37 27 01N LONG 91 29 41 W)									
OCT 22...	<0.010	0.810	0.030	<0.20	0.030	<1	2	<1	<10
APR 14...	0.010	0.720	0.010	<0.20	0.010	<1	<1	<1	<10
SEP 30...	0.010	0.850	0.030	<0.20	0.030	<1	<1	<1	<10
07064530 WELCH SPRING NEAR AKERS (LAT 37 23 38N LONG 91 34 25 W)									
OCT 22...	<0.010	0.660	<0.010	<0.20	0.010	<1	8	<1	<10
APR 14...	<0.010	0.760	<0.010	<0.20	<0.010	<1	<1	<1	<10
SEP 30...	<0.010	0.680	<0.010	<0.20	<0.010	<1	<1	<1	<10
07064555 PULLTITE SPRING NEAR ROUND SPRING (LAT 37 20 03N LONG 91 29 24 W)									
OCT 22...	<0.010	0.590	0.010	<0.20	0.020	<1	2	<1	<10
APR 14...	<0.010	0.590	<0.010	<0.20	<0.010	<1	<1	<1	<10
SEP 29...	<0.010	0.650	<0.010	<0.20	<0.010	<1	<1	<1	20
07065000 ROUND SPRING AT ROUND SPRING (LAT 37 16 57N LONG 91 24 27W)									
OCT 22...	<0.010	0.310	<0.010	<0.20	0.010	<1	2	<1	<10
APR 14...	<0.010	0.330	<0.010	<0.20	<0.010	<1	<1	<1	<10
SEP 29...	<0.010	0.340	<0.010	<0.20	<0.010	1	<1	<1	10
07065500 ALLEY SPRING AT ALLEY (LAT 37 09 14N LONG 91 26 29W)									
OCT 22...	<0.010	0.620	<0.010	<0.20	0.020	<1	2	<1	<10
APR 14...	<0.010	0.730	<0.010	<0.20	<0.010	<1	<1	<1	<10
SEP 29...	<0.010	0.670	<0.010	<0.20	<0.010	<1	<1	<1	<10
07066110 JACKS FORK ABOVE TWO RIVERS (LAT 37 10 53N LONG 91 17 36W)									
OCT 23...	<0.010	0.150	0.020	<0.20	0.010	<1	3	<1	<10
APR 15...	<0.010	0.310	<0.010	<0.20	<0.010	<1	<1	<1	<10
SEP 30...	<0.010	0.340	<0.010	<0.20	<0.010	<1	<1	<1	<10
07066510 CURRENT RIVER ABOVE POWDER MILL (LAT 37 10 32N LONG 91 12 48W)									
OCT 23...	<0.010	0.260	<0.010	<0.20	0.010	<1	2	<1	<10
APR 15...	<0.010	0.320	<0.010	<0.20	<0.010	<1	<1	<1	<10
SEP 29...	<0.010	0.320	<0.010	<0.20	<0.010	<1	<1	<1	<10

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (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- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA- LINITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)
07066550 BLUE SPRING NEAR EMINENCE (LAT 37 09 58N LONG 91 09 47W)										
OCT 23...	1130	108	319	7.5	13.5	9.7	92	K13	27	198
APR 15...	1230	179	258	7.7	12.5	9.3	86	K2	K5	110
SEP 29...	1600	148	255	7.3	13.5	9.1	84	250	220	129
07067500 BIG SPRING NEAR VAN BUREN (LAT 36 57 05N LONG 90 59 36W)										
OCT 23...	0940	410	350	7.4	14.0	9.0	86	K0	K0	194
APR 15...	0950	612	327	7.5	13.5	9.7	92	K0	K13	176
SEP 29...	1400	410	318	7.3	14.0	8.9	83	K9	K25	190
07067800 CURRENT RIVER BELOW HAWES CAMPGROUND (LAT 36 49 08N LONG 90 56 48W)										
OCT 23...	0830	1450	342	7.8	14.0	9.1	87	K6	31	190
APR 15...	0810	3080	298	7.9	15.5	8.9	88	K7	25	152
SEP 29...	1210	1680	294	7.4	16.0	9.2	89	K20	K10	183

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

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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)	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 2N) (01092)
07066550 BLUE SPRING NEAR EMINENCE (LAT 37 09 58N LONG 91 09 47W)									
OCT 23...	<0.010	0.450	<0.010	<0.20	0.010	<1	2	<1	<10
APR 15...	<0.010	0.540	<0.010	<0.20	<0.010	<1	<1	<1	<10
SEP 29...	<0.010	0.610	<0.010	<0.20	<0.010	<1	<1	<1	<10
07067500 BIG SPRING NEAR VAN BUREN (LAT 36 57 05N LONG 90 59 36W)									
OCT 23...	<0.010	0.330	<0.010	<0.20	0.010	<1	2	<1	<10
APR 15...	0.010	0.380	<0.010	<0.20	<0.010	<1	2	<1	<10
SEP 29...	<0.010	0.370	<0.010	<0.20	<0.010	<1	<1	<1	<10
07067800 CURRENT RIVER BELOW HAWES CAMPGROUND (LAT 36 49 08N LONG 90 56 48W)									
OCT 23...	<0.010	0.220	0.010	<0.20	0.010	<1	2	<1	<10
APR 15...	<0.010	0.300	<0.010	<0.20	<0.010	<1	<1	<1	<10
SEP 29...	<0.010	0.270	<0.010	<0.20	<0.010	<1	<1	<1	<10



EXPLANATION

1 SPRINGFIELD

- (a) Belcrest Street
- (b) Bissett School
- (c) Cherokee School
- (d) Fulbright
- (e) Hickory Hills School
- (f) Kansas Street
- (g) Main Street
- (h) SW Power Plant
- (i) York Street

2 LOWER ELEVEN POINT

- 3 UNIVERSITY OF MISSOURI
AT ROLLA
- 4 INDUSTRIAL PARK
- 5 CONSERVATION
- 6 ROLLA
- 7 OZARK LEAD 1
- 8 OZARK LEAD 2

Figure 9.--Ground-water monitoring wells.

COUNTY--Greene

WELL IDENTIFICATION NUMBER--371251093140101

LOCATION--Lat 37°12'41", long 93°14'00", T.29 N., R.21 W., 16dccc, from 65 Bypass and Chestnut Expressway in Springfield, go west approximately 0.25 mi to Belcrest Street, go north 0.10 mi, well is on east side of Belcrest Street in City Utilities fenced property.

FORMATIONS OPEN TO THE WELL--Keokuk Limestone, Burlington Limestone, and Reeds Spring Formation.

WELL CHARACTERISTICS--Total depth 209 ft, 50 ft of casing.

INSTRUMENTATION--Digital recorder.

DATUM--1,360 ft above sea level.

Measuring point: Recorder shelf, 3.5 ft above land surface.

PERIOD OF RECORD--October 20, 1989 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84.60	84.40	84.26	84.33	84.47	84.33	84.44	84.53	84.53	84.34	84.32	84.49
2	84.60	84.40	84.27	84.33	84.47	84.34	84.45	84.51	84.53	84.32	84.33	84.49
3	84.55	84.48	84.24	84.32	84.47	84.35	84.45	84.51	84.50	84.32	84.33	84.47
4	84.50	84.54	84.25	84.31	84.47	84.35	84.42	84.52	84.44	84.36	84.33	84.47
5	84.47	84.55	84.27	84.30	84.47	84.34	84.41	84.52	84.42	84.22	84.34	84.47
6	84.52	84.54	84.27	84.27	84.44	84.31	84.41	84.56	84.40	84.15	84.34	84.47
7	84.57	84.52	84.26	84.27	84.41	84.30	84.42	84.61	84.39	84.14	84.34	84.48
8	84.58	84.57	84.23	84.25	84.40	84.30	84.43	84.63	84.43	84.14	84.34	84.48
9	84.58	84.61	84.21	84.25	84.43	84.30	84.44	84.63	84.46	84.16	84.34	84.44
10	84.58	84.61	84.23	84.27	84.46	84.27	84.44	84.62	84.46	84.18	84.34	84.40
11	84.58	84.60	84.25	84.31	84.48	84.30	84.44	84.61	84.39	84.19	84.34	84.40
12	84.58	84.60	84.25	84.31	84.49	84.31	84.45	84.56	84.37	84.20	84.35	84.42
13	84.57	84.60	84.24	84.27	84.48	84.33	84.51	84.55	84.35	84.20	84.37	84.43
14	84.56	84.57	84.25	84.24	84.41	84.34	84.52	84.55	84.33	84.20	84.39	84.43
15	84.56	84.54	84.33	84.27	84.30	84.37	84.53	84.54	84.32	84.20	84.42	84.43
16	84.56	84.54	84.38	84.37	84.29	84.42	84.52	84.54	84.31	84.20	84.43	84.43
17	84.56	84.46	84.38	84.38	84.27	84.42	84.50	84.54	84.30	84.20	84.44	84.43
18	84.56	84.32	84.43	84.40	84.22	84.37	84.47	84.55	84.30	84.22	84.45	84.42
19	84.59	84.27	84.51	84.46	84.23	84.32	84.40	84.57	84.30	84.26	84.46	84.41
20	84.63	84.25	84.53	84.47	84.27	84.34	84.33	84.57	84.30	84.27	84.46	84.35
21	84.64	84.23	84.50	84.47	84.29	84.37	84.31	84.57	84.32	84.27	84.46	84.24
22	84.64	84.23	84.45	84.41	84.31	84.37	84.31	84.57	84.34	84.27	84.48	84.22
23	84.62	84.22	84.33	84.34	84.31	84.37	84.33	84.57	84.35	84.27	84.48	84.26
24	84.60	84.25	84.31	84.32	84.31	84.38	84.37	84.57	84.34	84.28	84.48	84.31
25	84.60	84.30	84.31	84.33	84.31	84.39	84.43	84.56	84.32	84.30	84.49	84.32
26	84.60	84.33	84.31	84.38	84.32	84.39	84.48	84.54	84.32	84.31	84.49	84.32
27	84.60	84.33	84.31	84.41	84.32	84.42	84.53	84.54	84.32	84.31	84.49	84.33
28	84.57	84.33	84.32	84.45	84.32	84.45	84.56	84.54	84.33	84.31	84.49	84.36
29	84.51	84.30	84.32	84.47	84.31	84.45	84.57	84.54	84.34	84.31	84.49	84.42
30	84.50	84.25	84.32	84.48	---	84.43	84.56	84.53	84.34	84.30	84.49	84.46
31	84.52	---	84.32	84.47	---	84.43	---	84.53	---	84.29	84.49	---
MEAN	84.57	84.42	84.32	84.35	84.37	84.36	84.45	84.56	84.37	84.25	84.41	84.40
MAX	84.64	84.61	84.53	84.48	84.49	84.45	84.57	84.63	84.53	84.36	84.49	84.49
MIN	84.47	84.22	84.21	84.24	84.22	84.27	84.31	84.51	84.30	84.14	84.32	84.22

COUNTY--Greene

WELL IDENTIFICATION NUMBER--371321093201401

LOCATION--Lat 37°13'21", long 93°20'14", T.29 N., R.22 W., 16acb, from Highway 13 in Springfield, take Calhoun Street west for 1.4 mi, Bissett School is on south side of road, 3014 West Calhoun.

FORMATIONS OPEN TO THE WELL--Cotter Dolomite, Jefferson City Dolomite, and Roubidoux Formation.

WELL CHARACTERISTICS--Drilled January 1950, total depth 825 ft, 21 ft of 12-in casing and 400 ft of 6-in casing.

INSTRUMENTATION--Digital recorder.

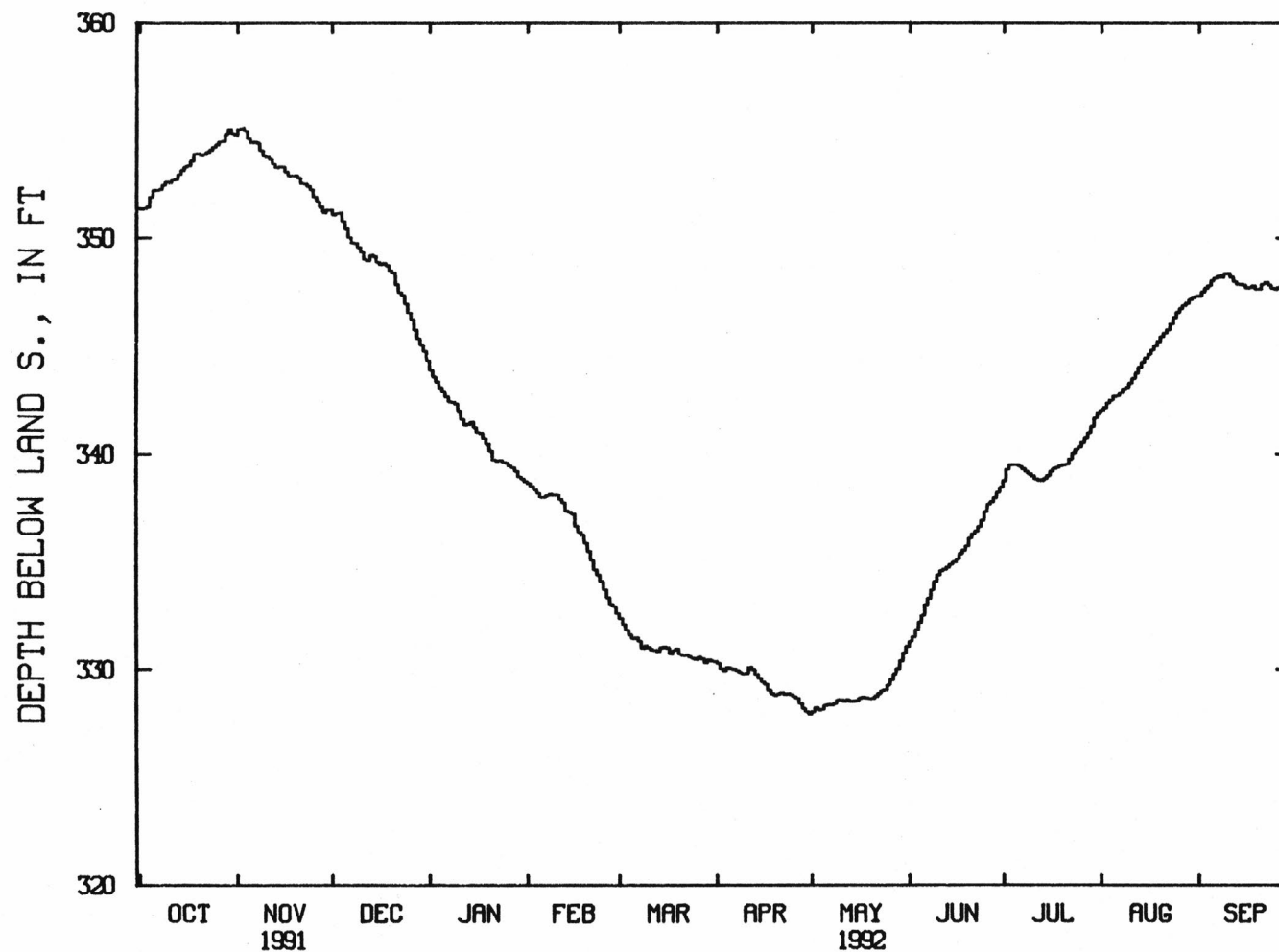
DATUM--1,286 ft above sea level.

Measuring point: Top of casing, 4.0 ft above land surface.

PERIOD OF RECORD--June 28, 1989 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	351.38	354.75	351.32	344.34	338.72	332.60	330.38	327.95	331.08	338.48	341.93	347.33
2	351.34	355.07	351.03	343.88	338.63	332.38	330.29	328.08	331.33	338.77	342.03	347.32
3	351.39	355.12	351.13	343.56	338.50	332.11	330.03	328.25	331.54	339.30	342.16	347.53
4	351.47	354.95	351.15	343.34	338.35	331.84	329.95	328.13	331.86	339.51	342.38	347.70
5	351.92	354.61	350.76	343.06	338.19	331.62	330.11	328.16	332.20	339.51	342.51	347.82
6	352.21	354.45	350.43	342.90	338.01	331.46	330.04	328.36	332.51	339.51	342.69	348.06
7	352.23	354.49	350.02	342.64	338.01	331.48	330.01	328.39	333.02	339.41	342.70	348.16
8	352.26	354.41	349.78	342.43	338.11	331.32	329.95	328.37	333.36	339.31	342.86	348.27
9	352.46	354.06	349.77	342.41	338.14	330.99	329.86	328.45	333.72	339.19	343.02	348.18
10	352.62	353.81	349.55	342.32	338.09	331.12	329.80	328.61	334.09	339.08	343.10	348.37
11	352.58	353.75	349.34	342.00	338.09	331.01	329.83	328.59	334.40	338.98	343.30	348.37
12	352.70	353.66	349.00	341.60	337.89	330.92	330.12	328.53	334.60	338.84	343.51	348.19
13	352.74	353.45	348.97	341.35	337.74	330.90	329.99	328.62	334.66	338.78	343.76	347.99
14	352.97	353.28	349.23	341.39	337.37	330.86	329.77	328.52	334.76	338.77	344.03	347.88
15	353.16	353.33	349.14	341.49	337.32	331.04	329.58	328.54	334.91	338.88	344.26	347.87
16	353.32	353.32	348.87	341.21	337.22	331.06	329.42	328.58	335.00	339.02	344.46	347.83
17	353.38	353.06	348.78	341.00	336.65	330.99	329.32	328.69	335.13	339.22	344.63	347.70
18	353.60	352.89	348.85	340.96	336.38	330.71	329.05	328.74	335.40	339.35	344.84	347.72
19	353.91	352.90	348.72	340.73	336.26	330.92	328.89	328.67	335.55	339.39	345.02	347.82
20	353.91	352.92	348.50	340.46	335.88	330.98	328.81	328.66	335.75	339.47	345.21	347.61
21	353.83	352.78	348.39	340.16	335.48	330.69	328.88	328.68	336.12	339.52	345.44	347.64
22	353.90	352.53	347.85	339.74	335.08	330.65	328.94	328.79	336.31	339.54	345.60	347.90
23	354.00	352.52	347.48	339.70	334.63	330.68	328.84	328.91	336.44	339.80	345.77	347.97
24	354.10	352.40	347.35	339.72	334.40	330.60	328.88	329.04	336.65	340.07	346.04	347.82
25	354.24	352.24	346.96	339.62	334.10	330.53	328.83	329.08	336.93	340.23	346.34	347.66
26	354.35	351.92	346.55	339.59	333.74	330.47	328.75	329.30	337.34	340.35	346.57	347.62
27	354.50	351.71	346.21	339.45	333.37	330.61	328.67	329.54	337.69	340.56	346.75	347.74
28	354.51	351.44	345.74	339.37	333.01	330.49	328.43	329.81	337.79	340.79	346.90	347.83
29	354.80	351.14	345.33	339.20	332.91	330.32	328.20	330.04	337.98	341.00	347.00	347.89
30	355.05	351.32	345.05	338.94	---	330.48	328.06	330.41	338.24	341.28	347.17	347.81
31	354.81	---	344.76	338.85	---	330.39	---	330.77	---	341.68	347.28	---
MEAN	353.21	353.28	348.58	341.21	336.56	331.04	329.39	328.81	334.88	339.60	344.49	347.85
MAX	355.05	355.12	351.32	344.34	338.72	332.60	330.38	330.77	338.24	341.68	347.28	348.37
MIN	351.34	351.14	344.76	338.85	332.91	330.32	328.06	327.95	331.08	338.48	341.93	347.32



371321093201401 BISSETT SCHOOL WELL IN SPRINGFIELD, MO.
MEAN DAILY DEPTH BELOW LAND S. (FT)

COUNTY--Greene

WELL IDENTIFICATION NUMBER--370702093173001

LOCATION--Lat 37°07'02", long 93°17'30", T.28 N., R.22 W., 13bdc, at Cherokee Junior High School, 0.25 mi east of Campbell Avenue (Route 160) in Springfield, north side of Plainview Road.

FORMATIONS OPEN TO THE WELL--Unknown.

WELL CHARACTERISTICS--Drilled June 1960, 21 ft of 10-in casing, smaller casing unknown.

INSTRUMENTATION--Digital recorder installed June 21, 1989.

DATUM--1,290 ft above sea level.

Measuring point: Base of recorder platform, 4.0 ft above land surface.

REMARKS--Several months missing when float sank.

PERIOD OF RECORD--June 21, 1989 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	251.20	247.73	243.67	239.38	244.72	249.35	263.72	261.12	264.13	---
2	---	---	249.91	247.54	243.63	239.47	244.13	248.89	263.35	260.63	265.11	---
3	---	---	249.62	247.45	243.48	239.35	243.35	248.88	263.16	261.76	266.03	---
4	---	---	249.71	246.97	243.25	239.22	243.99	250.28	262.21	261.10	266.68	---
5	---	---	249.39	246.08	242.96	239.13	244.46	251.55	261.78	259.82	268.16	---
6	---	---	249.17	245.49	242.62	239.15	244.42	252.32	262.27	258.28	268.29	---
7	---	---	248.90	245.52	242.48	239.46	244.64	251.65	263.02	257.82	268.51	---
8	---	---	248.80	245.77	242.46	239.57	242.90	252.71	264.77	258.00	268.96	---
9	---	---	248.91	245.58	242.40	239.22	241.89	252.33	265.95	258.25	269.47	---
10	---	---	248.89	245.09	242.28	239.33	241.12	252.53	264.87	258.39	270.61	---
11	---	---	249.06	244.51	242.20	239.27	240.68	254.87	264.16	258.55	272.54	---
12	---	---	249.60	243.95	241.86	239.19	240.33	255.92	263.75	258.67	271.45	---
13	---	---	251.29	243.60	241.59	239.24	239.87	256.08	263.62	260.68	271.02	---
14	---	263.00	252.63	243.56	241.04	239.34	241.90	255.21	263.49	262.03	271.66	---
15	---	262.16	252.38	243.55	240.61	239.53	243.35	255.08	263.53	260.51	272.32	---
16	---	261.67	251.86	243.29	240.28	239.50	243.26	255.44	263.62	261.11	272.97	---
17	---	260.57	251.54	243.12	239.66	239.49	243.60	255.69	263.93	260.34	274.91	---
18	---	259.12	251.49	243.13	239.49	240.38	243.81	255.71	264.33	260.07	276.61	---
19	---	258.13	251.34	243.00	239.58	242.36	244.05	255.58	264.68	259.81	275.91	---
20	---	257.32	250.99	242.82	239.46	243.97	244.20	255.71	265.23	260.46	276.90	---
21	---	256.34	250.38	242.62	239.33	245.04	244.45	255.83	265.07	261.72	277.72	---
22	---	255.30	249.59	242.31	239.22	246.20	244.86	256.00	264.02	260.48	277.25	---
23	---	254.64	249.08	242.36	239.09	247.28	245.71	256.32	264.35	260.23	277.27	---
24	---	254.07	248.99	242.48	239.21	248.18	245.85	256.56	262.66	260.08	279.28	---
25	---	253.64	248.69	242.44	239.26	248.99	246.96	256.81	261.71	260.14	280.61	---
26	---	253.12	248.43	242.50	239.22	249.00	246.64	257.21	261.23	260.13	279.51	---
27	---	252.82	248.32	242.41	239.17	248.23	246.55	259.69	261.14	259.92	278.23	---
28	---	252.53	248.02	242.41	239.15	247.33	248.28	259.94	260.95	261.29	277.48	---
29	---	252.22	247.83	242.81	239.37	246.47	248.94	260.45	261.36	260.53	278.97	---
30	---	252.12	247.84	243.74	---	245.99	248.18	261.13	262.64	261.89	279.04	---
31	---	---	247.87	243.73	---	245.31	---	261.87	---	262.85	281.09	---
MEAN	---	---	249.73	244.11	240.97	242.37	244.24	255.08	263.35	260.21	273.51	---
MAX	---	---	252.63	247.73	243.67	249.00	248.94	261.87	265.95	262.85	281.09	---
MIN	---	---	247.83	242.31	239.09	239.13	239.87	248.88	260.95	257.82	264.13	---

COUNTY--Greene

WELL IDENTIFICATION NUMBER--371605093184401

LOCATION--Lat 37°16'06", long 93°18'37", T.29 N., R.22 W., 3add, take Old Highway 13 (FR 141) in Springfield, north 0.8 mi from I-44 to Pump Station Road, go north on Pump Station Road for 1,500 ft to Cinder Drive, go northeast on Cinder Drive to Fulbright Pumping Station.

FORMATIONS OPEN TO THE WELL--Burlington Formation, Reeds Spring Formation, and Pierson Formation.

WELL CHARACTERISTICS--Total depth 183 ft, 50 ft of casing.

INSTRUMENTATION--Digital recorder.

DATUM--1,190 ft above sea level.

Measuring point: Recorder shelf, 3.1 ft above land surface.

PERIOD OF RECORD--October 18, 1989 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66.77	66.43	58.54	56.29	61.96	59.05	64.14	60.72	65.77	61.27	62.66	64.49
2	66.86	66.08	57.62	56.89	62.31	58.88	64.27	60.73	65.91	61.58	62.84	64.56
3	66.99	65.26	55.24	57.46	62.59	58.88	64.44	60.65	66.06	61.83	63.00	64.24
4	67.09	64.83	55.06	57.91	62.81	59.06	64.50	60.65	66.16	61.95	63.13	63.81
5	67.11	64.76	55.14	58.33	63.00	59.34	64.52	60.72	66.27	59.64	63.17	63.59
6	67.11	64.83	55.24	58.67	63.18	59.69	64.50	61.08	66.43	55.34	62.43	63.50
7	67.08	64.98	55.35	58.97	63.37	60.03	64.49	61.43	66.48	55.03	61.76	63.48
8	67.45	65.25	55.48	59.27	63.52	60.31	64.53	61.63	66.42	55.20	61.53	63.49
9	67.78	65.44	55.55	59.56	63.71	60.61	64.63	61.89	66.38	55.36	61.56	63.13
10	67.55	65.53	55.67	59.75	63.85	60.89	64.72	62.12	65.62	55.51	61.70	62.39
11	67.31	65.59	56.10	59.95	63.94	61.25	64.79	62.36	62.55	55.62	61.86	61.09
12	67.16	65.67	56.77	60.23	63.98	61.50	64.94	63.02	55.47	55.95	61.96	60.21
13	67.07	65.71	57.37	60.55	63.26	61.70	65.04	63.66	54.84	56.79	62.10	60.20
14	67.01	65.80	57.85	60.77	60.45	61.90	65.04	64.08	55.16	57.60	62.21	60.61
15	66.98	65.93	58.21	60.97	55.23	62.12	65.13	64.33	55.37	58.27	62.44	61.08
16	66.97	65.95	58.43	61.09	54.66	62.32	65.22	64.08	55.56	58.81	62.68	61.45
17	66.96	64.46	58.66	61.14	54.65	62.47	65.29	63.80	55.72	59.06	62.82	61.78
18	66.97	58.70	58.95	61.31	54.79	62.61	64.58	63.72	56.30	59.16	62.97	62.09
19	67.02	56.57	59.28	61.57	54.95	62.86	63.09	64.10	57.29	59.34	63.17	62.30
20	67.07	56.13	58.47	61.68	55.11	63.10	62.04	64.50	58.19	59.59	63.31	62.23
21	67.12	55.06	54.86	61.77	55.27	63.05	59.58	64.77	58.85	59.90	63.08	60.60
22	67.19	55.15	54.57	61.89	55.44	63.00	56.42	64.92	59.31	60.20	63.11	59.06
23	67.25	55.30	54.51	61.86	55.58	63.06	55.66	64.64	59.56	60.46	63.41	57.60
24	67.29	55.47	54.64	61.52	56.07	63.14	55.83	64.27	59.35	60.70	63.65	56.85
25	67.34	55.64	54.77	60.98	56.81	63.23	56.36	64.06	59.28	60.92	63.84	56.89
26	67.36	56.20	54.90	60.44	57.55	63.33	57.04	64.07	59.50	61.14	64.01	57.41
27	67.37	56.96	55.05	60.13	58.15	63.49	57.72	64.52	59.83	61.37	64.12	57.98
28	67.39	57.64	55.20	60.08	58.60	63.63	58.60	64.96	60.19	61.62	64.22	58.56
29	67.36	58.36	55.38	60.18	59.01	63.80	59.51	65.25	60.56	61.96	64.31	59.13
30	67.33	58.85	55.50	60.68	---	63.99	60.21	65.47	60.93	62.26	64.39	59.57
31	67.28	---	55.75	61.39	---	64.07	---	65.66	---	62.48	64.44	---
MEAN	67.18	61.62	56.26	60.11	59.44	61.82	62.23	63.29	60.84	59.22	62.96	61.11
MAX	67.78	66.43	59.28	61.89	63.98	64.07	65.29	65.66	66.48	62.48	64.44	64.56
MIN	66.77	55.06	54.51	56.29	54.65	58.88	55.66	60.65	54.84	55.03	61.53	56.85

1e-Hickory Hills School

COUNTY--Greene

WELL IDENTIFICATION NUMBER--371239093132501

LOCATION--Lat 37°14'49", long 93°13'25", T.29 N., R.21 W., sec. 15, at Hickory Hills School just east of intersection Highway 65 and Mill Street Road, in Springfield.

FORMATIONS OPEN TO THE WELL--Cotter Dolomite, Jefferson City Dolomite, Roubidoux Dolomite.

WELL CHARACTERISTICS--Total depth 700 ft, 310 ft 6-in casing.

INSTRUMENTATION--Digital recorder.

DATUM--1,383 ft above sea level.

Measuring point: Top of casing at land surface.

REMARKS--Several weeks missing when recorder was not operational.

PERIOD OF PROCESSED RECORD--December 1991 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	387.47	389.17	388.44	390.01	387.01	389.10	392.08	389.89	---
2	---	---	---	387.70	389.17	388.46	390.01	386.81	389.27	391.86	390.61	382.26
3	---	---	---	387.76	389.18	388.49	390.16	386.84	389.59	391.48	390.17	382.31
4	---	---	---	387.76	389.19	388.64	390.41	385.68	389.80	391.09	390.09	380.86
5	---	---	---	387.84	389.22	388.81	390.41	385.78	390.02	392.31	389.97	378.08
6	---	---	---	387.93	389.37	388.94	390.13	385.20	389.88	392.34	390.08	377.95
7	---	---	---	388.06	389.40	388.69	389.58	384.51	390.34	392.15	390.64	378.25
8	---	---	---	388.29	389.40	388.51	389.15	383.11	389.95	391.94	390.94	378.26
9	---	---	---	388.34	389.40	388.63	389.04	383.56	389.86	391.40	390.97	378.32
10	---	---	---	388.34	389.39	388.67	388.78	383.63	390.08	391.01	391.09	378.40
11	---	---	---	388.34	389.34	388.46	387.52	384.01	390.33	390.03	390.85	378.72
12	---	---	---	388.52	389.31	388.27	387.64	384.65	390.69	390.24	390.75	378.38
13	---	---	---	388.73	389.32	388.14	387.35	385.05	391.05	388.65	390.83	378.38
14	---	---	---	388.79	389.49	388.14	387.48	385.65	392.02	387.17	390.28	378.44
15	---	---	---	388.70	389.60	388.14	387.69	386.08	391.70	386.66	390.01	379.00
16	---	---	---	388.51	389.38	388.01	388.34	385.72	391.76	389.09	390.05	---
17	---	---	---	388.54	389.23	387.95	388.30	386.62	391.82	389.22	390.06	---
18	---	---	---	388.53	389.22	388.27	388.77	386.42	391.73	389.40	388.85	---
19	---	---	386.75	388.37	389.00	388.58	389.02	386.62	391.75	390.45	386.65	---
20	---	---	385.85	388.38	388.92	388.88	388.93	386.87	391.81	390.08	386.46	---
21	---	---	385.91	388.47	388.92	389.28	389.29	387.06	392.09	390.40	386.02	---
22	---	---	386.33	388.81	388.93	389.71	388.94	387.29	391.66	390.72	386.77	---
23	---	---	386.74	388.96	389.08	389.84	389.44	387.55	391.83	390.87	387.20	385.36
24	---	---	386.78	388.96	389.12	389.93	389.14	388.42	391.72	391.12	384.61	385.85
25	---	---	386.78	388.90	389.12	389.99	389.64	388.63	391.57	391.37	383.78	385.93
26	---	---	386.78	388.73	389.02	390.11	389.78	388.59	391.56	392.33	381.54	386.43
27	---	---	386.78	388.73	388.80	389.61	389.05	388.59	391.56	391.77	382.29	386.61
28	---	---	386.99	388.73	388.76	389.59	389.23	388.67	392.35	391.97	---	386.54
29	---	---	387.21	388.73	388.74	389.84	388.61	388.85	391.84	390.33	---	386.51
30	---	---	387.29	388.89	---	389.96	388.61	388.92	391.91	389.93	---	386.52
31	---	---	387.30	389.08	---	389.97	---	389.31	---	388.52	---	---
MEAN	---	---	---	388.45	389.18	388.93	389.01	386.51	391.02	390.58	---	---
MAX	---	---	---	389.08	389.60	390.11	390.41	389.31	392.35	392.34	---	---
MIN	---	---	---	387.47	388.74	387.95	387.35	383.11	389.10	386.66	---	---

1f-Kansas Street

COUNTY--Greene

WELL IDENTIFICATION NUMBER--370826093184701

LOCATION--Lat 37°08'32", long 93°18'51", T.28 N., R.22 W., 11cbc, from Kansas Expressway and Battlefield in Springfield, go south on Kansas Expressway to Erie Street, east on Erie Street to Kansas Street, south on Kansas Street to water tower on east side of street. Well is next to water tower.

FORMATIONS OPEN TO THE WELL--Keokuk Limestone, Burlington Limestone, and Reeds Spring Formation.

WELL CHARACTERISTICS--Total depth 305 ft, 20 ft of casing.

INSTRUMENTATION--Digital recorder.

DATUM--1,281 ft above sea level.

Measuring point: Recorder shelf, 3.0 ft above land surface.

REMARKS--Several days missing when recorder was not operational.

PERIOD OF RECORD--October 23, 1989 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36.05	18.52	15.39	17.71	34.72	25.51	34.93	36.23	29.50	21.64	24.00	34.18
2	36.24	20.04	12.65	18.17	34.84	26.29	35.04	36.32	29.80	22.86	23.02	34.22
3	36.38	21.29	10.48	18.62	34.97	27.13	35.11	36.43	29.80	24.30	22.50	34.09
4	36.27	22.26	11.70	19.03	35.07	27.92	35.23	36.49	29.19	25.60	22.04	34.16
5	36.05	23.01	12.47	19.40	35.18	28.79	35.43	36.55	29.27	17.47	20.77	34.26
6	36.03	23.96	13.12	19.80	35.26	29.92	35.55	36.66	29.68	17.07	18.67	34.35
7	36.21	25.24	13.35	20.36	35.39	30.84	35.65	36.70	30.15	17.83	18.77	34.42
8	36.43	26.41	13.84	21.23	35.54	31.46	35.74	36.68	30.51	18.32	18.79	33.08
9	36.66	27.42	14.59	22.07	35.66	31.75	35.80	36.66	28.51	18.68	18.74	21.43
10	36.86	28.56	15.01	22.79	35.75	31.81	35.86	36.64	---	19.02	18.77	19.17
11	37.01	29.73	14.04	23.49	35.81	32.08	35.93	36.61	---	19.28	18.94	19.62
12	37.19	30.80	14.16	24.76	35.48	32.40	36.03	36.53	---	19.53	19.15	20.64
13	37.36	31.67	14.91	26.15	34.77	32.75	36.03	36.50	---	19.96	19.87	22.11
14	37.50	32.33	16.09	27.27	32.11	32.87	35.98	36.48	---	20.67	20.62	23.44
15	37.66	32.96	16.63	28.15	23.02	32.91	35.97	36.46	---	21.50	21.40	24.86
16	37.80	33.11	17.13	28.99	19.47	33.04	35.95	36.44	---	22.26	21.89	26.15
17	37.94	19.36	17.70	29.61	19.05	33.23	35.99	35.42	---	22.44	22.19	27.43
18	38.08	10.64	18.15	30.35	18.79	32.63	36.01	28.52	---	22.84	20.77	28.75
19	38.23	12.14	18.31	31.11	18.89	31.12	36.01	20.06	---	23.43	20.71	29.80
20	38.32	9.10	16.03	31.54	18.98	30.63	35.94	20.49	---	24.21	22.41	24.49
21	38.41	7.09	10.13	32.02	19.20	30.78	35.54	20.21	---	24.49	23.88	17.27
22	38.51	8.72	11.00	32.75	19.58	31.21	35.40	20.18	---	24.97	25.62	18.21
23	38.62	11.12	11.98	33.05	19.90	31.54	35.41	21.36	---	25.66	27.15	18.74
24	38.71	12.42	12.94	33.31	20.58	32.05	35.53	22.41	---	26.38	28.50	19.12
25	38.81	13.29	13.56	33.52	21.43	32.73	35.67	23.04	19.34	27.06	29.91	19.41
26	38.87	13.84	14.01	33.79	22.40	33.20	35.79	23.62	19.75	27.56	31.20	19.69
27	38.86	14.64	14.77	33.97	23.02	33.64	35.90	24.53	20.54	23.95	31.48	20.11
28	38.17	15.80	15.64	34.19	23.81	33.96	35.99	25.78	21.59	23.12	31.54	20.93
29	32.62	16.18	16.13	34.39	24.72	34.30	36.06	26.94	22.29	24.12	31.54	21.91
30	30.11	14.47	16.66	34.47	---	34.62	36.14	28.09	21.06	25.43	31.54	22.76
31	30.31	---	17.16	34.59	---	34.80	---	28.97	---	25.13	31.54	---
MEAN	36.85	20.20	14.51	27.44	27.70	31.55	35.72	30.77	---	22.48	23.80	25.29
MAX	38.87	33.11	18.31	34.59	35.81	34.80	36.14	36.70	---	27.56	31.54	34.42
MIN	30.11	7.09	10.13	17.71	18.79	25.51	34.93	20.06	---	17.07	18.67	17.27

COUNTY--Greene

WELL IDENTIFICATION NUMBER--371240093174501

LOCATION--Lat 37°12'40", long 93°17'45", T.29 N., R.22 W., 14ddd, from Chestnut Expressway and Main Street in Springfield, go south on Main Street to the intersection of Wall Street, well is on east side of Main Street, behind City Utilities meter center.

FORMATIONS OPEN TO THE WELL--Burlington Limestone.

WELL CHARACTERISTICS--Total depth 100 ft, 20 ft of casing.

INSTRUMENTATION--Digital recorder.

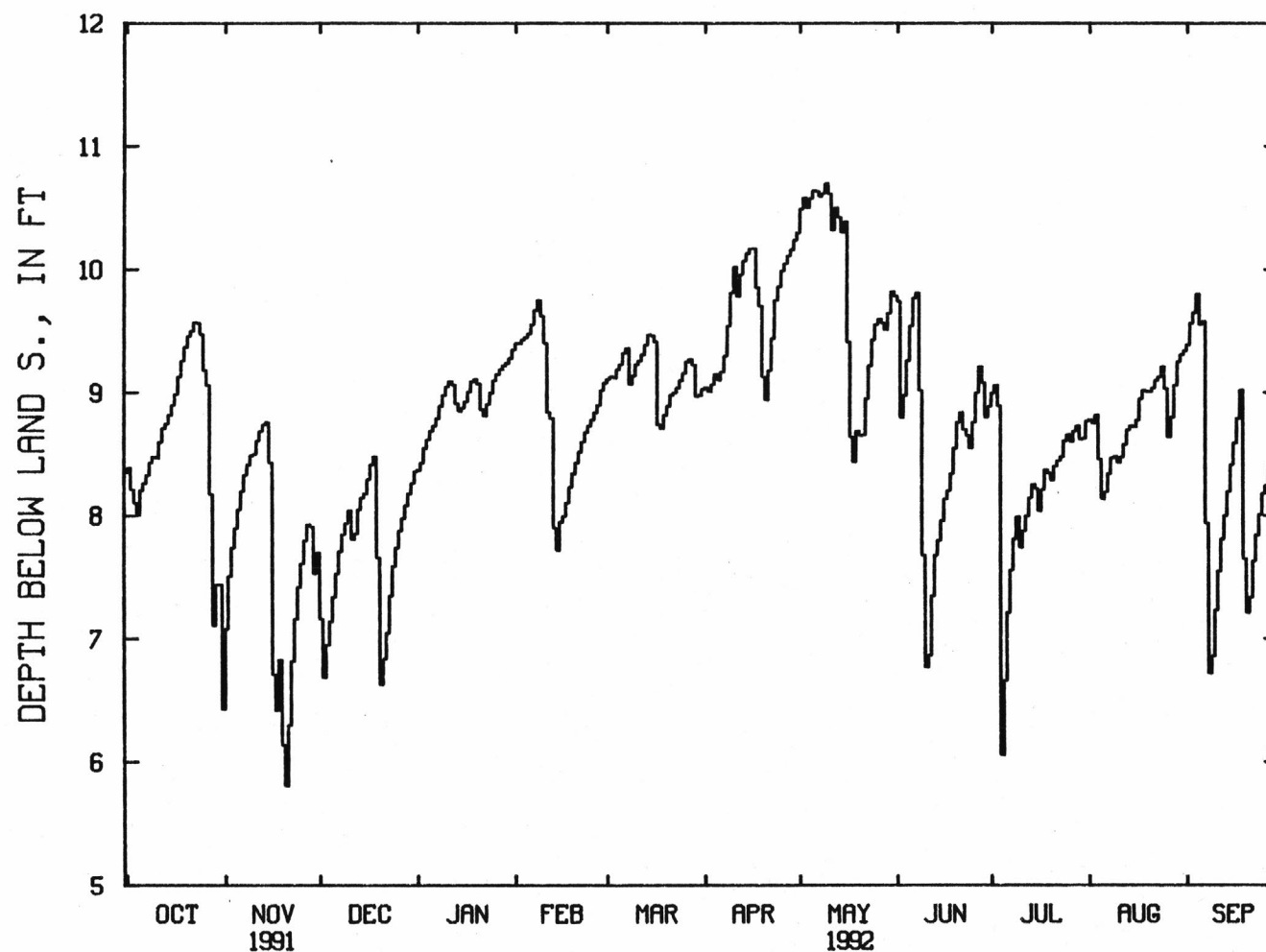
DATUM--1,268 ft above sea level.

Measuring point: Recorder shelf, 3.3 ft above land surface.

PERIOD OF RECORD--October 17, 1989 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.35	6.43	7.70	8.36	9.35	9.08	9.03	10.30	9.78	8.89	8.77	9.34
2	8.39	7.08	7.16	8.37	9.40	9.11	9.04	10.49	9.74	9.00	8.78	9.39
3	8.21	7.51	6.69	8.43	9.40	9.13	9.01	10.58	8.80	9.06	8.75	9.56
4	8.10	7.74	6.95	8.55	9.43	9.12	9.07	10.50	8.98	8.89	8.82	9.65
5	8.01	7.90	7.14	8.62	9.45	9.19	9.15	10.58	9.26	6.06	8.46	9.80
6	8.21	8.05	7.34	8.69	9.48	9.23	9.10	10.64	9.54	6.66	8.13	9.55
7	8.27	8.20	7.53	8.73	9.55	9.32	9.17	10.63	9.77	7.21	8.20	9.58
8	8.33	8.33	7.71	8.79	9.67	9.36	9.30	10.59	9.81	7.56	8.34	7.94
9	8.43	8.41	7.85	8.89	9.75	9.07	9.54	10.62	9.02	7.81	8.47	6.72
10	8.48	8.49	7.94	8.98	9.62	9.14	9.81	10.70	7.68	7.99	8.48	6.86
11	8.47	8.50	8.04	9.05	9.40	9.23	10.02	10.61	6.77	7.74	8.43	7.23
12	8.60	8.61	7.81	9.09	8.84	9.26	9.78	10.32	6.87	7.88	8.48	7.55
13	8.71	8.69	7.86	9.06	8.79	9.31	9.96	10.50	7.35	8.00	8.58	7.81
14	8.75	8.74	8.05	8.91	7.90	9.39	10.07	10.42	7.68	8.14	8.70	8.00
15	8.82	8.76	8.14	8.85	7.72	9.47	10.13	10.30	7.80	8.26	8.73	8.20
16	8.90	8.43	8.18	8.88	7.95	9.46	10.17	10.39	7.96	8.22	8.72	8.41
17	8.99	6.71	8.30	8.93	8.00	9.41	10.17	9.41	8.13	8.04	8.78	8.59
18	9.13	6.42	8.41	9.01	8.10	8.74	9.85	8.64	8.21	8.22	8.95	8.79
19	9.26	6.83	8.48	9.09	8.24	8.71	9.70	8.44	8.34	8.37	9.02	9.02
20	9.37	6.14	7.66	9.11	8.34	8.82	9.13	8.69	8.55	8.34	9.01	7.65
21	9.46	5.81	6.63	9.07	8.43	8.89	8.94	8.65	8.76	8.29	9.01	7.21
22	9.50	6.30	6.84	8.86	8.52	8.98	9.18	8.66	8.84	8.40	9.04	7.34
23	9.57	6.82	7.05	8.81	8.60	9.00	9.44	8.95	8.70	8.45	9.10	7.63
24	9.56	7.16	7.35	8.91	8.68	9.04	9.75	9.22	8.65	8.48	9.13	7.84
25	9.47	7.42	7.59	9.00	8.73	9.10	9.86	9.43	8.55	8.61	9.21	8.01
26	9.18	7.61	7.74	9.10	8.78	9.16	9.99	9.55	8.76	8.66	9.03	8.18
27	9.06	7.80	7.88	9.15	8.84	9.25	10.05	9.60	9.00	8.60	8.64	8.25
28	8.17	7.93	7.98	9.19	8.90	9.27	10.11	9.56	9.21	8.69	8.80	8.41
29	7.11	7.91	8.08	9.22	9.02	9.22	10.16	9.51	9.08	8.73	9.06	8.57
30	7.44	7.53	8.18	9.24	---	8.97	10.24	9.65	8.80	8.62	9.25	8.72
31	7.44	---	8.27	9.28	---	8.98	---	9.82	---	8.63	9.31	---
MEAN	8.64	7.61	7.69	8.91	8.86	9.14	9.63	9.87	8.61	8.21	8.78	8.33
MAX	9.57	8.76	8.48	9.28	9.75	9.47	10.24	10.70	9.81	9.06	9.31	9.80
MIN	7.11	5.81	6.63	8.36	7.72	8.71	8.94	8.44	6.77	6.06	8.13	6.72



371240093174501 MAIN STREET WELL AT SPRINGFIELD 6
MEAN DAILY DEPTH BELOW LAND S. (FT)

COUNTY--Greene

WELL IDENTIFICATION NUMBER--370912093231101

LOCATION--Lat 37°09'12", long 93°23'11", T.28 N., R.22 W., 7bbb, from State Highway 13, U.S. 60-166 Highway and Haseltine Road in Springfield, go south on Haseltine Road to Walnut Lawn Road, go east on Walnut Lawn Road for 500 ft to City Utilities Substation, on south side of road.

FORMATIONS OPEN TO THE WELL--Keokuk Limestone, Burlington Limestone, and Elsey Formation.

WELL CHARACTERISTICS--Total depth 190 ft, 30 ft of casing.

INSTRUMENTATION--Digital recorder installed March 8, 1990.

DATUM--1,250 ft above sea level.

Measuring point: Base of recorder platform, 3.0 ft above land surface.

REMARKS--Several days missing when float was hung.

PERIOD OF RECORD--March 8, 1990 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124.64	111.79	112.40	110.24	120.45	112.59	118.29	121.52	120.88	116.97	120.03	123.42
2	125.01	112.48	112.12	113.15	120.65	112.68	120.00	121.56	121.44	119.62	121.82	121.40
3	125.06	115.94	111.70	113.22	120.81	112.77	120.63	121.73	115.62	117.43	121.35	122.76
4	120.32	118.51	111.68	112.55	120.92	112.74	120.88	121.41	113.33	117.87	121.46	123.96
5	118.54	120.50	111.72	112.39	122.16	112.82	121.75	122.62	117.76	111.59	119.67	123.51
6	121.31	121.37	111.92	112.44	122.08	112.95	121.68	122.56	121.17	111.75	110.35	119.65
7	120.61	121.38	110.31	112.56	121.43	112.45	121.80	122.65	121.87	111.58	112.73	118.35
8	123.57	121.31	113.16	112.66	121.58	115.67	121.91	122.65	122.50	112.45	112.07	117.24
9	123.81	121.48	112.34	112.09	121.84	114.16	120.96	122.73	117.46	112.57	116.22	111.66
10	128.69	122.67	112.41	115.18	121.12	112.11	123.07	122.77	111.89	112.46	117.90	111.68
11	124.98	122.92	112.46	116.46	118.49	115.37	122.38	122.76	111.55	113.01	115.21	111.84
12	124.58	114.46	112.47	115.79	115.51	116.89	117.94	116.99	111.74	112.82	115.55	111.36
13	127.32	124.22	112.37	116.68	112.86	117.82	118.16	120.12	111.93	112.53	120.72	112.85
14	126.13	123.28	112.44	113.99	112.05	118.67	121.41	121.16	110.96	112.70	121.73	112.56
15	126.15	122.49	112.57	114.78	111.44	119.08	120.98	116.46	113.15	112.74	121.88	112.66
16	126.17	120.56	112.67	115.56	111.53	119.94	121.58	120.82	112.83	112.73	122.68	110.60
17	126.18	113.05	112.73	---	111.63	120.58	121.00	115.81	112.39	112.87	122.77	115.43
18	126.21	111.51	110.63	---	111.70	114.87	115.10	112.54	112.36	112.71	122.84	116.40
19	126.21	111.12	115.04	---	111.77	112.69	109.10	112.64	112.46	112.80	122.86	116.10
20	126.23	110.87	115.23	---	111.79	110.54	112.94	110.48	112.69	113.49	118.72	114.60
21	126.23	111.56	110.79	---	111.87	115.71	112.52	112.88	110.57	112.68	121.59	111.62
22	126.23	111.84	111.09	---	111.95	116.35	112.66	112.19	114.58	113.31	122.13	111.64
23	126.23	112.39	111.85	---	110.64	118.07	111.23	116.36	114.65	114.62	122.11	111.70
24	126.24	112.42	111.41	---	112.30	118.67	114.52	118.04	112.65	116.07	123.60	111.77
25	124.81	112.60	111.47	---	113.17	118.91	116.01	119.50	112.70	118.73	123.70	111.92
26	123.28	111.81	111.54	---	113.24	119.71	117.21	120.56	113.49	119.06	123.18	111.12
27	121.41	116.52	111.61	---	112.39	119.61	118.67	121.48	117.15	113.39	113.45	112.24
28	121.14	115.48	111.68	---	112.41	120.28	119.38	121.35	119.43	117.69	114.05	112.72
29	112.64	116.91	111.79	119.50	112.51	120.54	120.43	120.54	117.77	120.69	121.41	112.64
30	114.30	112.90	111.89	119.44	---	115.33	122.11	120.76	111.08	120.83	122.73	111.98
31	117.90	---	110.79	120.48	---	115.37	---	121.73	---	114.87	118.33	---
MEAN	123.62	116.54	112.07	---	115.60	116.00	118.54	119.27	115.00	114.67	119.51	114.91
MAX	128.69	124.22	115.23	---	122.16	120.58	123.07	122.77	122.50	120.83	123.70	123.96
MIN	112.64	110.87	110.31	---	110.64	110.54	109.10	110.48	110.57	111.58	110.35	110.60

11-York Street

COUNTY--Greene

WELL IDENTIFICATION NUMBER--371233093212901

LOCATION--Lat 37°12'33", long 93°21'29", T.29 N., R.22 W., 20abc, from west Chestnut Expressway and west 160 Bypass in Springfield, go west on Chestnut Expressway to Eldon Avenue, south on Eldon Avenue to Dover Street, east on Dover Street to Troy Avenue, south on Troy Avenue to White Pine Street, west on White Pine Street to York Avenue, north on York Avenue, well on east side of York Avenue, south of brick well house between gray and red brick houses.

FORMATIONS OPEN TO THE WELL--Keokuk Limestone, Burlington Limestone, Reeds Spring Formation, and Pierson Formation.

WELL CHARACTERISTICS--Total depth 260 ft, 20 ft of casing.

INSTRUMENTATION--Digital recorder.

DATUM--1,244 ft above sea level.

Measuring point: Recorder shelf, 3.0 ft above land surface.

PERIOD OF RECORD--October 18, 1989 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67.75	36.94	29.87	29.80	45.51	31.63	32.07	32.39	40.81	36.36	45.69	56.06
2	68.07	39.14	26.09	31.10	46.25	32.15	32.21	33.83	40.97	38.06	46.99	56.90
3	68.38	43.12	22.09	32.33	46.97	32.49	32.26	35.31	39.05	39.48	48.28	58.23
4	68.41	46.25	22.54	33.70	47.71	32.67	32.23	36.14	37.68	39.80	49.60	59.81
5	68.39	48.22	22.75	34.80	48.34	32.43	33.05	37.10	38.61	21.64	42.57	61.25
6	68.32	50.09	22.93	35.98	48.85	32.56	33.43	38.28	39.54	21.23	27.20	62.27
7	68.32	52.32	23.55	37.09	49.29	33.25	33.76	38.91	40.84	21.97	26.88	62.55
8	68.39	54.17	25.91	38.28	49.79	33.50	33.94	39.14	41.87	22.38	29.20	51.74
9	68.60	55.56	29.14	39.63	50.55	31.40	34.01	39.96	34.66	22.67	32.04	22.71
10	68.82	57.03	31.39	40.81	51.11	30.25	34.33	41.18	21.03	22.84	34.66	22.03
11	68.94	58.67	32.44	41.61	51.10	31.02	34.68	42.25	20.59	22.60	37.00	22.51
12	69.05	60.06	30.48	42.26	42.24	31.37	34.22	42.24	21.40	22.75	39.24	22.78
13	69.32	60.94	28.38	43.15	36.64	31.95	33.78	42.66	21.98	22.86	41.61	23.28
14	69.46	61.79	30.94	43.85	25.77	32.08	34.00	42.49	22.34	22.99	43.80	26.73
15	69.60	62.72	33.03	44.30	21.27	32.50	34.61	42.14	22.62	23.64	45.91	31.12
16	69.76	60.97	34.18	44.68	21.91	32.42	35.42	43.04	22.78	24.35	48.01	34.44
17	69.85	35.30	35.33	44.68	22.12	32.01	34.97	41.68	22.89	22.90	50.14	37.27
18	70.00	21.82	36.76	44.71	22.41	27.98	25.86	37.81	23.05	23.69	52.02	39.71
19	70.24	22.53	37.60	45.21	22.66	26.06	23.05	36.49	23.58	26.73	53.50	41.81
20	70.34	22.27	29.63	45.55	22.76	27.74	22.30	36.85	25.58	29.87	54.53	32.31
21	70.37	22.04	20.61	46.14	22.84	28.16	21.98	35.95	28.20	32.04	55.54	22.64
22	70.41	22.52	21.36	45.27	22.93	28.49	22.61	33.68	29.96	34.09	56.64	22.69
23	70.51	22.83	21.96	43.45	23.05	29.81	22.82	34.73	30.52	35.67	57.73	22.86
24	70.63	23.50	22.38	43.34	23.53	30.45	23.02	35.94	30.77	36.07	58.95	23.26
25	70.77	26.49	22.64	42.93	24.93	30.86	23.40	36.91	31.57	37.64	60.17	25.48
26	70.90	29.71	22.79	42.98	26.43	31.35	24.84	38.08	33.33	39.19	60.79	28.11
27	70.94	32.74	22.91	43.33	27.91	32.10	26.90	39.01	35.15	40.22	53.84	29.17
28	70.94	35.19	23.05	43.74	29.41	32.52	28.66	39.59	36.58	41.83	51.92	32.08
29	65.57	36.84	23.61	43.76	30.90	32.57	30.04	39.48	37.24	42.98	51.96	34.72
30	65.66	29.92	25.60	43.95	---	32.41	31.23	39.48	35.15	43.73	53.26	36.73
31	61.92	---	27.91	44.66	---	32.14	---	40.23	---	44.05	54.86	---
MEAN	68.99	41.06	27.09	41.20	34.66	31.24	29.99	38.48	31.01	30.85	47.24	36.77
MAX	70.94	62.72	37.60	46.14	51.11	33.50	35.42	43.04	41.87	44.05	60.79	62.55
MIN	61.92	21.82	20.61	29.80	21.27	26.06	21.98	32.39	20.59	21.23	26.88	22.03

2-Lower Eleven Point

COUNTY--Oregon

WELL IDENTIFICATION NUMBER--364810091191401

LOCATION--Lat 36°48'10", long 91°19'14", T.25 N., R.3 W., 30dac, from Eleven Point River, go north on Highway 19 for 1.0 mi, turn east on logging road for 0.4 mi, well on left.

FORMATION OPEN TO THE WELL--Roubidoux Formation, Gasconade Dolomite, Eminence Dolomite, Potosi Dolomite, and Derby-Doerun Dolomite.

WELL CHARACTERISTICS--Well plugged at 1,650 ft, approximately 210 ft of 6 1/4-in casing.

INSTRUMENTATION--Digital recorder installed October 19, 1989.

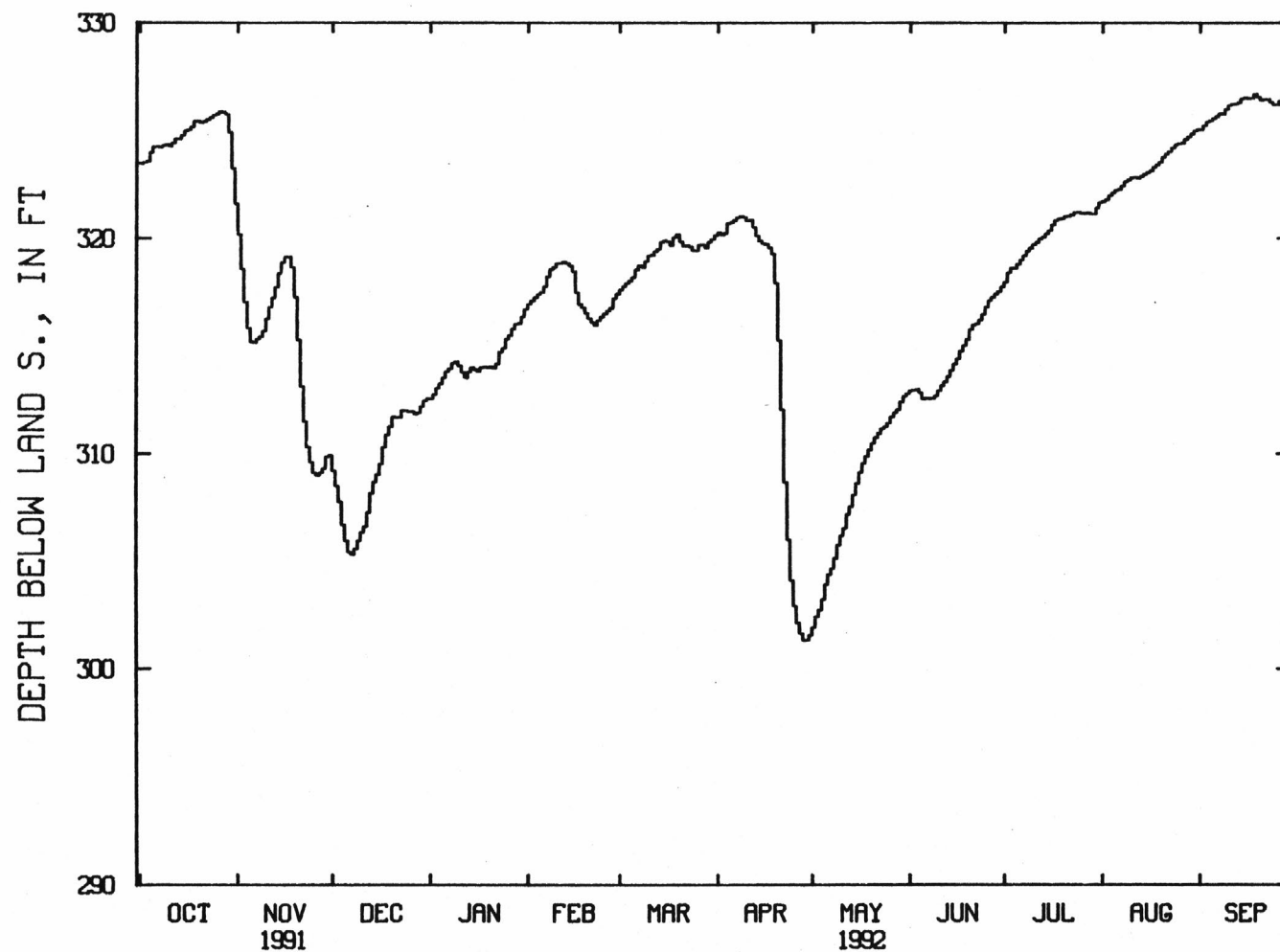
DATUM--883 ft above sea level.

Measuring point: Base of recorder platform, 3.0 ft above land surface.

PERIOD OF RECORD--October 19, 1989 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	323.48	321.60	309.92	312.57	316.72	317.43	320.15	301.59	312.81	317.76	321.68	325.06
2	323.46	320.17	309.19	312.56	316.95	317.62	320.27	301.95	312.94	317.96	321.73	325.05
3	323.55	318.54	308.51	312.77	317.11	317.78	320.16	302.45	312.96	318.37	321.81	325.25
4	323.58	317.05	307.76	313.07	317.27	317.91	320.26	302.75	312.99	318.60	322.00	325.42
5	324.00	315.83	306.69	313.26	317.41	318.02	320.70	303.25	312.81	318.60	322.13	325.46
6	324.25	315.20	305.95	313.54	317.51	318.18	320.74	303.95	312.53	318.81	322.24	325.57
7	324.27	315.17	305.42	313.82	317.77	318.51	320.83	304.40	312.59	319.04	322.28	325.67
8	324.23	315.35	305.32	313.96	318.20	318.73	320.96	304.68	312.56	319.23	322.45	325.79
9	324.33	315.45	305.60	314.22	318.54	318.62	321.02	305.14	312.57	319.42	322.64	325.75
10	324.36	315.71	305.97	314.27	318.65	319.00	320.96	305.77	312.71	319.56	322.72	326.00
11	324.26	316.27	306.37	314.07	318.85	319.22	320.81	306.20	312.95	319.72	322.83	326.18
12	324.44	316.82	306.63	313.77	318.85	319.24	320.85	306.55	313.18	319.82	322.84	326.23
13	324.64	317.25	307.28	313.53	318.92	319.40	320.49	307.20	313.35	319.99	322.79	326.24
14	324.62	317.74	308.17	313.82	318.81	319.51	320.11	307.57	313.60	320.07	322.89	326.31
15	324.79	318.34	308.69	314.02	318.68	319.83	319.87	308.10	313.89	320.22	322.98	326.48
16	325.00	318.90	309.04	313.89	318.42	319.90	319.75	308.63	314.18	320.37	323.06	326.53
17	325.04	319.17	309.54	313.83	317.49	319.85	319.73	309.14	314.42	320.63	323.15	326.50
18	325.19	319.16	310.31	314.03	316.93	319.65	319.56	309.57	314.77	320.84	323.31	326.51
19	325.44	318.58	310.89	314.05	316.77	320.06	319.29	309.88	315.04	320.89	323.42	326.71
20	325.42	317.27	311.27	314.02	316.51	320.18	317.92	310.19	315.31	320.93	323.55	326.53
21	325.36	315.28	311.72	314.07	316.27	319.83	315.26	310.50	315.78	321.01	323.79	326.40
22	325.43	313.12	311.69	313.97	316.09	319.63	312.05	310.77	315.99	321.04	323.93	326.46
23	325.52	311.50	311.70	314.21	315.97	319.68	308.67	310.96	316.03	321.10	324.04	326.46
24	325.61	310.31	312.03	314.73	316.20	319.60	306.01	311.18	316.21	321.20	324.21	326.30
25	325.72	309.61	312.01	314.91	316.36	319.44	304.13	311.27	316.48	321.22	324.35	326.20
26	325.77	309.11	311.95	315.33	316.50	319.44	302.93	311.45	316.82	321.15	324.41	326.20
27	325.88	309.00	311.97	315.50	316.64	319.72	302.15	311.72	317.13	321.16	324.42	326.40
28	325.83	309.14	311.83	315.81	316.77	319.71	301.65	311.92	317.28	321.19	324.60	326.56
29	325.74	309.34	311.93	316.03	317.23	319.56	301.34	312.06	317.42	321.13	324.72	326.77
30	324.90	309.87	312.22	316.06	---	319.85	301.38	312.41	317.54	321.14	324.85	326.81
31	323.23	---	312.47	316.37	---	319.98	---	312.68	---	321.44	325.00	---
MEAN	324.75	315.19	309.36	314.20	317.39	319.20	315.33	307.93	314.49	320.12	323.25	326.13
MAX	325.88	321.60	312.47	316.37	318.92	320.18	321.02	312.68	317.54	321.44	325.00	326.81
MIN	323.23	309.00	305.32	312.56	315.97	317.43	301.34	301.59	312.53	317.76	321.68	325.05



364810091191401 LOWER ELEVEN POINT WELL NEAR GREER, MO.
MEAN DAILY DEPTH BELOW LAND S. (FT)

COUNTY--Phelps

WELL IDENTIFICATION NUMBER--375731091465801

LOCATION--Lat 37°57'31", long 91°46'58", T.37 N., R.8 W., sec. 2, at west end of Highway E overpass of I-44, north on White Columns Drive, in well house in backyard of Kappa Sigma Fraternity.

FORMATIONS OPEN TO WELL--Upper Gasconade, Lower Gasconade, Gunter Sandstone, Eminence Dolomite, Potosi Dolomite, Derby-Doerun Dolomite.

WELL CHARACTERISTICS--Total depth 1,205 ft, 390 ft casing.

INSTRUMENTATION--Digital recorder.

DATUM--1,010 ft above sea level.

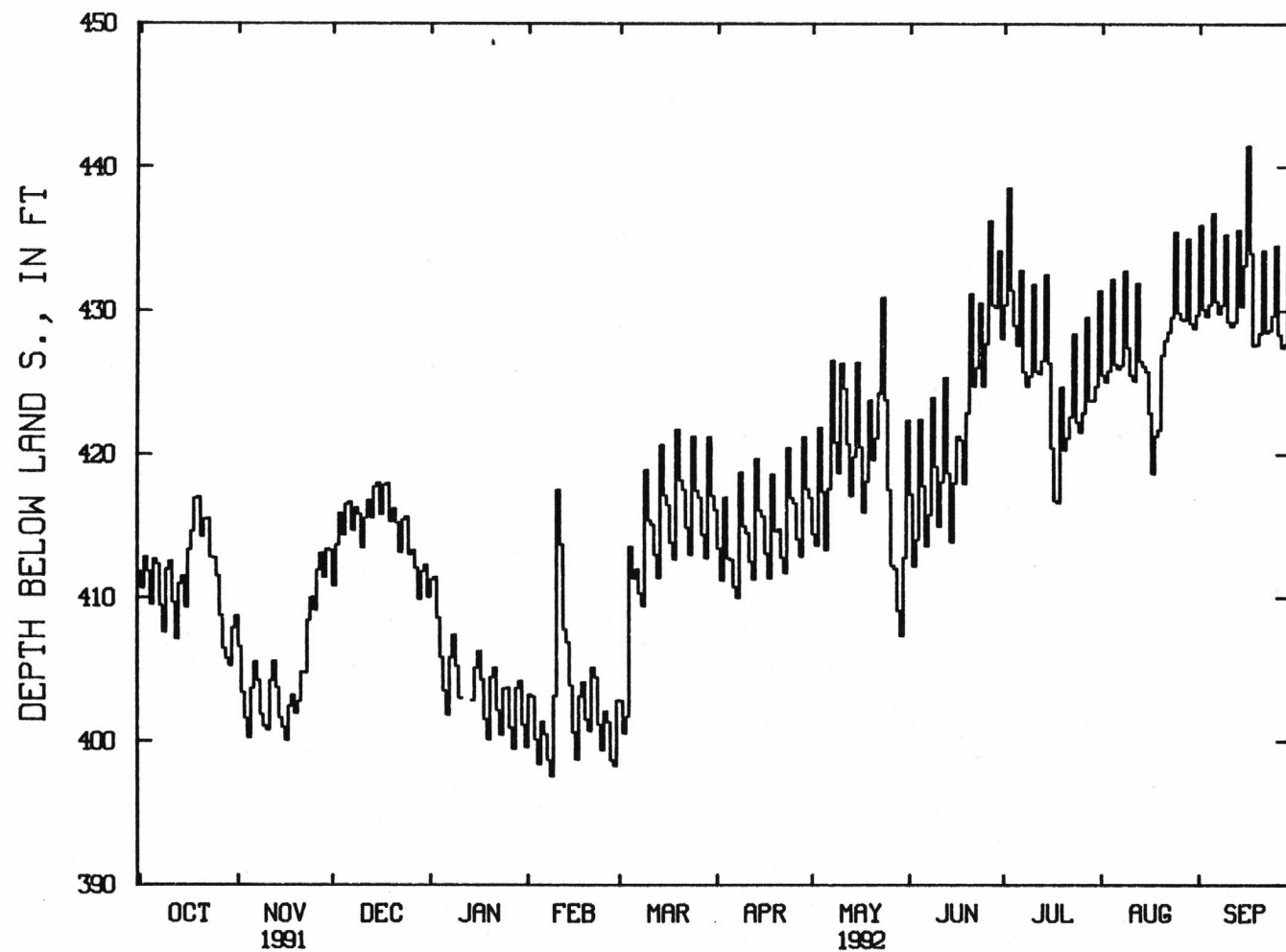
Measuring point: Top of casing 2 ft above land surface.

REMARKS--Several days missing when float was hung.

PERIOD OF PROCESSED RECORD--August 1991 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	411.84	408.73	413.27	410.07	399.59	402.85	416.12	416.98	422.37	428.07	431.42	429.76
2	410.65	406.60	410.86	411.29	403.24	402.80	413.47	414.47	417.22	430.44	425.55	435.97
3	412.77	403.41	413.78	411.43	403.10	400.54	411.24	413.72	412.22	438.55	425.09	430.13
4	411.83	401.60	415.89	408.62	400.13	401.77	417.00	421.87	414.12	431.43	425.88	429.63
5	409.52	400.28	414.40	405.86	398.42	413.61	412.69	417.40	422.44	428.98	432.22	430.47
6	412.64	403.70	416.54	403.53	401.36	411.36	412.62	413.35	417.80	427.61	426.30	436.80
7	412.30	405.55	416.70	401.88	400.46	412.00	410.77	417.60	413.67	432.82	425.99	430.66
8	409.45	404.23	414.72	405.86	398.69	410.31	410.01	426.55	415.81	425.77	426.26	429.84
9	407.62	401.89	416.29	407.43	397.56	409.44	418.74	420.86	423.96	424.78	432.77	430.45
10	411.99	401.08	415.81	405.25	403.16	418.91	415.02	418.71	419.14	425.50	427.45	435.32
11	412.50	400.79	413.51	403.03	417.53	415.40	414.52	426.33	415.01	431.84	425.55	429.24
12	409.66	404.24	415.59	---	413.76	415.11	412.48	424.58	418.10	425.80	425.15	428.94
13	407.16	405.59	416.79	---	407.79	412.94	411.32	420.74	425.35	425.63	431.94	429.25
14	410.98	403.73	415.59	---	406.90	411.43	419.69	417.13	418.70	426.57	426.50	435.65
15	411.50	401.65	417.76	402.87	403.91	420.65	416.08	419.85	413.99	432.52	426.15	430.34
16	409.35	401.00	418.01	405.15	400.62	417.14	415.70	426.41	418.01	426.38	425.76	433.18
17	413.36	400.08	415.84	406.32	398.74	416.46	413.05	420.53	421.26	420.47	422.89	441.50
18	414.65	402.47	417.87	404.31	403.14	413.90	411.39	415.99	420.97	416.79	418.70	434.03
19	416.93	403.23	417.98	401.56	404.11	412.65	418.60	418.12	417.98	416.67	421.29	427.59
20	417.03	401.96	415.32	400.14	401.52	421.72	414.65	423.80	422.92	424.71	421.73	427.68
21	414.32	402.83	416.25	404.49	400.72	418.20	414.82	419.63	431.19	420.35	426.93	428.47
22	415.52	404.85	415.22	405.15	405.14	417.54	412.73	421.16	424.79	421.19	427.94	434.21
23	415.53	404.80	413.15	402.15	404.44	414.90	411.76	424.27	426.09	422.65	428.53	428.51
24	412.77	408.43	415.47	400.47	401.18	412.95	420.48	430.92	430.55	428.39	429.57	428.70
25	412.76	410.05	415.65	403.68	399.39	421.24	416.96	423.80	424.79	422.26	435.50	429.69
26	411.54	409.13	412.96	403.75	402.10	417.47	416.60	417.54	427.71	421.57	429.86	434.55
27	408.77	411.93	413.32	400.96	401.32	416.99	414.13	412.25	436.25	422.93	429.42	428.33
28	406.48	413.06	412.08	399.47	398.68	414.42	412.84	412.02	430.41	429.54	429.35	427.44
29	405.78	411.43	409.94	403.71	398.29	412.72	421.21	409.10	430.25	423.78	435.03	427.68
30	405.30	413.43	411.86	404.22	---	421.22	417.59	407.39	434.18	423.79	429.13	434.26
31	407.91	---	412.27	401.18	---	417.12	---	412.73	---	424.79	428.80	---
MEAN	411.30	405.06	414.86	---	402.59	413.73	414.81	418.90	422.24	425.89	427.57	431.28
MAX	417.03	413.43	418.01	---	417.53	421.72	421.21	430.92	436.25	438.55	435.50	441.50
MIN	405.30	400.08	409.94	---	397.56	400.54	410.01	407.39	412.22	416.67	418.70	427.44



375731091465801 UMR WELL AT ROLLA, MO
MEAN DAILY DEPTH BELOW LAND S. (FT)

4-Industrial Park

COUNTY--Phelps

WELL IDENTIFICATION NUMBER--375850091432201

LOCATION--Lat 37°58'50", long 91°43'22", T.38 N., R.7 W., 29cbc, 5 mi east of Rolla, County Highway V, Phelps County Industrial Park, east 0.3 mi at water tower.

FORMATIONS OPEN TO THE WELL--Gasconade Formation and Eminence Dolomite.

WELL CHARACTERISTICS--Drilled April 1954, total depth 800 ft, 400 ft of 8-in casing, open hole.
DGLS Log Number: 25,796

INSTRUMENTATION--Digital recorder installed January 20, 1980.

DATUM--1,189 ft above sea level.

Measuring point: Base of recorder, 2.4 ft above land surface.

REMARKS--Several weeks missing when float was hung.

PERIOD OF PROCESSED RECORD--January 20, 1980 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	304.81	303.86	298.38	293.04	301.42	297.38	302.70	306.67	296.54	297.32	298.79	306.32
2	304.48	304.05	298.24	293.51	300.44	296.66	301.66	303.89	296.28	297.71	297.54	306.50
3	305.08	302.99	297.46	294.29	300.90	295.32	300.76	301.94	296.29	298.22	297.51	310.02
4	304.16	301.85	298.10	294.65	301.93	---	305.19	305.07	296.38	298.43	297.71	323.72
5	303.35	300.62	297.93	294.22	301.54	---	305.36	309.58	296.42	298.53	297.67	324.14
6	303.78	300.26	298.28	295.85	301.32	---	302.17	305.45	296.27	299.21	297.78	315.33
7	303.95	300.29	297.96	298.01	301.36	---	301.02	302.69	295.45	299.35	297.93	310.98
8	302.32	300.24	297.09	298.27	301.13	---	299.34	301.26	295.75	299.66	297.25	311.32
9	303.94	299.73	299.12	305.49	300.67	---	301.86	300.59	297.05	299.88	297.79	306.84
10	304.38	298.96	300.59	310.16	299.37	---	307.67	299.48	298.27	304.16	297.96	304.99
11	305.54	298.92	300.67	305.02	298.22	---	303.91	299.78	298.43	302.03	295.94	303.87
12	303.50	300.95	300.31	302.15	298.08	---	301.50	300.85	298.01	301.40	298.30	302.55
13	302.22	302.08	300.41	303.74	297.99	---	299.71	300.86	297.35	306.42	298.11	301.41
14	302.07	302.95	300.68	306.60	298.17	---	302.01	300.34	296.44	307.49	297.67	301.17
15	302.69	302.39	299.86	304.07	298.04	---	302.49	300.33	295.66	304.26	297.26	301.64
16	303.08	301.21	298.46	306.41	297.55	---	301.27	299.77	294.73	302.60	296.63	307.52
17	303.06	299.83	298.00	314.26	297.02	---	300.88	299.44	294.61	301.23	296.92	310.03
18	303.37	298.90	298.55	314.90	299.12	---	300.63	299.29	294.82	300.23	299.01	304.99
19	304.80	298.05	298.77	308.71	300.65	---	300.33	298.97	294.63	299.54	308.81	302.83
20	303.76	298.58	298.62	306.83	300.54	---	299.90	297.86	294.74	299.46	317.99	301.12
21	303.64	298.45	297.42	306.88	300.26	---	298.48	299.80	294.36	300.35	323.31	299.76
22	304.70	298.64	296.30	305.16	300.47	---	301.58	301.39	294.58	300.49	326.78	298.58
23	304.90	298.42	296.81	304.47	299.52	---	301.37	299.44	295.76	300.16	325.80	298.42
24	305.59	297.67	297.26	303.99	297.91	---	300.88	298.21	296.30	299.47	327.41	297.58
25	304.76	298.72	296.45	303.44	296.98	---	307.90	297.62	296.89	298.56	330.07	296.73
26	303.76	300.32	296.12	302.49	298.48	---	303.48	297.83	297.30	298.06	330.14	296.38
27	303.21	300.67	295.65	302.12	298.34	---	301.42	298.19	297.29	297.59	329.74	295.97
28	304.30	300.07	295.27	302.94	298.02	---	300.86	298.56	297.13	296.49	321.19	295.71
29	304.88	298.83	295.22	305.72	297.86	---	305.07	298.14	297.46	296.26	314.60	296.14
30	305.04	298.23	294.63	303.55	---	304.10	313.45	298.19	296.77	298.12	310.54	295.81
31	304.04	---	292.93	302.23	---	305.64	---	297.47	---	300.70	307.67	---
MEAN	303.97	300.22	297.79	303.01	299.42	---	302.49	300.61	296.27	300.11	307.48	304.28
MAX	305.59	304.05	300.68	314.90	301.93	---	313.45	309.58	298.43	307.49	330.14	324.14
MIN	302.07	297.67	292.93	293.04	296.98	---	298.48	297.47	294.36	296.26	295.94	295.71

COUNTY--Phelps

WELL IDENTIFICATION NUMBER--375749091475001

LOCATION--Lat 37°57'49", long 91°47'50", T.37 N., R.8 W., 3bab, Missouri Conservation Commission, Rolla.

FORMATIONS OPEN TO THE WELL--Cotter Formation, Jefferson City Formation, Roubidoux Formation, and Upper Gasconade Formation.

WELL CHARACTERISTICS--Drilled November 5, 1951, total depth 450 ft, 212 ft of 6-in casing.
DGLS Log Number: 11,789

INSTRUMENTATION--Digital recorder installed September 8, 1980.

DATUM--1,192 ft above sea level.

Measuring point: Base of recorder platform, 3.0 ft above land surface.

REMARKS--Several weels missing when float was hung.

PERIOD OF PROCESSED RECORD--October 1, 1988 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	353.37	352.58	351.70	---	351.37	351.21	351.66	351.36	352.69	352.84	354.94	---
2	352.67	352.63	350.87	---	351.35	351.22	351.70	351.44	---	352.92	354.73	---
3	352.29	352.96	350.94	351.15	351.26	351.15	351.19	351.99	---	353.59	354.72	---
4	351.97	352.93	351.94	351.18	351.16	351.05	350.91	351.94	---	353.73	354.72	---
5	352.63	352.33	351.68	351.03	351.02	350.90	351.63	351.83	---	353.42	354.83	---
6	353.38	352.13	351.57	350.96	350.79	350.49	351.69	352.45	---	353.49	354.82	---
7	353.33	352.60	351.10	350.96	350.75	350.71	351.61	352.65	---	353.66	354.73	---
8	352.84	352.96	350.93	350.65	350.95	350.89	351.72	352.35	---	353.61	354.72	---
9	352.77	352.76	351.54	350.92	351.34	350.45	351.66	351.90	---	353.85	354.88	---
10	352.73	352.36	351.77	351.27	351.42	350.87	351.40	352.10	---	354.06	354.70	---
11	352.09	352.12	351.70	351.10	351.77	351.14	351.46	352.21	---	354.16	---	---
12	352.05	352.14	351.16	350.92	351.37	351.02	352.40	351.75	352.26	354.03	---	---
13	352.18	351.67	351.32	350.92	350.96	351.30	352.41	352.14	352.12	354.03	---	---
14	351.99	351.28	352.34	350.90	350.35	351.22	352.11	352.04	351.86	354.01	---	---
15	352.07	351.27	352.72	351.16	349.92	351.78	351.80	352.11	351.90	354.01	---	---
16	352.37	351.54	---	351.39	350.89	351.56	351.35	352.31	352.38	354.02	---	---
17	352.20	350.98	---	351.18	350.45	351.00	351.39	352.47	352.25	354.13	---	---
18	352.30	350.50	---	351.70	350.25	350.30	350.88	352.76	352.35	354.30	---	---
19	352.96	350.56	---	351.61	351.00	350.85	350.53	352.80	352.50	354.36	---	---
20	352.74	350.79	---	351.25	351.32	351.73	350.16	352.86	352.78	354.41	---	---
21	352.21	351.15	---	351.21	351.24	351.23	350.47	352.96	353.13	354.43	---	---
22	351.99	350.84	---	350.33	351.15	351.04	351.14	352.91	353.00	354.37	---	---
23	351.90	350.86	---	350.11	350.76	351.52	351.22	352.78	352.61	354.53	---	---
24	351.81	351.31	---	350.97	350.94	351.59	351.63	352.82	352.35	355.01	---	---
25	351.92	351.74	---	350.91	351.11	351.63	351.66	352.43	352.20	354.62	---	---
26	352.14	351.54	---	351.54	351.04	351.41	351.87	352.18	352.71	354.36	---	---
27	352.12	351.35	---	351.45	350.91	351.91	352.09	352.24	353.07	354.29	---	---
28	351.76	351.13	---	351.82	350.90	351.85	351.99	352.32	352.92	354.50	---	---
29	351.94	350.69	---	351.92	351.15	351.24	351.67	352.19	352.94	354.26	---	---
30	352.68	351.00	---	351.32	---	351.50	351.42	352.34	352.97	354.10	---	---
31	352.59	---	---	351.26	---	351.53	---	352.67	---	354.44	---	---
MEAN	352.39	351.69	---	---	351.00	351.20	351.49	352.30	---	354.05	---	---
MAX	353.38	352.96	---	---	351.77	351.91	352.41	352.96	---	355.01	---	---
MIN	351.76	350.50	---	---	349.92	350.30	350.16	351.36	---	352.84	---	---

COUNTY--Phelps

WELL IDENTIFICATION NUMBER--375625091480401

LOCATION--Lat 37°56'25", long 91°48'4", T.37 N., R.8 W., 10cca, National 9 Inn (formerly Holiday Inn).

FORMATIONS OPEN TO THE WELL--Gunter Sandstone Member of the Gasconade Formation and Eminence Dolomite.

WELL CHARACTERISTICS--Drilled July 1, 1962, total depth 650 ft, 420 ft of 6-in casing, open hole.

INSTRUMENTATION--Graphic recorder installed January 2, 1968.

DATUM--975 ft above sea level of 1929.

Measuring point: Base of recorder platform, 1.8 ft above land surface.

REMARKS--Several weeks missing when float was hung.

PERIOD OF PROCESSED RECORD--November 7, 1983 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	173.77	---	---	171.22	174.45	173.57	175.70	176.65	178.05	180.77	180.11	179.60
2	177.43	---	---	170.58	174.53	172.70	174.73	178.85	177.65	179.88	179.16	180.43
3	178.90	---	---	170.10	173.44	172.24	175.30	179.15	178.96	180.30	178.57	180.30
4	182.50	---	---	170.43	172.45	173.78	175.83	177.77	179.24	180.37	180.46	180.73
5	182.88	---	---	172.88	173.75	173.87	175.60	177.42	178.15	180.55	180.65	179.17
6	180.72	168.88	---	173.05	173.63	173.28	174.83	179.12	177.90	180.77	179.93	178.77
7	178.31	169.20	---	171.93	172.68	173.12	176.95	179.13	178.70	179.63	179.26	179.75
8	179.52	169.40	---	170.93	172.07	174.70	177.35	178.40	177.83	178.50	180.36	180.72
9	---	169.10	---	173.39	173.60	174.46	176.43	177.90	177.08	177.88	180.62	179.37
10	---	168.17	---	174.32	173.86	173.80	175.60	179.90	177.10	179.43	180.31	178.84
11	---	167.57	---	173.04	173.06	173.32	175.33	179.73	178.80	179.55	180.17	179.85
12	---	167.88	---	172.31	172.81	173.44	174.54	178.88	178.63	178.70	179.67	180.50
13	---	168.20	---	173.82	174.50	174.73	174.87	178.74	177.90	177.87	180.15	178.93
14	---	168.23	---	174.24	174.72	174.92	175.75	180.40	177.70	179.62	180.67	178.88
15	---	168.47	---	173.22	173.95	174.26	175.73	180.60	179.37	180.26	180.25	179.89
16	---	168.18	173.30	172.27	173.47	173.38	175.64	179.72	179.53	180.25	180.23	180.74
17	---	167.12	173.33	174.33	174.38	173.27	174.17	179.25	178.93	180.60	179.40	180.50
18	---	166.15	173.21	174.69	174.36	175.10	174.12	179.76	178.87	179.93	180.22	179.12
19	---	166.58	173.18	173.83	173.60	175.82	175.26	179.27	180.55	179.95	180.78	178.37
20	---	168.45	172.67	174.79	173.30	175.25	175.67	178.44	180.60	178.85	179.80	179.81
21	---	169.70	172.71	174.72	174.60	174.64	175.46	178.22	180.13	177.62	179.96	178.53
22	---	169.28	172.29	173.76	174.62	174.55	174.04	180.05	180.68	177.32	179.60	178.47
23	---	168.42	171.62	173.01	174.47	174.57	176.75	180.50	179.90	179.05	179.70	179.43
24	---	168.05	171.37	174.71	173.28	174.88	174.60	179.77	180.23	179.33	178.28	180.31
25	---	167.33	171.73	174.76	174.47	174.20	175.10	179.10	180.07	178.58	178.55	178.90
26	---	164.30	171.25	174.08	174.55	173.28	175.35	180.30	179.38	178.07	179.75	179.18
27	---	162.08	171.72	172.66	173.50	174.00	173.70	180.26	180.55	178.85	180.53	180.04
28	---	---	171.39	174.21	172.55	173.83	173.75	178.95	180.42	178.47	179.08	180.72
29	---	---	172.10	174.34	173.90	173.70	174.76	178.04	179.20	177.64	179.40	179.02
30	---	---	170.80	173.42	---	174.81	174.90	179.35	180.42	177.34	180.39	178.97
31	---	---	170.91	172.90	---	175.72	---	179.13	---	179.58	180.63	---
MEAN	---	---	---	173.16	173.74	174.10	175.26	179.12	179.08	179.21	179.89	179.59
MAX	---	---	---	174.79	174.72	175.82	177.35	180.60	180.68	180.77	180.78	180.74
MIN	---	---	---	170.10	172.07	172.24	173.70	176.65	177.08	177.32	178.28	178.37

COUNTY--Shannon

WELL IDENTIFICATION NUMBER--371452091134301

LOCATION--Lat 37°14'52", long 91°13'43", T.30 N., R.3 W., 36cbd, 8 mi past Midridge.

FORMATIONS OPEN TO THE WELL--Gunter Sandstone Member of the Gasconade Formation, Eminence Dolomite to 40 ft, Potosi Dolomite to 270 ft, Derby-Doerun Dolomite to 734 ft, Davis Dolomite to 827 ft, Bonnetterre Formation to 1,054 ft, Lamotte Sandstone to 1,359 ft, and Precambrian to 1,410 ft.

WELL CHARACTERISTICS--Drilled December 5, 1960, mineral test hole, total depth unknown, 190 ft of 6 1/4-in casing.

DGLS Log Number: RC-113

INSTRUMENTATION--Graphic recorder installed February 1980.

DATUM--840 ft above sea level.

Measuring point: Base of recorder platform, 2.8 ft above land surface.

REMARKS--Plugged in Davis Dolomite. Several days missing when recorder was not operational.

PERIOD OF PROCESSED RECORD--October 19, 1989 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83.09	83.40	84.40	84.60	85.21	85.03	84.98	83.44	83.70	84.23	85.28	86.35
2	83.16	83.78	83.94	84.37	85.22	85.02	85.00	83.48	83.60	84.25	85.20	86.00
3	83.12	84.01	83.83	84.40	85.21	85.00	84.80	83.66	83.40	84.50	85.18	86.16
4	83.18	84.01	84.15	84.51	85.20	84.95	84.80	83.55	83.37	84.55	85.30	86.28
5	82.92	83.77	84.08	84.50	85.17	84.90	85.15	83.62	83.43	84.42	85.33	86.25
6	82.70	83.78	84.07	84.55	85.07	84.83	85.17	83.86	83.47	84.45	85.40	86.29
7	82.73	84.05	83.95	84.60	85.12	85.00	85.07	83.85	83.67	84.50	85.35	86.32
8	82.84	84.34	83.97	84.50	85.41	85.05	85.08	83.62	83.75	84.56	85.38	86.33
9	82.82	84.35	84.24	84.60	85.63	84.85	85.05	83.55	83.72	84.62	85.45	86.26
10	82.85	84.20	84.36	84.76	85.57	84.95	84.44	83.63	83.70	84.64	85.43	86.37
11	82.95	84.30	84.37	84.67	85.63	85.05	84.28	83.59	83.72	84.67	85.43	86.62
12	83.10	84.35	84.12	84.46	85.47	85.00	84.77	83.57	83.75	84.60	85.55	87.07
13	83.23	84.28	84.23	84.37	85.24	85.15	84.83	83.64	83.72	84.60	85.69	86.53
14	83.16	84.20	84.68	84.56	84.87	85.10	84.67	83.60	83.70	84.60	85.67	86.53
15	83.27	84.34	84.72	84.86	84.53	85.33	84.57	83.62	83.72	84.67	85.73	86.61
16	83.40	84.45	84.63	84.85	84.75	85.28	84.55	83.74	83.78	84.70	85.71	86.59
17	83.37	84.31	84.63	84.80	84.50	85.08	84.50	83.82	83.78	84.82	85.71	86.50
18	83.45	83.94	84.92	85.08	84.45	84.60	83.97	83.88	83.82	84.94	85.75	86.96
19	83.68	83.96	84.98	85.00	84.63	84.64	83.21	83.85	83.87	84.94	85.74	86.61
20	83.63	83.55	84.80	84.83	84.84	84.83	83.42	83.83	83.90	84.94	85.76	86.19
21	83.44	83.60	84.65	84.80	84.80	84.71	83.12	83.80	84.07	84.94	85.82	85.77
22	83.45	83.72	84.12	84.57	84.73	84.70	83.20	83.60	84.03	84.95	85.84	86.07
23	83.50	83.94	83.90	84.58	84.58	84.93	83.37	83.12	83.82	85.00	85.85	86.43
24	83.51	84.14	84.31	85.04	84.73	84.97	83.50	---	83.80	85.10	85.95	86.43
25	83.54	84.40	84.37	85.00	84.80	84.90	83.60	---	83.85	85.10	85.99	86.37
26	83.55	84.32	84.40	85.25	84.75	84.87	83.67	---	84.00	84.98	85.97	86.34
27	83.67	84.26	84.53	85.18	84.74	85.10	83.74	---	84.10	84.86	85.90	86.51
28	83.62	84.23	84.35	85.24	84.68	85.05	83.68	---	84.25	85.00	86.00	86.60
29	83.66	84.11	84.36	85.23	85.04	84.77	83.50	83.70	84.22	85.00	86.03	86.77
30	83.77	84.29	84.54	84.96	---	84.93	83.43	83.60	84.22	84.98	86.01	86.71
31	83.57	---	84.68	85.06	---	84.97	---	83.72	---	85.17	86.17	---
MEAN	83.29	84.08	84.36	84.77	84.99	84.95	84.24	---	83.80	84.75	85.66	86.43
MAX	83.77	84.45	84.98	85.25	85.63	85.33	85.17	---	84.25	85.17	86.17	87.07
MIN	82.70	83.40	83.83	84.37	84.45	84.60	83.12	---	83.37	84.23	85.18	85.77

COUNTY--Shannon

WELL IDENTIFICATION NUMBER--371449091134102

LOCATION--Lat 37°14'49", long 91°13'41", T.30 N., R.3 W., 36cbd, 8 mi past Midridge.

FORMATIONS OPEN TO THE WELL--Gunter Sandstone Member of the Gasconade Formation, Eminence Dolomite to 40 ft, Potosi Dolomite to 235 ft, Derby-Doerun Dolomite to 734 ft, Davis Dolomite, and Bonnetterre Formation to 1,095 ft.

WELL CHARACTERISTICS--Drilled September 19, 1961, mineral test hole, total depth unknown, 958 ft of 6 1/4-in casing.

DGLS Log Number: RC-145

INSTRUMENTATION--Graphic recorder installed February 1980.

DATUM--863.30 ft above sea level.

Measuring point: Recorder platform, 1.3 ft above land surface.

REMARKS--Casing set and grouted in Davis Dolomite. Several months missing when recorder was not operational.

PERIOD OF PROCESSED RECORD--May 15, 1989 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131.90	132.50	---	---	---	133.77	134.02	133.15	132.27	132.67	133.50	134.18
2	131.82	132.70	---	---	---	133.79	134.10	133.18	132.13	132.72	133.43	134.05
3	131.85	---	---	---	---	133.79	133.94	133.30	131.99	132.82	133.42	134.22
4	131.83	---	---	---	---	133.77	133.94	133.19	131.90	132.92	133.53	134.28
5	132.10	---	---	---	---	133.73	134.20	133.20	131.95	132.82	133.55	134.28
6	132.25	---	---	---	---	133.70	134.18	133.39	131.95	132.82	133.60	134.30
7	132.22	---	---	---	---	133.80	134.17	133.37	132.08	132.90	133.55	134.32
8	132.15	---	---	---	---	133.84	134.19	133.13	132.16	132.93	133.55	134.35
9	132.16	---	---	---	---	133.68	134.18	133.14	132.13	132.98	133.62	134.20
10	132.12	---	---	---	---	133.86	134.19	133.19	132.12	132.90	133.62	134.40
11	132.03	---	---	---	---	133.82	134.06	133.16	132.10	133.02	133.65	134.48
12	132.17	---	---	---	---	133.84	134.26	133.04	132.15	133.04	133.72	134.50
13	132.23	---	---	---	133.50	133.96	134.24	133.14	132.13	133.00	133.77	134.50
14	132.18	---	---	---	133.35	133.96	134.11	133.09	132.13	133.03	133.75	134.50
15	132.23	---	---	---	133.34	134.09	134.05	133.14	132.13	133.03	133.80	134.50
16	132.37	---	---	---	133.58	134.06	134.01	133.21	132.18	133.10	133.82	134.50
17	132.33	---	---	---	133.39	133.92	134.01	133.26	132.14	133.16	133.83	134.45
18	132.48	---	---	---	133.37	133.67	133.86	133.30	132.18	133.27	133.87	134.45
19	132.62	---	---	---	133.59	133.90	133.68	133.28	132.20	133.23	133.90	134.05
20	132.59	---	---	---	133.67	134.06	133.43	133.25	132.20	133.25	133.90	134.30
21	132.50	---	---	---	133.66	133.92	133.40	133.23	132.34	133.23	133.97	134.20
22	132.52	---	---	---	133.62	133.88	133.49	133.20	132.28	133.23	133.97	134.40
23	132.53	---	---	---	133.50	134.00	133.42	133.09	132.15	133.28	133.97	134.50
24	132.51	---	---	---	133.60	134.01	133.39	133.02	132.14	133.28	134.02	134.40
25	132.54	---	---	---	133.65	133.95	133.40	132.93	132.14	133.35	134.08	134.35
26	132.55	---	---	---	133.63	133.93	133.45	133.92	132.28	133.28	134.08	134.35
27	132.59	---	---	---	133.60	134.12	133.48	132.95	132.33	133.25	134.02	134.48
28	132.55	---	---	---	133.57	134.08	133.42	132.92	132.42	133.33	134.04	134.60
29	132.62	---	---	---	133.79	133.91	133.25	132.65	132.60	133.30	134.13	134.10
30	132.68	---	---	---	---	134.03	133.17	132.23	132.64	133.28	134.13	134.10
31	132.43	---	---	---	---	133.98	---	132.32	---	133.37	134.18	---
MEAN	132.31	---	---	---	---	133.90	133.82	133.12	132.18	133.09	133.81	134.34
MAX	132.68	---	---	---	---	134.12	134.26	133.92	132.64	133.37	134.18	134.60
MIN	131.82	---	---	---	---	133.67	133.17	132.23	131.90	132.67	133.42	134.05

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The Missouri River at the Hannibal and St. Joseph railroad bridge during the flood of July 1951 at Kansas City, Missouri



Double Spring near Dora, Missouri



Sequiota Spring at Galloway, Missouri

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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U.S. Geological Survey
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