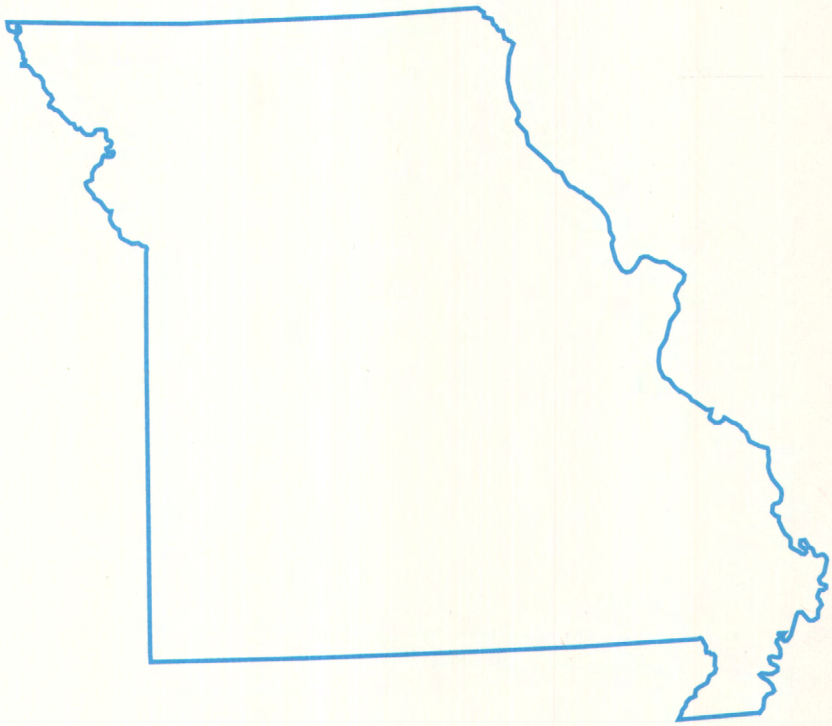
Water Resources Data Missouri Water Year 1993



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MO-93-1
Prepared in cooperation with the Missouri Department of Natural Resources, Division of Geology and Land Survey and Division of Environmental Quality; Missouri Highway and Transportation Commission; and with other State and Federal agencies

CALENDAR FOR WATER YEAR 1993

1992

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1993

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Water Resources Data Missouri Water Year 1993

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

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MO-93-1
Prepared in cooperation with the Missouri Department of Natural Resources, Division of Geology and Land Survey and Division of Environmental Quality; Missouri Highway and Transportation Commission; and with other State and Federal agencies

U.S. DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, Secretary

U.S. GEOLOGICAL SURVEY

GORDON P. EATON, 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

1994

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 Loyd A. Waite, Hydrologic Surveillance Section Chief and Marvin G. Sherrill, District Chief, Missouri.

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15. Supplementary Notes
Prepared in cooperation with Federal, State, and local agencies

16. Abstract (Limit: 200 words)
The U.S. Geological Survey, Water Resources Division, 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.

Water-resources data for the 1993 water year for Missouri consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and ground-water levels. This volume contains discharge records for 102 gaging stations; stage at 12 lakes and reservoirs; water quality at 46 sampling stations (including 2 lakes and reservoirs); and water-level records for 9 ground-water monitoring wells.

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SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

[Letter after station name designates type of data: (d) discharge, (c) chemical, (m) microbiological, (t) water temperature, (s) sediment, and (e) elevation and contents]

SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

GROUND-WATER WELLS, BY COUNTY, FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

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 and (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

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS--Continued

Station name	Station number	Drainage area (mi^2)	Period of record
Hinkson Creek at Columbia (d)	06910230	44.8	1964-76, 1986-91
Cedar Creek near Columbia (d)	06910410	70.2	1966-82, 1987-91
Moreau River near Jefferson City (d)	06910500*	561	1947-74
Chesapeake Spring at Chesapeake (d)	06918444	--	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 Urich (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
Maramec 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, 1993
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

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]

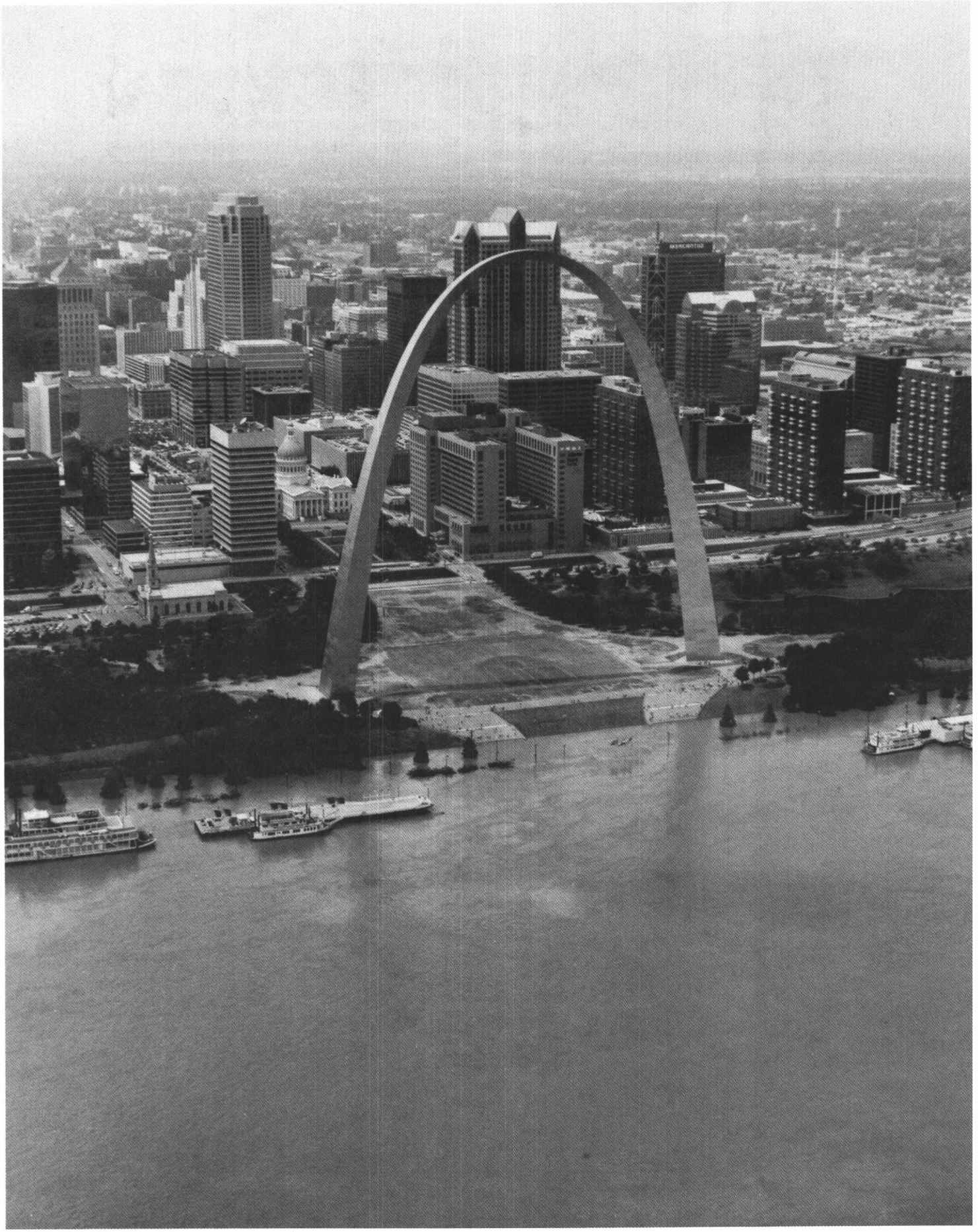
Station name	Station number	Drainage area (mi^2)	Type of record	Period of record
Des Moines River at St. Francisville	05490600	14,300	C,M,S	1967-92
Fox River at Wayland	05495000	400	C	1967-72
Mississippi River at Canton	05495150	--	C,T	1969-75
Middle Fabius River near Monticello	05498000	393	S	1980-86
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
Missouri River at St. Joseph	06818000	420,300	S	
Platte River at Platte City	06821200	--	C	1967-75
Missouri River at Sibley	06894100	--	C,T	1972-75
Missouri River at Kansas City	06893000	485,200	S	1988-91
Thompson River near Chillicothe	06899620	--	C,M	1968-75, 1983-87
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 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
Tributary to Middle Fork Tebo Creek near Leeton	06922075	--	C	1989-92
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
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
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

DISCONTINUED SURFACE-WATER-QUALITY STATIONS--Continued

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record
Big Creek at Chloride	07036940	--	C	1969-75, 1983-90
St. Francis River at St. Francis, AR	07040100	--	C	1969-75
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
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 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
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
Buffalo Creek at Tiff City	07189100	--	C	1967-75

Mississippi River at St. Louis, Missouri, near the Gateway Arch on July 22, 1993.

Wharf Street inundated by the Mississippi River near the Gateway Arch on July 22, 1993.

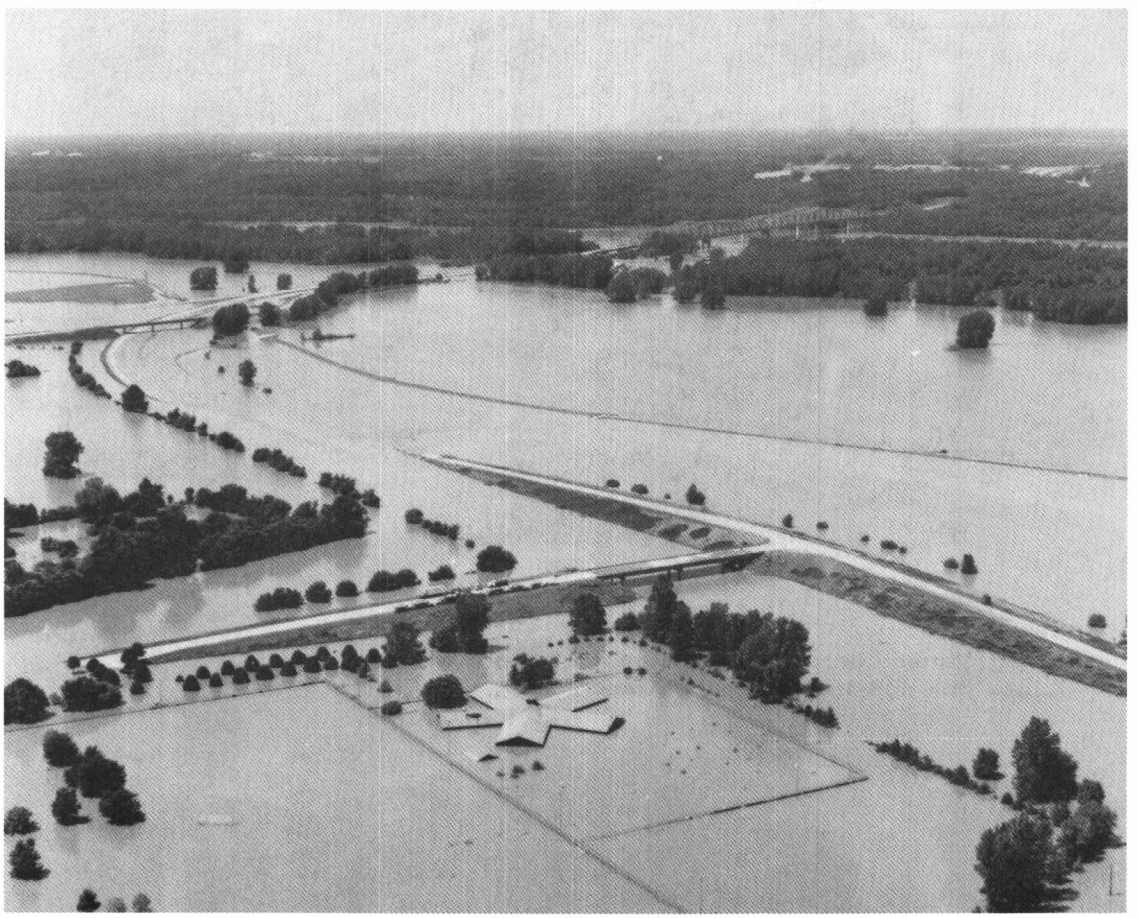


Courtesy of the Missouri Highway and Transportation Department.

Missouri River at Highway 54 at Jefferson City, Missouri (courtesy of the Missouri Highway and Transportation Department).

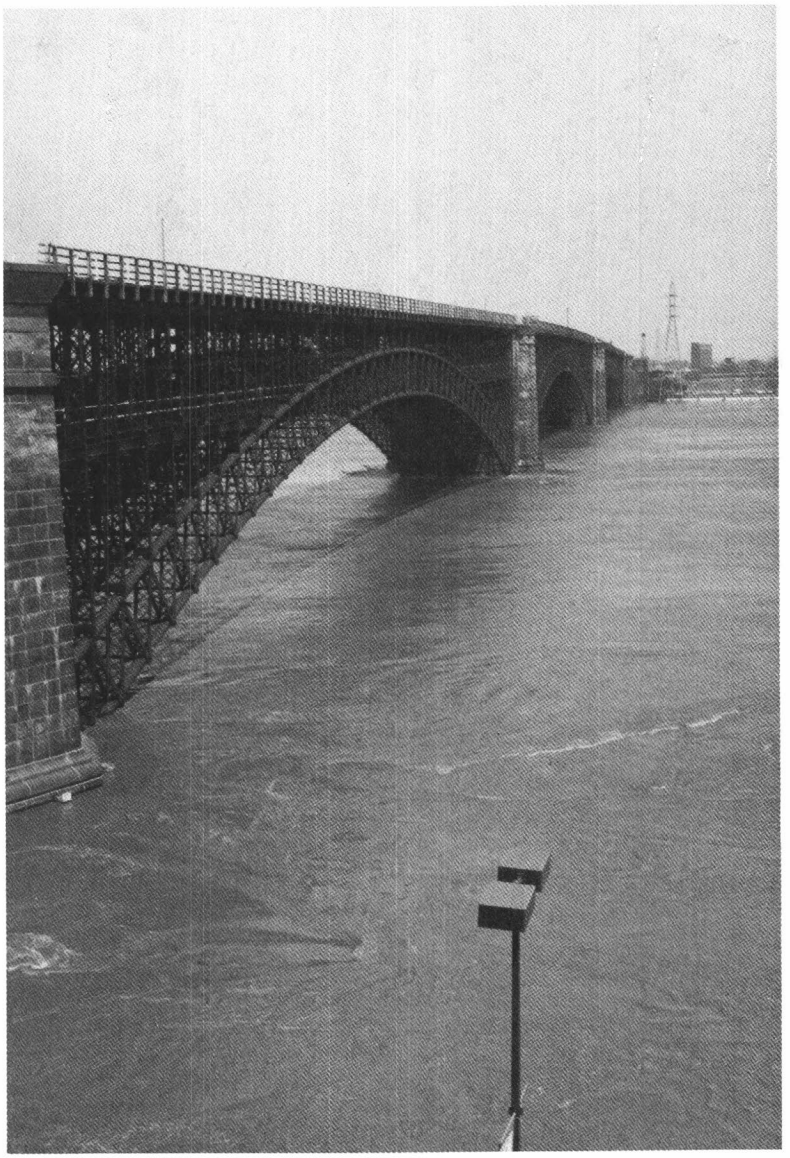
Aerial photograph of the Missouri River at Jefferson City, Missouri (courtesy of the Missouri Highway and Transportation Department).

Missouri and the Mississippi Rivers at Highway 67 near West Alton, Missouri (courtesy of the Missouri Highway and Transportation Department).

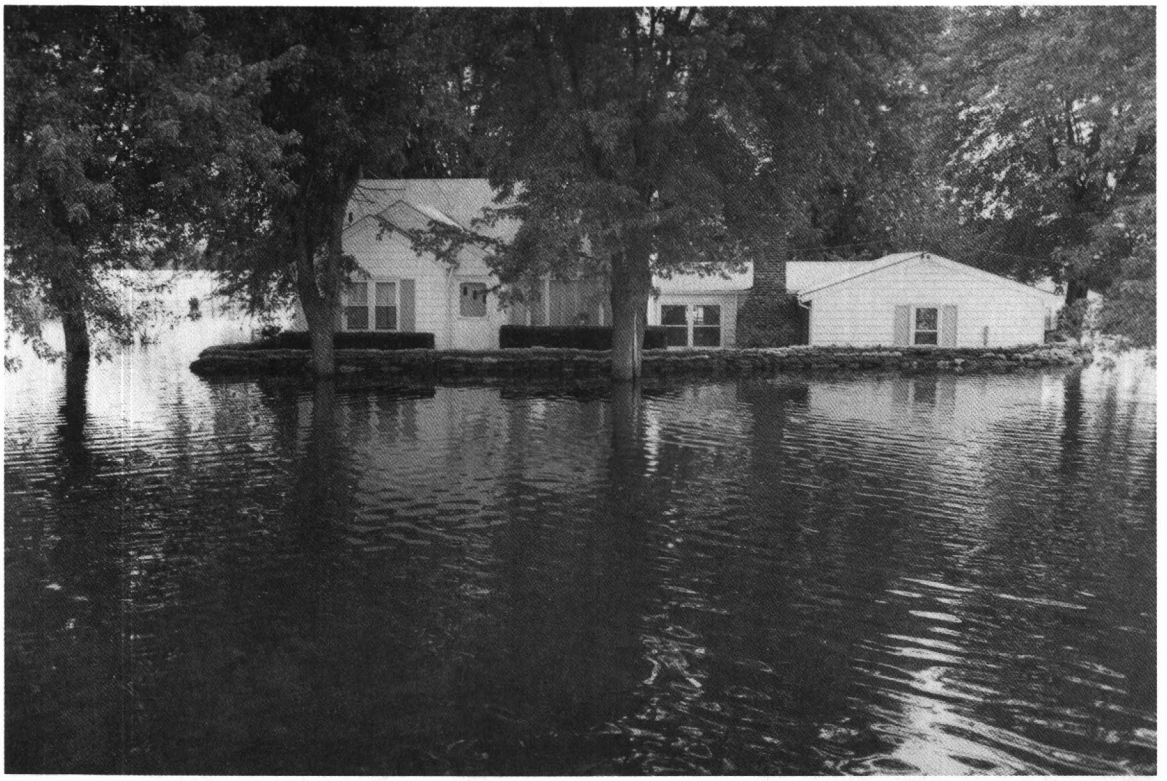


Spirit of St. Louis Airport inundated by the Missouri River on Highways 40 and 61 near Chesterfield, Missouri (courtesy of the Missouri Highway and Transportation Department).

Missouri River at Highway 370 at St. Charles, Missouri (courtesy of the Missouri State Highway and Transportation Department).



Eads Bridge at St. Louis, Missouri, on July 18, 1993
(courtesy of Greg Sawyer).



Missouri River on August 5, 1993, near Old St. Peters, Missouri (courtesy of Greg Sawyer).

Aerial photograph of the Meramec River at Telegraph Road near Arnold, Missouri (courtesy of the Missouri Highway and Transportation Department).

WATER RESOURCES DATA - MISSOURI, 1993

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 102 gaging stations; stage at 12 lakes and reservoirs; water quality at 46 sampling stations (including 2 lakes); and water-level records for 9 ground-water monitoring wells.

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 H. Kivlahan, MD, Director.

MISSOURI DEPARTMENT OF NATURAL RESOURCES, David A. 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 A. Stiefermann, Director.

MISSOURI HIGHWAY 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.

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.

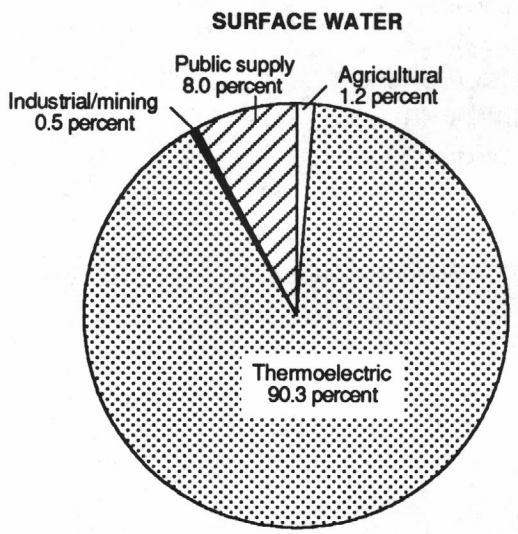


Figure 1. Major water-use categories and percentage of surface water used in Missouri during 1990.

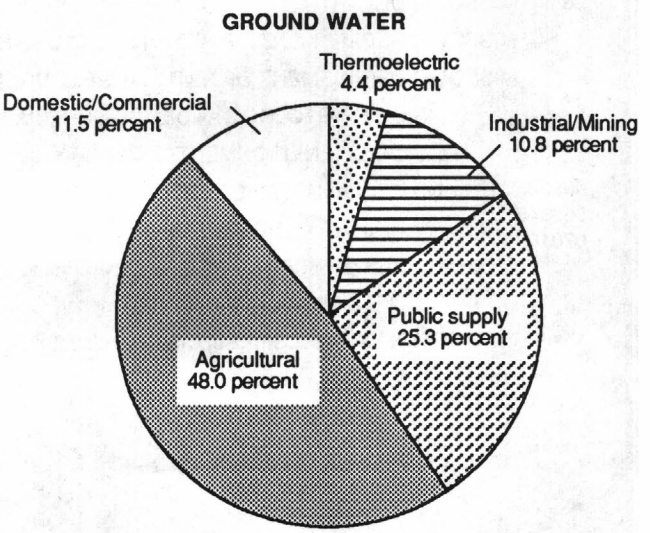


Figure 2. Major water-use categories and percentage of ground water used in Missouri during 1990.

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

Surface Water--Streamflow

During the summer of 1993, extreme flooding occurred on the Missouri and Mississippi Rivers and many of their tributaries. Thousands of acres of productive farmland in Missouri were under water for weeks. The banks and channels of many rivers were severely eroded and sediment was deposited over large areas of the Missouri River floodplain. Floodwaters submerged many areas that had not been affected by previous floods. Industrial and agricultural areas were inundated which caused concern about the transport and fate of industrial chemicals, sewage effluent, and agricultural chemicals in the floodwaters. The extent and duration of the flooding caused numerous levees to fail.

During the flood, the USGS provided continuous streamflow and related information to the U.S. Army Corps of Engineers, National Weather Service, and many State and local agencies to provide basic information on the floodwaters. The information was used by the U.S. Army Corps of Engineers to operate water diversions, dams, locks, and levees. The National Weather Service used the information in forecasting floods and issuing flood warnings.

Mean discharges during water year 1993 and long-term mean discharges at representative stations are shown in figure 4. Mean discharges during water year 1993 were greater than long-term means throughout Missouri.

Peak discharges for water year 1993 are compared to the peak discharges for the period of record at 15 selected gaging stations in table 1. The 7-day average low flow for water year 1993 is compared to the 7-day, 2-year low flow and minimum flow for selected stations in table 2. The 7-day, 2-year low flow is the 7-day average minimum flow with a recurrence interval of 2 years.

Table 1.--*Comparisons of peak discharge for the 1993 water year with those for period of record for selected stations*

Station identification		Peak discharge during 1993 water year		Peak discharge for period of record	
		Cubic feet per second	Date	Cubic feet per second	Date
05495000	Fox River at Wayland	11,900	July 12	26,400	Apr. 22, 1973
05587450	Mississippi River at Grafton, Ill.	598,000	Aug. 1	535,000	Apr. 29, 1973
06893000	Missouri River at Kansas City	541,000	July 27	573,000	July 14, 1951
06894000	Little Blue River near Lake City	6,600	Sep. 25	42,300	Aug. 13, 1982
06897500	Grand River near Gallatin	89,800	July 7	69,100	June 24, 1947
06905500	Chariton River near Prairie Hill	31,500	July 1	31,900	Apr. 23, 1973
06933500	Gasconade River at Jerome	110,000	Sep. 27	136,000	Dec. 5, 1982
06934500	Missouri River at Hermann	750,000	July 31	676,000	June 6-7, 1903
07010000	Mississippi River at St. Louis	1,080,000	Aug. 1	1,019,000	June 10-11, 1903
07019000	Meramec River near Eureka	92,500	Sep. 26	145,000	Dec. 6, 1982
07022000	Mississippi River at Thebes, Ill.	975,000	Aug. 7	893,000	May 27, 1943
07037500	St. Francis River near Patterson	62,300	Jan. 5	155,000	Dec. 3, 1982
07057500	North Fork River near Tecumseh	52,500	Sep. 25	133,000	Nov. 19, 1985
07068000	Current River at Doniphan	47,900	Apr. 16	122,000	Dec. 3, 1982
07018600	Spring River near Waco	151,000	Sep. 26	103,000	May 19, 1943

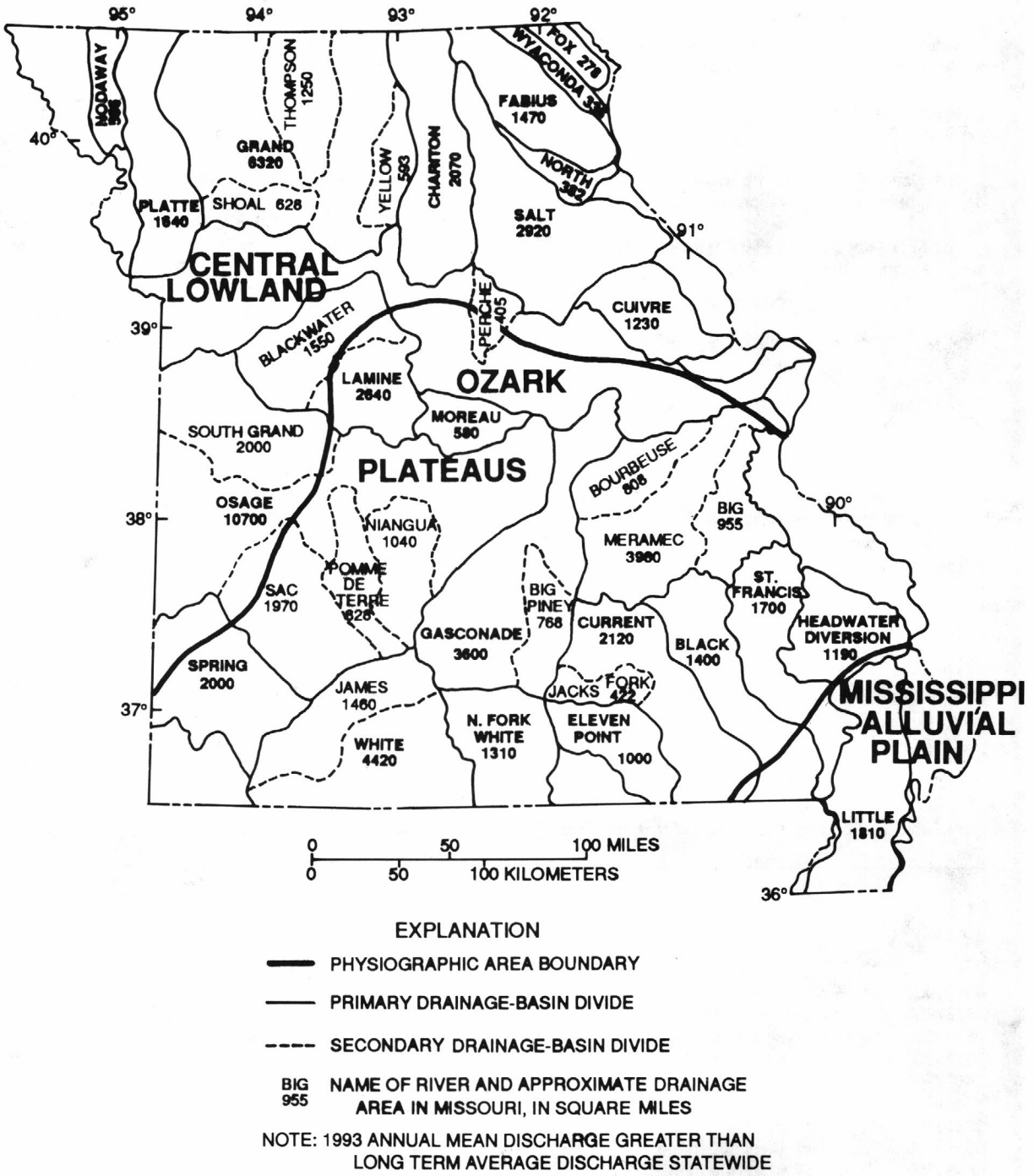


Figure 3. Major drainage basins, physiographic areas, and areas of greater-than-average discharge during 1993.

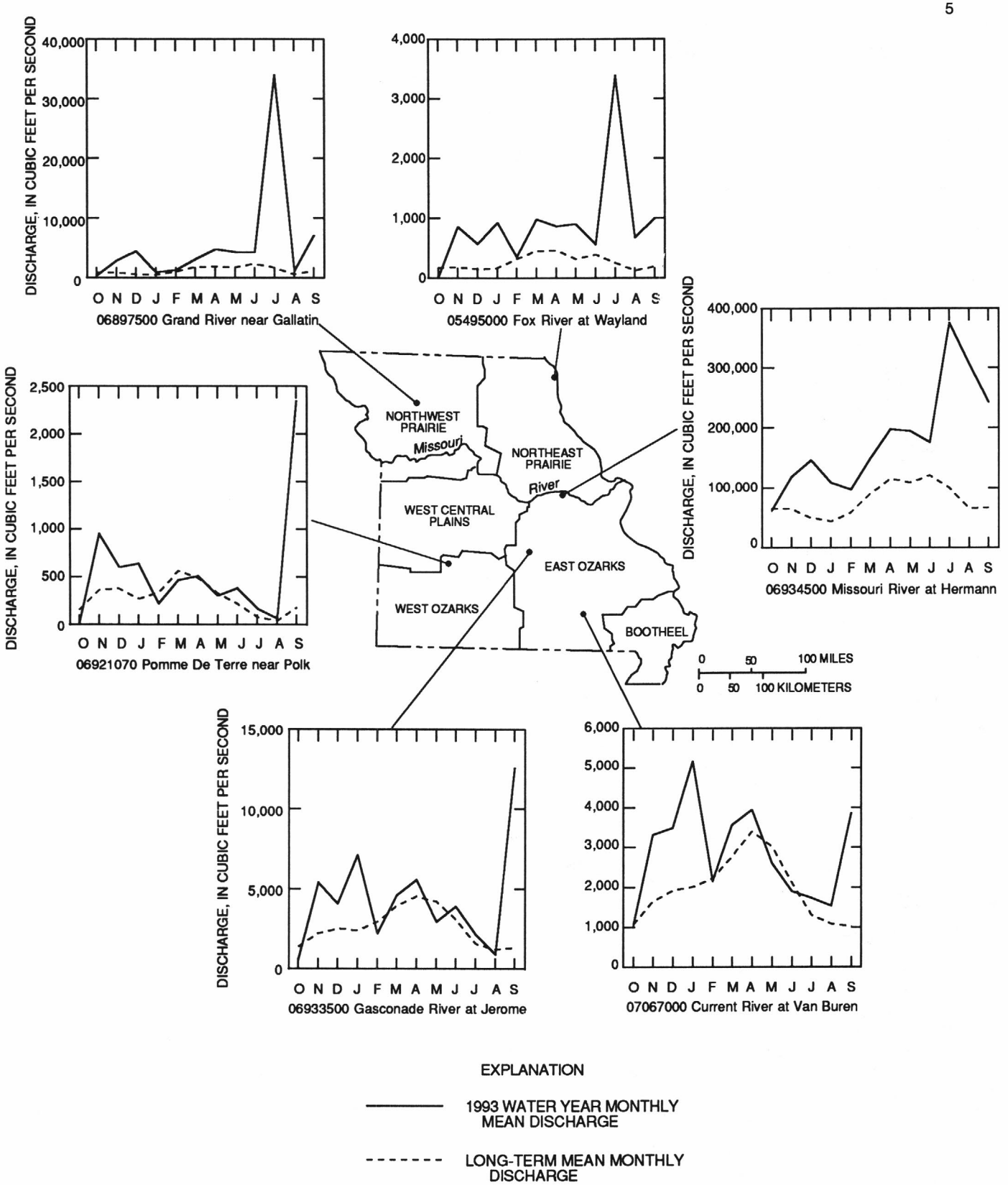


Figure 4. Comparison of 1993 water-year mean discharge to long-term mean discharge.

Table 2.--*Comparisons of 1993 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	
	1993	2-year[1]	Discharge	Years of occurrence
05549500 Fox River at Wayland (1922-91)	3.94	1.3	0	Several years
06820500 Platte River near Agency (1933-91)	176	17	0	Several years
06921070 Pomme de Terre River near Polk (1969-91)	10	3.0	0.3	1980
07016500 Bourbeuse River at Union (1921-91)	26	32	11	1956
07067000 Current River at Van Buren (1912-91)	1,010	700	473	1956
07187000 Shoal Creek above Joplin (1942-91)	81	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 46 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 1993 is given in the following table:

Station identification	Dissolved-solids concentration (milligrams per liter)	
	Minimum	Maximum
Cuivre River near Troy	97	189
Mississippi River below Grafton, Ill.	238	315
Missouri River at St. Joseph	217	517
Platte River at Sharps Station	168	233
Grand River near Sumner	72	249
Osage River below St. Thomas	128	170
Gasconade River above Jerome	82	176
Missouri River at Hermann	160	273
Meramec River near Eureka	98	244

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 1993:

Station identification	Daily mean suspended-sediment concentration (milligrams per liter)	
	Minimum	Maximum
Middle Fork Salt River at Paris	5	1,300
Salt River near Shelbina	5	2,970
Mississippi River at Thebes	89	2,610

Ground-Water Levels

Ground-water levels for 9 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 NETWORKS AND PROGRAM

National Stream-Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in national or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The Ambient Water-Quality Network (AWQN) is a statewide data-collection network designed by both the U.S. Geological Survey and the Missouri Department of Natural Resources to meet many of the information needs of State agencies and other groups involved in Statewide water-quality planning and management. There are currently 22 member stations within this network. Each station has been assigned a U.S. Geological Survey downstream station number under which all data are stored in WATSTORE (the U.S. Geological Survey national water-quality data base). The objectives of AWQN are (1) to obtain information on the quality and quantity of water moving within the State, (2) provide for a historical data base of water quality information that can be used by State planning and management agencies to make informed decisions about cultural impacts on the State's surface waters, and (3) provide for consistent methodology in data collection, laboratory analysis, and data reporting.

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, diverse, and geographically distributed part of the Nation's ground- and surface-water resources, and to identify, describe, and explain the major natural and human factors that affect these observed conditions and trends.

Assessment activities have begun in more than one-third of the study units and ultimately will be conducted in 60 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

EXPLANATION OF THE RECORDS

The surface- and ground-water records published in this report are for the 1993 water year that began October 1, 1992, and ended September 30, 1993. 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 indention in a list of stations in the front of the report. Each indention represents one rank. The downstream order and system of indention 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 (fig. 5).

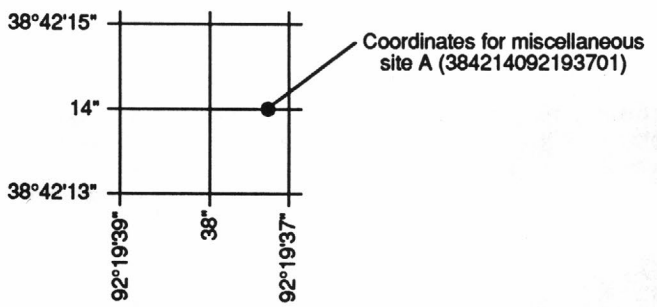


Figure 5. System for numbering miscellaneous sites (latitude and longitude).

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.

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period.

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.

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 quality 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 has been exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.--The discharge that has been exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.--The discharge that has been exceeded 90 percent of the time 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 1cubic 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 surface-water-quality stations 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 Rolla, MO. 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.

Quality Assurance of Water-Quality Data

Quality assurance is a system of activities whose purpose is to produce a product with the assurance that it meets defined standards of quality with a stated level of confidence. A quality assurance program became an intergral part of the ambient water-quality monitoring network in fiscal year 1993. The program involved collecting additional samples to measure sampling repeatability, container cleanliness, and equipment cleanliness during regular site visits when environmental samples were being collected. The results of these additional samples are used by the District Water-Quality Specialist to define problem areas and eliminate further contamination of samples and/or improper sampling procedures. A data base of quality-assurance data has been created and contains all quality-assurance data collected within the District. These data can be retrieved by written request through the District Water-Quality Specialist.

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" not 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.

Remarks Codes

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

PRINTED OUTPUT	REMARK
>	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 (µg/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 8.

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. 8). 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 ad 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 ad 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 assess 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 I acre to a depth of I 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 °C ± 0.2 °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 °C ± 1.0 °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 calender 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 noncontributing 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 (µg/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 (µG/L, µg/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	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 planimetered. All areas shown are those for the stage when the planimetered map was made.

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

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

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

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

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

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

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

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

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

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

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

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

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

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficken, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.

1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.

2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.

2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F. P. Haeni: USGS--TWRI Book 2, Chapter D2. 1988. 86 pages.

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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.

3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.

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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.

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3-A14. *Use of flumes in measuring discharge,* by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.

3-A15. *Computation of water-surface profiles in open channels,* by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.

3-A16. *Measurement of discharge using tracers,* by F. A. Kilpatrick and E. D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.

3-A17. *Acoustic velocity meter systems,* by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 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.

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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.

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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.

5-A3. *Methods for the determination of organic substances in water and fluvial sediments,* edited by R. L. Wershaw, M. J. Fishman, R. R. Grabbe, and L. E. Lowe: USGS--TWRI Book 5, Chapter A3. 1987. 80 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.

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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.

6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual,* by L. J. Torak: USGS--TWRI Book 6, Chapter A3. 1993. 136 pages

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6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water- problems, Part 3: Design philosophy and programming details,* by L. J. Torak. USGS--TWRI Book 6, Chapter A5, 1993. 243 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.

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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.

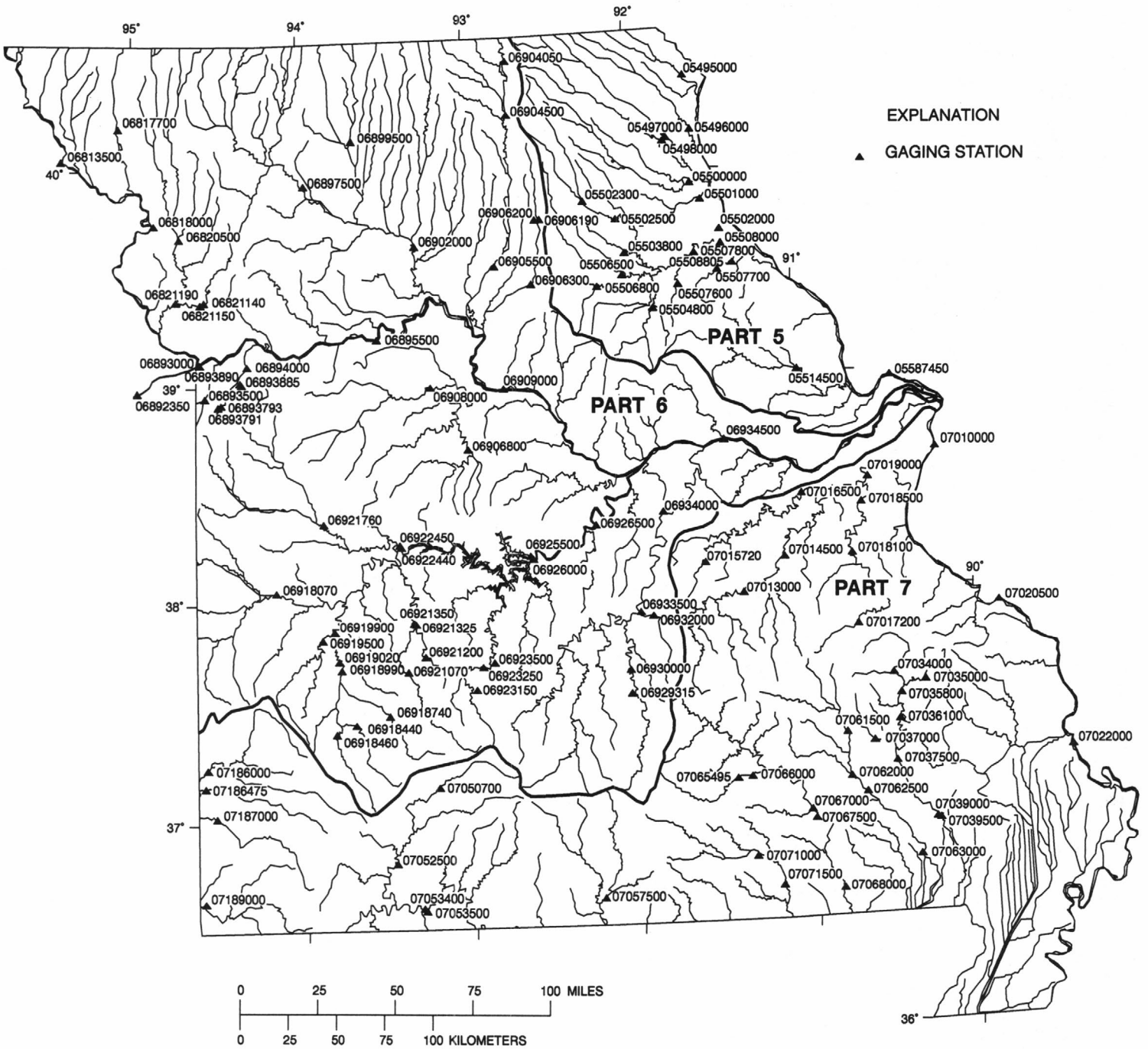


Figure 6. Location of surface-water stations.

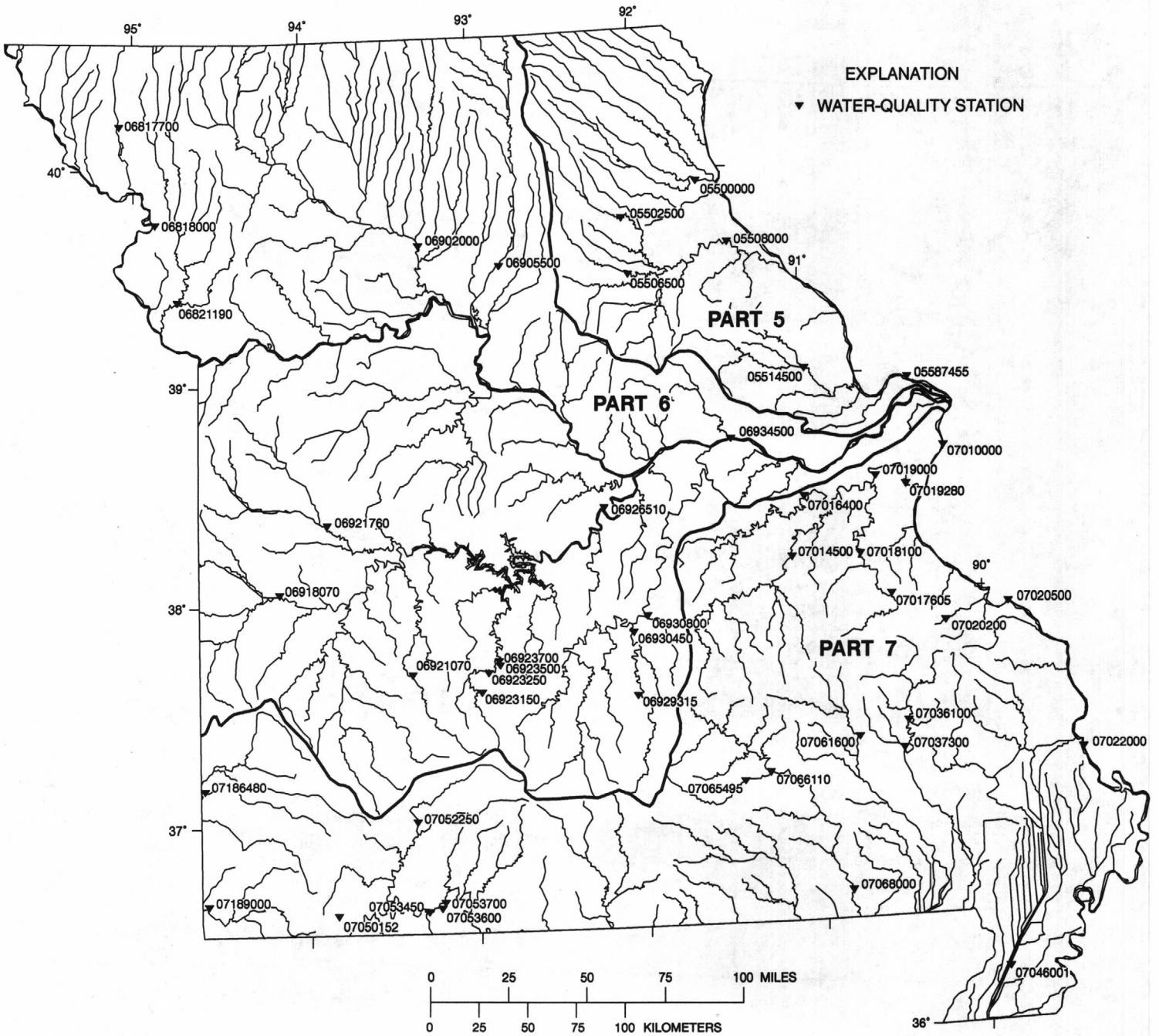


Figure 7. Location of surface-water-quality stations.

FOX RIVER BASIN

05495000 FOX RIVER AT WAYLAND, MO

LOCATION.--Lat 40°23'33", long 91°35'50", in NW ¼ 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 mi^2, 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.--Estimated daily discharges: Jan. 4-17, Feb. 20-24, and Mar. 2-4. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	39	172	654	816	57	3830	489	60	2880	922	421
2	12	61	151	468	1100	170	1610	707	55	2090	543	514
3	9.5	35	131	526	1150	300	825	1020	58	596	346	1620
4	8.5	22	110	3450	792	1000	441	3950	83	269	210	349
5	7.0	33	84	2500	551	4330	302	6640	1230	1220	157	202
6	4.7	32	70	1500	498	3920	232	2310	935	2900	137	1980
7	5.1	25	76	1000	396	2950	187	2710	461	3390	122	988
8	4.9	21	65	700	340	1400	175	2920	1320	5190	105	477
9	6.8	17	67	650	283	786	195	1070	3160	5120	91	237
10	6.5	16	72	600	272	533	594	503	3470	5970	1350	151
11	5.0	19	101	500	304	390	265	359	1010	9650	1600	107
12	5.3	472	86	480	695	255	171	1640	485	9900	5590	85
13	4.9	251	105	460	541	173	370	1280	205	4120	1970	122
14	4.8	96	130	430	264	129	2080	491	144	4210	690	4820
15	10	64	2620	400	151	157	1550	289	110	1870	362	4230
16	15	49	5850	380	433	154	2320	196	81	1260	239	1170
17	11	38	2700	350	250	139	1900	148	68	896	180	525
18	8.0	34	781	336	174	97	756	118	61	592	167	320
19	5.9	178	392	313	121	86	500	98	104	962	1130	242
20	5.2	2510	242	287	100	83	1580	85	461	1120	856	216
21	5.3	6460	153	335	86	112	2650	74	557	2640	340	198
22	5.4	4020	135	603	72	977	913	67	198	7070	188	324
23	5.2	3280	121	1250	66	4400	462	71	103	9320	139	992
24	4.8	1860	93	2440	57	1780	326	91	174	8760	107	759
25	4.6	1240	131	1630	62	778	241	111	1060	7140	87	1040
26	4.7	2470	104	1240	75	533	179	83	468	3270	74	4390
27	4.3	1250	87	1130	71	427	145	63	136	1030	62	2150
28	3.4	558	65	1270	61	371	132	54	83	562	64	657
29	3.2	309	60	1140	---	323	154	50	56	458	66	351
30	3.2	212	223	912	---	283	635	63	404	305	381	236
31	4.2	---	2310	782	---	3250	---	68	---	234	2750	---
MEAN	6.50	856	564	926	349	979	857	897	560	3387	678	996
MAX	15	6460	5850	3450	1150	4400	3830	6640	3470	9900	5590	4820
MIN	3.2	16	60	287	57	57	132	50	55	234	62	85
IN.	.02	2.39	1.63	2.67	.91	2.82	2.39	2.59	1.56	9.76	1.96	2.78

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

MEAN	170	180	146	162	317	450	459	314	387	252	119	188
MAX	1313	1375	1330	1133	1433	2264	2750	1868	2223	3387	1509	1999
(WY)	1987	1929	1983	1969	1982	1979	1973	1973	1947	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	247		927		262	
HIGHEST ANNUAL MEAN					927	1993
LOWEST ANNUAL MEAN					17.6	1956
HIGHEST DAILY MEAN	7280	Apr 20	9900	Jul 12	19900	Apr 22 1973
LOWEST DAILY MEAN	3.2	Oct 29-30	3.2	Oct 29-30	.00	Several Years
INSTANTANEOUS PEAK FLOW	--		11900	Jul 12	26400	Apr 22 1973
INSTANTANEOUS PEAK STAGE	--		18.22	Jul 12	21.71	Apr 22 1973
INSTANTANEOUS LOW FLOW	--		3.2	Oct 28-31	.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	3.9	Jun 25	3.9	Oct 25	.00	Several Years
ANNUAL RUNOFF (INCHES)	8.41		31.47		8.90	
10 PERCENT EXCEEDS	476		2730		540	
50 PERCENT EXCEEDS	46		305		37	
90 PERCENT EXCEEDS	5.7		24		2.0	

WYACONDA RIVER BASIN

05496000 WYACONDA RIVER ABOVE CANTON, MO

LOCATION.--Lat 40°08'32", long 91°33'55", in SW ¼ SW ¼ NE ¼ 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 mi^2.

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	224	140	561	629	55	3550	252	53	2790	683	1400
2	7.1	355	118	221	824	202	1610	248	47	3440	425	550
3	6.9	129	98	177	622	1880	567	283	48	816	189	2050
4	6.8	59	85	2110	394	3070	332	2090	72	232	106	595
5	7.1	43	68	3000	289	4240	244	4210	512	636	74	190
6	7.2	35	59	1370	223	4350	191	5480	718	1450	62	1400
7	6.2	27	61	684	168	2800	161	2520	705	1770	56	1840
8	7.1	23	66	441	166	1400	152	3070	527	3180	50	440
9	7.5	21	60	362	160	712	148	1270	2130	4330	45	195
10	7.9	20	49	323	148	439	143	439	922	5270	597	123
11	8.6	41	85	305	271	253	122	757	285	5050	1660	81
12	9.1	897	80	293	788	205	103	2630	158	6890	3290	74
13	9.2	950	83	286	544	137	329	1310	93	7880	6680	84
14	7.7	214	111	256	264	97	2970	450	71	4680	7950	3040
15	43	94	2490	235	161	127	3470	239	58	2690	2550	4410
16	17	68	4840	217	133	130	2790	167	51	961	493	3460
17	11	57	5350	202	149	121	2230	121	42	476	220	653
18	11	69	1900	159	158	86	849	94	39	287	149	274
19	9.9	888	501	122	146	75	444	76	54	728	315	186
20	9.9	2710	282	106	91	79	993	65	189	597	440	171
21	10	5020	171	117	93	93	1240	58	377	1190	179	152
22	9.3	5850	145	203	96	299	503	54	123	2550	100	680
23	6.8	4680	131	589	86	3180	291	53	75	4200	72	2230
24	6.2	2520	100	1700	71	2690	226	53	56	6900	61	912
25	5.8	1180	111	1190	51	916	183	52	694	7970	53	745
26	4.7	2200	94	653	44	448	141	48	214	6470	44	2810
27	5.1	1140	73	594	55	346	120	41	111	2000	40	2560
28	4.6	439	63	791	52	306	106	37	66	429	36	718
29	6.0	239	62	997	---	269	107	35	53	343	39	272
30	6.2	170	103	663	---	237	187	42	135	210	42	181
31	6.9	---	1740	437	---	1770	---	58	---	134	1750	---
MEAN	9.01	1012	623	625	246	1000	817	848	289	2792	918	1083
MAX	43	5850	5350	3000	824	4350	3550	5480	2130	7970	7950	4410
MIN	4.6	20	49	106	44	55	103	35	39	134	36	74
IN.	.03	2.87	1.83	1.83	.65	2.94	2.32	2.49	.82	8.19	2.69	3.07

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

MEAN	139	171	164	156	334	419	413	352	363	291	134	177
MAX	1677	1463	1399	946	1389	1346	1809	1736	2594	2792	2242	2510
(WY)	1987	1986	1983	1946	1985	1985	1983	1986	1947	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	254		861		259	
HIGHEST ANNUAL MEAN					861	1993
LOWEST ANNUAL MEAN					14.2	1989
HIGHEST DAILY MEAN	5850	Nov 22	7970	Jul 25	16500	Sep 22 1986
LOWEST DAILY MEAN	2.7	Jun 30	4.6	Oct 28	.00	Many Years
INSTANTANEOUS PEAK FLOW	--		8860	Aug 14	17700	Jun 30 1933
INSTANTANEOUS PEAK STAGE	--		24.83	Aug 14	31.33	Sep 22 1986
INSTANTANEOUS LOW FLOW	--		4.6	Oct 26-28	.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	4.3	Jun 25	5.5	Oct 24	.00	Many Years
ANNUAL RUNOFF (INCHES)	8.81		29.74		8.94	
10 PERCENT EXCEEDS	594		2790		540	
50 PERCENT EXCEEDS	45		203		30	
90 PERCENT EXCEEDS	6.5		36		1.9	

FABIUS RIVER BASIN

05497000 NORTH FABIUS RIVER AT MONTICELLO, MO

LOCATION.--Lat 40°06'30", long 91°42'51", in SW ¼ SE ¼ sec.6, T.61 N., R.7 W., Lewis County, Hydrologic Unit 07110002, on right bank upstream from bridge on State Highway 16, 1.0 mi south of Monticello and 19.0 mi upstream from Middle Fabius River.

DRAINAGE AREA.--452 mi^2.

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

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 540.73 ft above sea level. Prior to Nov. 22, 1930, nonrecording gage at site 400 ft downstream at datum 0.03 ft lower; Nov. 22, 1930 to Nov. 28, 1967, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 3-5, 11, 23-28, Jan. 28 to Feb. 1, and Mar. 1-3. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	123	179	559	450	113	3550	385	76	2720	481	886
2	14	140	155	432	933	261	1130	490	69	1730	298	738
3	13	84	130	562	590	3210	608	1690	67	484	219	1280
4	12	83	120	3530	400	3330	417	4480	91	238	171	487
5	12	54	100	1890	361	3300	320	6270	542	647	143	297
6	11	38	94	560	285	2700	267	2150	642	1410	128	1130
7	11	32	100	328	202	1790	232	2580	804	2280	114	957
8	12	28	88	229	190	1110	215	3630	1650	7200	105	432
9	13	26	125	248	186	679	221	1070	2350	7430	95	250
10	14	25	135	451	166	433	246	526	695	5590	457	177
11	13	43	146	422	320	329	201	1390	277	8590	1170	139
12	13	522	153	415	688	233	163	2260	167	11300	6440	120
13	14	526	178	348	572	162	404	958	121	5270	12100	146
14	14	185	198	282	290	110	3510	454	98	4590	5630	4110
15	35	108	2660	298	207	164	2710	280	82	1830	1280	4030
16	12	79	5700	276	113	167	3060	202	72	1010	903	1090
17	11	66	2620	216	133	145	1890	158	61	672	655	502
18	10	72	792	171	288	113	778	135	58	469	467	311
19	9.5	528	460	162	211	101	492	123	80	528	372	238
20	11	3040	331	171	123	102	1660	119	431	713	324	227
21	10	6780	246	191	105	116	1630	112	349	1320	287	213
22	9.9	3980	216	269	118	329	635	105	143	3710	259	979
23	9.2	4060	180	643	116	3600	376	106	92	7160	233	2750
24	9.3	1500	160	1140	89	1530	291	107	79	8970	212	927
25	9.4	996	150	755	82	682	241	117	138	8660	194	1060
26	8.7	2600	140	427	76	444	193	95	133	4820	177	4410
27	7.7	1010	120	428	88	355	162	88	90	1170	161	1410
28	7.7	427	115	800	88	308	149	84	76	693	149	555
29	8.5	277	158	900	---	273	153	78	71	881	150	335
30	9.3	213	222	500	---	243	444	84	196	430	144	239
31	13	---	1400	350	---	4550	---	87	---	411	1320	---
MEAN	12.0	921	567	579	267	999	878	981	327	3320	1124	1014
MAX	35	6780	5700	3530	933	4550	3550	6270	2350	11300	12100	4410
MIN	7.7	25	88	162	76	101	149	78	58	238	95	120
IN.	.03	2.28	1.45	1.48	.61	2.55	2.17	2.50	.81	8.47	2.87	2.50

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

MEAN	188	202	180	194	342	468	516	380	415	310	136	197
MAX	1496	1347	1521	1679	1346	2336	3171	2149	3148	3320	2149	1966
(WY)	1987	1929	1983	1974	1937	1979	1973	1973	1947	1993	1970	1970
MIN	.013	1.06	.73	.14	2.42	7.91	7.15	1.71	.070	.000	.000	.51
(WY)	1957	1957	1957	1940	1989	1956	1956	1934	1934	1934	1934	1953

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	252		923		294	
HIGHEST ANNUAL MEAN					923	1993
LOWEST ANNUAL MEAN					18.0	1989
HIGHEST DAILY MEAN	6780	Nov 21	12100	Aug 13	17900	Apr 23 1973
LOWEST DAILY MEAN	5.5	Jul 1	7.7	Oct 27-28	.00	Many Years
INSTANTANEOUS PEAK FLOW	--		13600	Aug 13	20700	Apr 22 1973
INSTANTANEOUS PEAK STAGE	--		27.76	Aug 13	33.03	Apr 22 1973
INSTANTANEOUS LOW FLOW	--		7.4	Oct 27-28	.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	6.4	Jun 26	8.6	Oct 23	.00	Many Years
ANNUAL RUNOFF (INCHES)	7.59		27.71		8.82	
10 PERCENT EXCEEDS	521		2730		568	
50 PERCENT EXCEEDS	61		261		45	
90 PERCENT EXCEEDS	9.7		41		4.0	

FABIUS RIVER BASIN

05498000 MIDDLE FABIUS 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 mi^2.

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.--Estimated daily discharges: Jan. 1-8 and Mar. 2-4. 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 17, 1945, reached a stage of 23.3 ft, from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	192	178	1500	399	70	2890	263	51	2530	318	407
2	7.0	213	157	400	707	100	2760	299	45	4310	173	411
3	6.7	80	137	500	478	1000	567	287	43	1720	147	1640
4	6.8	111	121	3700	317	2000	321	2670	92	567	106	619
5	6.8	52	106	1700	245	3010	241	5180	137	764	82	173
6	6.7	34	97	800	209	2940	201	2660	279	1150	71	647
7	6.6	25	86	350	166	1950	172	2030	533	2010	63	1150
8	7.4	20	90	220	154	1160	159	2950	663	3000	57	379
9	7.7	16	79	163	171	709	155	1210	369	3870	52	170
10	7.7	13	93	135	155	424	175	482	313	5490	185	104
11	7.6	42	142	165	226	326	147	814	127	7750	1190	73
12	7.2	689	220	139	565	237	118	1160	77	7310	3510	58
13	7.7	926	234	131	779	169	489	745	57	6910	4340	90
14	7.2	332	303	124	311	119	3130	447	46	6970	7120	3540
15	28	124	2920	128	214	107	4600	254	38	3420	5540	3710
16	10	75	5040	119	158	132	3600	176	33	1860	598	2970
17	6.4	58	3990	102	113	133	2660	133	31	667	334	647
18	4.7	75	1410	95	138	109	851	110	31	420	220	361
19	3.9	840	428	96	144	88	471	90	39	287	158	253
20	4.0	2830	294	85	99	86	1250	78	84	211	123	250
21	3.6	5840	216	92	104	95	1380	69	508	167	99	236
22	3.2	5760	162	149	123	289	476	64	164	550	83	1190
23	3.6	6190	149	495	115	2520	297	65	74	2460	73	2560
24	4.1	3750	130	1260	91	2340	234	62	53	4730	64	2110
25	4.0	1230	123	1130	127	678	193	56	101	7430	57	907
26	4.2	1920	115	510	117	416	153	58	215	9080	53	2580
27	4.3	1580	99	419	79	343	124	49	142	5630	47	2290
28	4.1	487	85	656	73	302	109	44	62	719	43	614
29	4.0	287	75	693	---	270	110	40	42	1200	40	347
30	4.8	216	118	538	---	242	151	53	257	611	42	228
31	5.2	---	783	354	---	1470	---	54	---	373	241	---
MEAN	6.53	1134	586	547	235	769	939	731	157	3038	814	1024
MAX	28	6190	5040	3700	779	3010	4600	5180	663	9080	7120	3710
MIN	3.2	13	75	85	73	70	109	40	31	167	40	58
IN.	.02	3.22	1.72	1.60	.62	2.26	2.67	2.14	.45	8.91	2.39	2.91

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

MEAN	168	183	171	205	315	473	486	373	310	330	123	172
MAX	1368	1481	1418	1179	1359	1521	2719	1679	2582	3038	1758	1815
(WY)	1987	1986	1983	1969	1969	1979	1973	1973	1947	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	265		837		275	
HIGHEST ANNUAL MEAN					837	1993
LOWEST ANNUAL MEAN					18.7	1989
HIGHEST DAILY MEAN	6190	Nov 23	9080	Jul 26	15100	Apr 23 1973
LOWEST DAILY MEAN	2.6	Jul 1	3.2	Oct 22	.00	Several Years
INSTANTANEOUS PEAK FLOW	--		9370	Jul 26	17700	Apr 23 1973
INSTANTANEOUS PEAK STAGE	--		21.64	Jul 26	27.14	Apr 23 1973
INSTANTANEOUS LOW FLOW	--		2.7	Oct 22	.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	3.4	Jun 26	3.8	Oct 19	.00	Several Years
ANNUAL RUNOFF (INCHES)	9.19		28.91		9.52	
10 PERCENT EXCEEDS	510		2850		585	
50 PERCENT EXCEEDS	47		185		39	
90 PERCENT EXCEEDS	6.6		31		2.5	

FABIUS RIVER BASIN

05500000 SOUTH FABIUS RIVER NEAR TAYLOR, MO

LOCATION.--Lat 39°53'49", long 91°34'49", in SW ¼ NW ¼ sec.21, T.59 N., R.6 W., Marion County, Hydrologic Unit 07110003, on right bank at downstream side of county highway bridge, 4.5 mi southwest of Taylor, 5.0 mi downstream from Grassy Creek and 5.3 mi upstream from confluence with North Fabius River.

DRAINAGE AREA.--620 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 825: 1936.

GAGE.--Water-stage recorder. Datum of gage is 482.91 ft above 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. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	71	336	361	574	169	3190	153	151	11300	538	249
2	9.9	281	286	892	606	301	2130	188	118	9240	562	657
3	8.4	314	244	423	632	1860	1050	199	104	9480	192	1130
4	6.9	282	213	2440	466	4850	534	2800	532	8690	126	1640
5	6.1	199	188	3810	366	5710	412	5280	422	3670	101	652
6	5.1	124	167	2340	321	6180	332	4000	622	1700	86	895
7	4.5	88	155	804	284	5520	284	2350	1120	2230	76	840
8	4.3	66	140	486	272	4010	257	4900	880	4280	69	772
9	3.4	53	135	349	275	1830	240	2650	607	4070	62	299
10	2.9	49	142	267	280	975	223	747	404	3690	420	164
11	2.7	45	153	276	319	654	212	831	214	3640	1040	124
12	2.6	319	210	305	681	471	203	1260	150	3220	2580	98
13	2.5	2260	339	280	923	350	320	737	115	3800	2250	88
14	2.1	1200	382	262	645	269	4020	426	93	4710	2030	3570
15	2.6	411	4870	248	368	230	6080	304	77	4350	1560	5160
16	2.2	243	8460	223	259	237	6460	223	65	2670	366	4010
17	2.4	181	7570	207	232	248	5550	178	57	888	183	1910
18	2.5	284	4970	219	285	225	2370	157	59	688	138	498
19	2.6	1240	1230	200	243	206	878	143	64	713	109	366
20	3.2	4520	677	189	205	191	1420	130	76	630	90	830
21	3.1	6920	480	172	246	198	1590	118	75	536	76	486
22	2.9	8000	370	254	422	232	827	108	103	639	66	3050
23	2.8	8440	306	635	350	2380	421	108	112	2000	61	5750
24	2.9	6800	250	1630	269	3340	315	111	80	3580	59	4780
25	3.0	4140	217	1440	322	1460	362	107	68	5800	51	2700
26	2.6	2590	226	878	366	751	279	102	60	6990	46	3780
27	2.2	2110	221	729	196	526	204	92	70	6530	43	2650
28	2.2	884	190	852	194	425	172	87	134	2250	40	1130
29	2.3	520	158	1020	---	362	161	81	91	459	37	507
30	2.4	393	176	794	---	329	157	82	106	289	36	349
31	2.7	---	259	641	---	1420	---	116	---	335	107	---
MEAN	3.81	1768	1088	762	379	1481	1355	928	228	3647	426	1638
MAX	12	8440	8460	3810	923	6180	6460	5280	1120	11300	2580	5750
MIN	2.1	45	135	172	194	169	157	81	57	289	36	88
IN.	.01	3.18	2.02	1.42	.64	2.75	2.44	1.73	.41	6.78	.79	2.95

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

MEAN	270	298	266	290	497	719	741	634	490	406	172	216
MAX	2690	3103	2137	2000	2340	2659	3989	3437	3891	3647	2335	2841
(WY)	1987	1986	1983	1965	1982	1973	1973	1935	1947	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	450		1147		408	
HIGHEST ANNUAL MEAN					1147	1993
LOWEST ANNUAL MEAN					27.4	1989
HIGHEST DAILY MEAN	8460	Dec 16	11300	Jul 1	18800	Jun 8 1947
LOWEST DAILY MEAN	2.1	Oct 14	2.1	Oct 14	.00	Several Years
INSTANTANEOUS PEAK FLOW	--		12700	Jul 1	19700	Jun 8 1947
INSTANTANEOUS PEAK STAGE	--		14.41	Jul 1	19.5	Jun 8 1947
INSTANTANEOUS LOW FLOW	--		1.9	Oct 14	.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	2.4	Oct 12	2.4	Oct 12	.00	Several Years
ANNUAL RUNOFF (INCHES)	9.89		25.12		8.94	
10 PERCENT EXCEEDS	994		4000		985	
50 PERCENT EXCEEDS	90		305		59	
90 PERCENT EXCEEDS	7.5		46		4.0	

FABIUS RIVER BASIN

05500000 SOUTH FABIUS RIVER NEAR TAYLOR, MO--Continued
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1972 to August 1973, October 1979 to October 1989, November 1992 to current year.

REMARKS.--Reestablished ambient water-quality monitoring network station since November 1992.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00304)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
18...	1145	281	5.5	226	7.0	11.9	92	31	K3400	4800	73
JAN											
06...	1100	2640	0.5	133	7.1	14.9	100	49	K1700	6700	40
MAR											
24...	1530	3270	2.5	191	7.5	12.8	92	65	2100	K11000	60
MAY											
19...	1300	142	18.0	382	8.4	14.6	152	39	150	130	154
JUL											
20...	1330	671	26.5	326	8.1	8.6	104	18	K270	80	128
SEP											
28...	1515	930	15.5	209	7.3	9.3	91	39	3100	K1100	84

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, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV											
18...	0.960	0.110	0.070	0.90	0.260	0.120	93	27	6.2	5.4	6.9
JAN											
06...	0.500	0.020	0.080	1.1	0.180	0.140	54	16	3.4	3.1	4.4
MAR											
24...	1.60	0.080	0.280	3.2	0.700	0.200	--	--	--	--	--
MAY											
19...	0.110	0.010	0.010	1.1	0.080	0.020	180	54	10	10	3.5
JUL											
20...	0.600	0.010	0.030	0.97	0.100	0.080	--	--	--	--	--
SEP											
28...	0.240	0.030	0.060	1.1	0.270	0.190	--	--	--	--	--

FABIUS RIVER BASIN

05500000 SOUTH FABIUS RIVER NEAR TAYLOR, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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-PENDED (MG/L) (00530)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	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)
NOV 18...	27	8.3	0.20	159	55	--	--	<1	<1.0	3
JAN 06...	15	5.3	0.10	112	202	4200	910	7	3.0	6
MAR 24...	--	--	--	159	2010	13000	520	--	--	--
MAY 19...	45	8.6	0.20	269	<1	160	20	<1	<1.0	1
JUL 20...	--	--	--	209	25	580	20	--	--	--
SEP 28...	--	--	--	137	152	3300	640	--	--	--

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)
NOV 18...	250	4	<1	160	56	--	10	11	<0.05	<0.05
JAN 06...	360	64	7	170	51	0.20	10	7	<0.05	<0.05
MAY 19...	17	<1	<1	150	47	0.10	<10	<3	<0.05	<0.05

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV 18...	<0.05	0.18	0.40	0.40	<0.05	<0.05	0.10	0.58	<0.05	<0.05
JAN 06...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	0.18	<0.05	<0.05
MAY 19...	<0.05	0.05	0.15	<0.20	<0.05	<0.05	0.25	0.80	<0.05	<0.05

NORTH RIVER BASIN

05501000 NORTH RIVER AT PALMYRA, MO

LOCATION.--Lat 39°49'06", long 91°31'13", in SE ¼ SW ¼ 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 mi^2.

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.--Estimated daily discharges: Apr. 8 to May 22, June 22 to Aug. 9, and Aug. 12 to Sept. 7. Records good except for estimated daily discharges, 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	4.5	101	84	214	93	1240	604	67	17300	723	64
2	3.2	24	91	110	242	233	599	783	63	6220	451	821
3	3.5	28	83	104	198	1720	319	885	60	2550	288	1500
4	2.9	33	77	1930	157	2750	274	4240	2640	2100	243	233
5	3.3	28	70	1000	137	2500	244	3260	372	1780	103	141
6	3.5	23	66	644	131	3000	192	2330	820	1720	78	1950
7	3.4	19	63	375	122	2810	170	3590	1080	1760	71	410
8	4.7	17	58	176	125	1720	164	3290	342	2010	66	181
9	11	16	59	125	140	720	196	2340	181	2190	67	132
10	12	19	63	118	134	398	232	1300	174	1570	736	103
11	11	26	70	135	169	277	285	1030	107	1000	680	87
12	8.9	86	87	122	630	208	254	498	96	1490	4430	75
13	8.1	388	102	121	411	168	573	568	93	2200	1100	81
14	7.3	262	132	113	235	141	2620	551	67	1180	532	4150
15	6.6	110	5160	116	163	136	3420	430	48	2100	430	1390
16	5.9	70	6920	105	127	150	2310	359	40	2340	262	449
17	4.9	54	1610	100	114	162	1030	307	34	1190	154	206
18	4.0	185	475	86	109	135	566	247	35	1290	149	151
19	3.6	584	272	86	106	129	791	168	47	825	173	232
20	3.7	2920	210	88	98	127	1640	105	72	417	233	1010
21	3.6	4530	179	102	114	147	667	96	71	156	333	349
22	3.5	2590	153	147	196	185	571	90	54	272	452	7000
23	3.4	1660	136	497	158	1750	373	89	54	998	519	7380
24	1.9	621	110	1020	121	907	266	91	67	1960	535	1590
25	1.7	415	107	509	84	399	294	82	238	2410	502	2620
26	1.4	661	93	314	99	268	266	73	723	914	439	2340
27	1.1	366	90	316	99	208	254	68	920	885	343	747
28	1.0	186	85	393	88	176	274	66	821	1170	221	329
29	1.0	139	88	628	---	160	276	63	807	1190	116	220
30	1.3	116	96	544	---	149	345	61	593	1070	73	171
31	1.3	---	113	368	---	1430	---	62	---	835	69	---
MEAN	4.36	539	549	341	169	753	690	894	360	2100	470	1204
MAX	12	4530	6920	1930	630	3000	3420	4240	2640	17300	4430	7380
MIN	1.0	4.5	58	84	84	93	164	61	34	156	66	64
IN.	.01	1.61	1.70	1.05	.47	2.33	2.06	2.77	1.08	6.49	1.45	3.60

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

MEAN	160	180	179	181	308	458	466	445	324	264	110	138
MAX	1742	2639	1832	991	1720	2783	2691	2249	2296	2100	1357	1351
(WY)	1987	1986	1983	1969	1982	1973	1973	1935	1947	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	175		677		264	
HIGHEST ANNUAL MEAN					748	1973
LOWEST ANNUAL MEAN					22.1	1989
HIGHEST DAILY MEAN	6920	Dec 16	17300	Jul 1	32600	Apr 21 1973
LOWEST DAILY MEAN	1.0	Oct 28-29	1.0	Oct 28-29	.00	Several Years
INSTANTANEOUS PEAK FLOW	--		28600	Jul 1	57500	Apr 21 1973
INSTANTANEOUS PEAK STAGE	--		29.36	Jul 1	29.70	Apr 21 1973
INSTANTANEOUS LOW FLOW	--		1.0	Oct 28-29	.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	1.3	Oct 25	1.3	Oct 25	.00	Several Years
ANNUAL RUNOFF (INCHES)	6.39		24.63		9.61	
10 PERCENT EXCEEDS	273		1950		482	
50 PERCENT EXCEEDS	42		185		39	
90 PERCENT EXCEEDS	4.5		21		3.2	

BEAR CREEK BASIN

05502000 BEAR CREEK AT HANNIBAL, MO

LOCATION.--Lat 39°40'43", long 91°24'41", in SE ¼ NW ¼ 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 mi^2.

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.--Estimated daily discharges: Jan. 29-30 and Feb. 2-4, 6-7, 13-23. Records good except for estimated daily discharges and discharges above 500 ft^3/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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	2.6	16	7.4	57	22	20	5.1	33	38	4.7	4.9
2	3.6	2.8	14	7.0	19	70	19	5.5	11	3.3	98	127
3	3.3	2.1	11	9.0	8.0	101	15	7.8	10	1.8	123	40
4	2.3	1.8	10	88	7.6	162	15	22	59	1.2	4.1	58
5	2.4	1.5	8.9	56	7.3	186	14	9.5	69	1.0	4.0	56
6	2.3	1.4	8.7	89	7.0	82	11	6.6	74	1.1	114	102
7	2.0	1.3	8.3	45	6.8	73	10	22	135	2.0	217	131
8	3.0	1.2	7.8	15	10	287	12	8.9	32	.85	214	139
9	3.4	1.3	8.2	12	9.0	429	11	5.9	13	.46	292	80
10	3.4	5.2	9.7	12	11	292	9.7	9.8	9.4	.32	229	76
11	2.6	15	10	12	21	58	8.4	11	9.1	.21	278	48
12	2.0	55	9.1	12	37	57	9.1	5.7	7.0	.18	173	15
13	1.8	48	8.5	14	15	53	52	5.1	6.8	36	375	47
14	1.5	37	8.8	12	11	45	102	4.8	6.0	4.0	533	63
15	1.3	16	87	9.9	8.6	22	33	4.7	4.6	18	508	143
16	.85	13	341	9.8	10	34	7.9	4.5	4.0	3.5	474	140
17	.78	12	457	9.9	7.8	26	5.1	4.7	3.9	1.8	187	125
18	.52	60	105	9.0	9.0	22	4.8	5.1	13	1.2	172	47
19	.50	53	22	7.2	12	22	73	4.5	18	.91	163	36
20	.74	217	20	9.7	17	24	21	5.2	1.9	.81	125	44
21	.78	334	16	19	21	28	9.5	5.9	245	.54	11	43
22	.75	228	15	28	17	48	7.9	5.0	118	.63	8.0	296
23	.75	417	14	47	14	144	7.3	4.9	9.4	45	7.3	115
24	.82	430	10	26	13	92	7.5	381	8.6	4.3	6.5	132
25	.75	134	9.8	4.8	18	35	37	668	125	1.7	6.6	10
26	.75	68	8.9	15	17	27	9.0	635	3.4	31	5.6	5.6
27	.70	53	8.8	28	14	23	7.2	606	1.6	136	4.4	244
28	.82	26	8.8	33	16	17	6.1	573	1.3	152	4.1	464
29	.97	21	9.9	10	---	14	5.4	422	1.0	141	3.8	460
30	1.7	18	12	9.0	---	13	5.0	85	2.5	135	4.2	168
31	1.7	---	11	17	---	26	---	79	---	97	6.7	---
MEAN	1.70	75.9	41.8	22.0	15.0	81.7	18.5	117	34.5	27.8	141	115
MAX	3.8	430	457	89	57	429	102	668	245	152	533	464
MIN	.50	1.2	7.8	4.8	6.8	13	4.8	4.5	1.0	.18	3.8	4.9
IN.	.06	2.73	1.55	.82	.51	3.04	.67	4.35	1.24	1.03	5.23	4.15

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

MEAN	12.5	15.5	15.6	13.0	25.9	32.0	33.0	28.9	23.2	23.7	16.5	13.7
MAX	116	225	155	84.0	124	125	193	146	158	193	141	190
(WY)	1970	1986	1983	1969	1985	1973	1973	1991	1939	1981	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	18.2		57.9		21.1	
HIGHEST ANNUAL MEAN					57.9	1993
LOWEST ANNUAL MEAN					2.47	1954
HIGHEST DAILY MEAN	457	Dec 17	668	May 25	2010	Jun 21 1939
LOWEST DAILY MEAN	.16	Aug 5	.18	Jul 12	.00	Many Years
INSTANTANEOUS PEAK FLOW	--		2080	Sep 22	6500	Aug 3 1957
INSTANTANEOUS PEAK STAGE	--		10.05	Sep 22	14.05	Aug 3 1957
INSTANTANEOUS LOW FLOW	--		.10	Jul 13	.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	.27	Aug 3	.69	Oct 17	.00	Many Years
ANNUAL RUNOFF (INCHES)	8.01		25.38		9.24	
10 PERCENT EXCEEDS	28		162		37	
50 PERCENT EXCEEDS	3.6		12		3.4	
90 PERCENT EXCEEDS	.75		1.6		.30	

SALT RIVER BASIN

05502300 NORTH FORK SALT RIVER AT HAGERS GROVE, MO

LOCATION.--Lat 39°49'40", long 92°14'10", in NE ¼ SW ¼ 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 mi^2.

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. 9-14 and Feb. 17 to Mar. 2. 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.

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	54	109	184	524	58	1310	154	25	8400	258	167
2	14	457	100	121	479	1050	422	153	25	13100	64	126
3	12	320	85	315	278	3680	272	173	24	6060	47	980
4	11	103	73	5010	216	3340	234	1560	685	2600	37	373
5	11	43	59	1540	191	2970	191	927	730	2380	30	137
6	10	32	67	332	164	2950	160	677	523	1970	26	537
7	9.3	23	64	204	151	2030	140	3140	1050	2750	23	454
8	8.5	18	59	148	172	1040	165	1550	637	7480	19	211
9	9.2	15	66	97	161	455	190	375	308	4210	17	142
10	7.7	14	95	165	155	293	152	235	149	1740	1460	109
11	7.5	34	486	151	312	216	120	636	80	2900	1010	86
12	7.2	1840	332	133	1270	143	101	349	54	3780	3230	68
13	6.9	1170	214	108	512	103	1480	209	40	1230	2660	278
14	6.9	215	576	106	268	86	7200	142	34	4160	509	4160
15	7.2	109	4190	105	183	97	4050	108	27	913	215	3350
16	7.0	79	5920	93	138	113	3970	89	21	445	142	1120
17	6.7	63	1480	88	87	108	1060	76	26	325	106	343
18	6.1	117	384	79	75	91	375	69	64	212	80	220
19	6.3	1300	261	65	85	94	582	56	187	175	62	327
20	5.8	6280	197	64	77	95	1470	46	366	238	50	849
21	4.9	9760	136	132	105	104	495	37	225	183	43	371
22	4.6	4370	121	283	154	599	235	30	105	1360	37	2870
23	4.3	4680	102	595	104	2910	165	35	129	5230	33	4240
24	4.0	1070	78	1190	66	949	165	42	325	8600	28	1190
25	4.1	745	87	466	33	433	150	38	536	8700	24	1620
26	4.1	1640	74	235	50	291	106	32	351	3530	21	2860
27	4.0	440	62	391	60	230	94	22	142	701	18	428
28	4.0	218	55	649	55	197	88	19	331	239	15	248
29	3.9	154	60	608	---	170	92	19	1060	201	15	148
30	4.3	125	126	306	---	158	248	21	1820	114	17	106
31	4.5	---	841	190	---	3110	---	26	---	108	275	---
MEAN	7.19	1183	534	457	219	908	849	356	336	3033	341	937
MAX	16	9760	5920	5010	1270	3680	7200	3140	1820	13100	3230	4240
MIN	3.9	14	55	64	33	58	88	19	21	108	15	68
IN.	.02	3.62	1.69	1.44	.62	2.87	2.60	1.13	1.03	9.58	1.08	2.87

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

MEAN	192	346	243	106	321	474	428	445	271	421	95.0	142
MAX	1201	1426	1319	457	1599	1177	2036	1316	1074	3033	441	937
(WY)	1987	1986	1983	1993	1982	1979	1983	1981	1984	1993	1982	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	291		767		291	
HIGHEST ANNUAL MEAN					767	1993
LOWEST ANNUAL MEAN					35.4	1989
HIGHEST DAILY MEAN	9760	Nov 21	13100	Jul 2	18800	Apr 3 1983
LOWEST DAILY MEAN	3.4	Jul 8	3.9	Oct 29	.18	Aug 7 1988
INSTANTANEOUS PEAK FLOW	--		20300	Jul 2	26900	Jun 6 1947
INSTANTANEOUS PEAK STAGE	--		19.14	Jul 2	19.7	Jul 6 1947
INSTANTANEOUS LOW FLOW	--		3.7	Oct 28-29	.17	Oct 23 1991
ANNUAL SEVEN-DAY MINIMUM	3.9	Jul 2	4.1	Oct 23	.44	Oct 20 1991
ANNUAL RUNOFF (INCHES)	10.85		28.54		10.82	
10 PERCENT EXCEEDS	569		2700		551	
50 PERCENT EXCEEDS	43		155		31	
90 PERCENT EXCEEDS	6.6		17		3.5	

SALT RIVER BASIN

05502500 NORTH FORK SALT RIVER NEAR SHELBINA, 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 Shelbina, 15.0 mi upstream from Black Creek and at mile 122.3.

DRAINAGE AREA.--481 mi^2.

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 Shelbina, 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.--No estimated daily discharges. Water-discharge records good except those below 50 ft^3/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 Shelbina. U. S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1928 reached a stage of 23.54 ft, from floodmarks, discharge, 18,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	42	162	494	532	87	3400	229	39	9350	531	226
2	20	221	130	113	685	436	734	173	39	12200	138	604
3	17	453	109	239	425	3440	421	216	37	14900	93	1360
4	13	123	93	3600	293	4730	369	1760	643	9440	71	640
5	8.6	61	72	4560	255	4450	294	1620	930	4140	50	184
6	11	39	65	991	209	4330	217	741	520	3300	42	1120
7	14	28	69	511	183	3610	172	3250	1290	3840	38	994
8	10	22	54	248	196	1820	183	4140	729	5840	34	324
9	17	19	59	234	204	852	224	927	435	7190	31	151
10	11	18	74	109	182	529	200	428	180	4890	1580	102
11	9.6	20	378	173	275	384	148	881	98	2860	2860	74
12	9.4	1060	565	153	1220	239	117	615	67	4500	3580	57
13	9.0	2000	310	142	851	148	656	329	52	2860	4790	380
14	8.8	438	376	117	408	98	4810	204	43	4560	1700	3880
15	8.5	165	3280	114	261	111	6780	141	37	3320	398	5730
16	8.5	107	5920	106	184	132	5840	105	32	906	189	3770
17	7.8	86	5730	96	132	123	3460	83	40	571	127	672
18	7.6	117	1110	74	117	96	812	79	73	338	96	297
19	7.4	831	493	68	123	86	659	67	114	228	76	363
20	7.1	3610	355	68	118	92	2190	59	453	230	70	1300
21	6.7	6320	226	102	142	116	985	56	355	279	59	631
22	5.4	8220	184	240	202	362	415	53	127	401	55	2820
23	5.3	6620	154	582	143	3390	270	59	166	3560	47	5970
24	4.9	4240	74	1490	96	2080	211	57	178	5720	44	5140
25	4.6	1010	84	858	49	765	206	59	635	7590	35	2330
26	4.7	2110	84	432	69	483	160	49	595	8810	32	4820
27	4.7	899	74	516	89	369	125	37	180	4000	30	2590
28	4.6	434	69	867	84	306	109	34	166	611	26	593
29	4.6	291	77	1020	---	251	107	29	390	331	26	273
30	4.5	216	108	669	---	230	225	43	1420	260	26	157
31	4.9	---	829	389	---	2470	---	44	---	652	149	---
TOTAL	280.2	39820	21367	19375	7727	36615	34499	16567	10063	127677	17023	47552
MEAN	9.04	1327	689	625	276	1181	1150	534	335	4119	549	1585
MAX	20	8220	5920	4560	1220	4730	6780	4140	1420	14900	4790	5970
MIN	4.5	18	54	68	49	86	107	29	32	228	26	57
IN.	.02	3.08	1.65	1.50	.60	2.83	2.67	1.28	.78	9.87	1.32	3.68

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

MEAN	137	172	151	206	343	463	494	399	442	340	123	182
MAX	809	1327	835	1319	1395	1417	1944	2310	4171	4119	1214	1831
(WY)	1958	1993	1972	1965	1949	1948	1944	1935	1947	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	353		1037		290	
HIGHEST ANNUAL MEAN					1037	1993
LOWEST ANNUAL MEAN					36.2	1989
HIGHEST DAILY MEAN	8220	Nov 22	14900	Jul 3	18600	Jun 7 1947
LOWEST DAILY MEAN	2.5	Jul 7	4.5	Oct 30	.00	Many Years
INSTANTANEOUS PEAK FLOW	--		16000	Jul 3	23000	Jun 7 1947
INSTANTANEOUS PEAK STAGE	--		23.78	Jul 3	27.4	Jun 7 1947
INSTANTANEOUS LOW FLOW	--		4.5	Oct 30	.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	3.0	Jun 26	4.7	Oct 24	.00	Many Years
ANNUAL RUNOFF (INCHES)	9.98		29.28		8.19	
10 PERCENT EXCEEDS	828		3670		696	
50 PERCENT EXCEEDS	49		216		30	
90 PERCENT EXCEEDS	6.9		26		1.5	

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

SALT RIVER BASIN

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

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT: March 25, 1988 to current year.

REMARKS.--Sediment records fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,970 mg/L, Mar. 31, 1993; 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, 2,970 mg/L, Mar. 31; minimum daily mean, 5 mg/L, Aug. 29.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 22,800 tons, Mar. 31; minimum daily, 0.19 ton, Oct. 23.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	71	3.8	42	51	10	162	51	22
2	20	69	3.8	221	246	190	130	47	17
3	17	63	2.9	453	312	395	109	44	13
4	13	33	1.2	123	161	56	93	38	9.6
5	8.6	29	.67	61	146	24	72	40	7.8
6	11	28	.80	39	121	13	65	8	1.3
7	14	24	.88	28	101	7.7	69	14	2.5
8	10	34	.92	22	82	4.9	54	8	1.1
9	17	30	1.4	19	83	4.3	59	9	1.4
10	11	26	.58	18	88	4.3	74	17	3.8
11	9.6	21	.46	20	125	7.0	378	157	204
12	9.4	24	.64	1060	1000	4060	565	228	353
13	9.0	22	.55	2000	863	5190	310	157	133
14	8.8	53	1.6	438	283	366	376	120	136
15	8.5	33	.58	165	109	50	3280	610	6050
16	8.5	41	1.1	107	57	17	5920	522	8240
17	7.8	37	.69	86	50	12	5730	287	4440
18	7.6	28	.64	117	67	23	1110	293	881
19	7.4	22	.55	831	392	1080	493	202	274
20	7.1	22	.42	3610	742	7020	355	54	54
21	6.7	22	.39	6320	313	5240	226	22	14
22	5.4	20	.22	8220	193	4280	184	35	17
23	5.3	23	.19	6620	323	5710	154	54	22
24	4.9	29	.52	4240	322	3750	74	54	11
25	4.6	21	.41	1010	288	797	84	47	10
26	4.7	21	.27	2110	851	5010	84	40	9.2
27	4.7	25	.32	899	306	849	74	35	7.0
28	4.6	30	.37	434	115	138	69	31	5.7
29	4.6	35	.43	291	69	55	77	28	5.8
30	4.5	38	.46	216	58	34	108	49	15
31	4.9	37	.49	---	---	---	829	98	240

SALT RIVER BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	494	184	224	532	192	288	87	85	20
2	113	132	41	685	295	537	436	155	249
3	239	81	59	425	228	268	3440	556	5710
4	3600	636	7170	293	137	110	4730	870	11100
5	4560	473	5980	255	92	63	4450	1080	13000
6	991	234	672	209	137	77	4330	952	11100
7	511	123	176	183	95	47	3610	910	8880
8	248	131	87	196	115	61	1820	933	4590
9	234	134	84	204	102	56	852	490	1170
10	109	131	39	182	126	62	529	309	443
11	173	128	60	275	205	165	384	287	297
12	153	124	51	1220	1070	3880	239	224	147
13	142	121	46	851	638	1590	148	159	64
14	117	118	37	408	211	241	98	112	29
15	114	116	36	261	152	107	111	80	24
16	106	113	32	184	142	71	132	61	22
17	96	109	28	132	133	47	123	67	22
18	74	102	20	117	125	40	96	77	20
19	68	94	17	123	117	39	86	87	20
20	68	87	16	118	117	37	92	86	21
21	102	90	26	142	160	63	116	88	28
22	240	176	120	202	145	79	362	191	284
23	582	309	519	143	108	42	3390	1850	18200
24	1490	569	2300	96	81	21	2080	1240	7780
25	858	275	682	49	63	8.4	765	512	1080
26	432	128	153	69	65	12	483	293	387
27	516	136	194	89	71	17	369	198	198
28	867	320	755	84	78	18	306	159	131
29	1020	156	448	---	---	---	251	130	88
30	669	109	195	---	---	---	230	189	134
31	389	128	132	---	---	---	2470	2970	22800
		APRIL			MAY			JUNE	
1	3400	1950	19300	229	156	96	39	94	9.9
2	734	770	1600	173	122	57	39	88	9.3
3	421	365	423	216	215	153	37	88	8.9
4	369	243	242	1760	1700	9610	643	440	791
5	294	169	135	1620	1000	4840	930	543	1350
6	217	127	75	741	674	1470	520	636	954
7	172	115	53	3250	1520	13600	1290	938	3310
8	183	106	53	4140	678	7730	729	447	887
9	224	113	69	927	451	1190	435	389	463
10	200	101	55	428	380	443	180	201	101
11	148	91	36	881	797	1910	98	129	34
12	117	106	33	615	497	848	67	126	23
13	656	253	913	329	183	169	52	174	25
14	4810	1500	19100	204	95	52	43	169	20
15	6780	563	10300	141	95	36	37	166	16
16	5840	522	8200	105	47	14	32	173	15
17	3460	630	5840	83	41	9.1	40	199	22
18	812	468	1040	79	29	6.2	73	236	47
19	659	448	889	67	29	5.3	114	279	91
20	2190	1470	8850	59	39	6.3	453	329	403
21	985	832	2400	56	49	7.3	355	393	369
22	415	315	364	53	48	6.8	127	517	173
23	270	164	121	59	47	7.5	166	677	313
24	211	117	67	57	63	9.7	178	480	242
25	206	112	62	59	77	12	635	768	1340
26	160	87	38	49	82	11	595	708	1170
27	125	71	24	37	69	7.0	180	367	182
28	109	86	25	34	78	7.1	166	457	213
29	107	76	22	29	75	5.9	390	816	959
30	225	83	56	43	93	11	1420	1210	4360
31	---	---	---	44	81	9.6	---	---	---

SALT RIVER BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	9350	524	12800	531	638	980	226	148	81
2	12200	240	7850	138	237	93	604	532	992
3	14900	172	6910	93	132	33	1360	587	2150
4	9440	180	4590	71	116	22	640	302	558
5	4140	622	6300	50	145	20	184	154	80
6	3300	1020	9100	42	99	11	1120	300	970
7	3840	870	9260	38	144	15	994	428	1160
8	5840	513	7910	34	121	11	324	218	203
9	7190	285	5530	31	86	7.2	151	195	79
10	4890	393	4850	1580	623	4270	102	77	22
11	2860	825	6410	2860	923	7190	74	53	11
12	4500	643	7690	3580	773	7430	57	51	7.9
13	2860	988	7520	4790	501	6500	380	301	552
14	4560	929	11100	1700	302	1480	3880	1190	13400
15	3320	388	3580	398	198	217	5730	1440	21700
16	906	411	995	189	129	67	3770	272	2810
17	571	241	382	127	85	29	672	196	365
18	338	151	139	96	55	14	297	158	126
19	228	102	63	76	36	7.4	363	169	192
20	230	145	91	70	15	2.9	1300	430	1490
21	279	238	177	59	9	1.5	631	254	447
22	401	175	226	55	15	2.3	2820	285	2300
23	3560	731	7370	47	28	3.5	5970	358	5780
24	5720	440	6560	44	18	2.2	5140	241	3380
25	7590	186	3760	35	14	1.3	2330	473	3510
26	8810	121	2880	32	23	2.0	4820	753	9760
27	4000	304	2410	30	19	1.5	2590	518	3840
28	611	1240	2050	26	9	.59	593	262	438
29	331	249	229	26	5	.35	273	124	94
30	260	174	117	26	17	1.2	157	103	44
31	652	793	1900	149	47	24	---	---	---

SALT RIVER BASIN

05503800 CROOKED CREEK NEAR PARIS, MO

LOCATION.--Lat 39°35'06", long 91°59'36", near NW corner S ½ 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 mi^2.

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.--Estimated daily discharges: Jan. 31 to Feb. 5. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.24	4.4	9.6	32	8.6	329	12	2.8	4620	468	3.8
2	.06	.18	3.4	9.1	40	71	76	12	2.9	2050	35	85
3	.05	.12	2.6	10	33	697	43	28	3.5	172	11	867
4	.00	.10	2.3	617	20	700	124	349	255	141	6.5	96
5	.00	.06	2.2	371	17	636	90	397	109	31	4.8	12
6	.00	.05	2.0	99	17	874	39	73	391	167	4.3	423
7	.00	.00	1.8	37	17	692	26	1190	412	1780	3.9	471
8	.00	.00	1.7	20	21	306	24	1040	55	2740	3.5	19
9	.00	.00	1.8	14	31	101	21	70	20	158	3.2	8.9
10	.00	.13	2.5	11	24	53	17	44	10	33	131	5.9
11	.00	.34	9.3	10	36	33	14	104	6.4	22	805	4.5
12	.00	26	25	10	202	22	20	56	4.6	21	2480	3.9
13	.00	42	21	12	107	16	488	29	3.6	221	1650	155
14	.00	27	44	11	43	12	795	18	2.8	1310	33	1820
15	.00	8.4	1330	9.7	24	12	589	12	2.3	411	16	957
16	.00	4.3	1760	9.2	19	15	578	8.5	1.9	114	11	34
17	.00	2.7	291	9.8	15	17	174	6.7	1.6	233	8.3	15
18	.00	35	56	8.1	9.8	15	57	6.0	1.6	29	6.2	8.8
19	.00	89	33	6.2	8.1	11	227	5.0	2.9	16	5.1	20
20	.00	835	22	6.3	9.5	12	326	4.4	2.8	12	4.5	475
21	.00	1030	17	12	14	24	75	3.9	14	31	4.1	46
22	.00	384	15	27	22	239	37	3.5	5.3	28	3.9	2640
23	.00	463	11	92	17	773	26	3.4	3.1	326	3.6	4260
24	.00	72	8.1	119	9.3	184	21	4.7	3.1	1250	3.4	848
25	.00	41	6.4	48	7.5	78	46	3.5	315	1140	3.2	834
26	.00	97	5.2	35	7.3	46	29	2.8	60	41	4.5	936
27	.00	45	4.6	49	7.6	32	21	2.6	13	18	3.7	125
28	.00	16	4.4	98	7.8	25	16	2.3	21	10	3.3	53
29	.00	9.1	4.9	24	---	20	16	2.0	12	7.2	3.5	38
30	.00	6.0	6.7	38	---	71	13	2.4	196	5.9	3.8	31
31	.02	---	8.0	36	---	834	---	2.7	---	38	7.8	---
MEAN	.007	108	120	60.3	29.2	214	145	113	64.5	554	223	510
MAX	.10	1030	1760	617	202	874	795	1190	412	4620	2480	4260
MIN	.00	.00	1.7	6.2	7.3	8.6	13	2.0	1.6	5.9	3.2	3.8
IN.	.00	1.50	1.72	.87	.38	3.08	2.03	1.63	.90	7.99	3.22	7.11

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

MEAN	32.3	77.1	72.2	23.9	70.9	86.8	69.4	100	66.8	98.6	29.8	56.3
MAX	320	550	247	86.4	359	214	319	362	230	554	223	510
(WY)	1987	1986	1983	1982	1985	1993	1983	1990	1990	1993	1993	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	34.6		179		65.3	
HIGHEST ANNUAL MEAN					179	1993
LOWEST ANNUAL MEAN					7.38	1989
HIGHEST DAILY MEAN	1760	Dec 16	4620	Jul 1	4620	Jul 1 1993
LOWEST DAILY MEAN	.00	Many Days	.00	Oct 4-30, Nov 7-9	.00	Many Years
INSTANTANEOUS PEAK FLOW	--		8100	Jul 1	12100	Apr 21 1973
INSTANTANEOUS PEAK STAGE	--		12.68	Jul 1	15.53	Apr 21 1973
INSTANTANEOUS LOW FLOW	--		.00	Many Days	.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 25	.00	Oct 4	.00	Many Years
ANNUAL RUNOFF (INCHES)	5.88		30.43		11.09	
10 PERCENT EXCEEDS	44		524		94	
50 PERCENT EXCEEDS	2.8		16		3.7	
90 PERCENT EXCEEDS	.00		.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 ¼ SE ¼ 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 mi^2.

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.--Estimated daily discharge: Sept. 23. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	9.4	40	39	69	41	113	90	14	719	18	36
2	1.9	40	31	32	59	189	97	87	11	724	26	661
3	1.6	80	25	28	51	1870	84	80	11	232	25	2590
4	1.6	53	20	2110	44	2210	393	87	16	95	17	775
5	1.8	25	18	2180	39	1410	378	93	29	44	13	174
6	1.7	15	15	331	35	1710	169	72	681	25	11	99
7	1.6	10	13	181	34	1030	115	323	775	1870	10	66
8	1.7	7.6	13	134	32	484	98	863	194	2790	9.2	50
9	1.8	5.9	13	106	31	270	94	244	80	832	8.1	39
10	1.8	8.6	22	97	30	173	80	117	40	663	33	30
11	3.7	119	169	82	31	125	63	104	23	278	180	24
12	3.3	1330	170	80	112	98	116	84	16	110	2070	19
13	2.2	1790	80	86	265	79	1310	66	11	88	1210	20
14	1.5	236	63	101	148	61	1100	50	8.8	415	207	1710
15	1.9	70	1960	78	97	51	3300	39	7.1	1830	109	2260
16	7.2	38	4040	64	69	66	2650	30	5.9	2390	69	346
17	9.2	25	1350	66	50	91	642	31	5.4	863	48	169
18	4.4	18	268	66	42	88	285	647	4.8	225	35	106
19	3.0	16	171	50	32	68	1010	267	4.7	129	27	241
20	2.5	388	161	43	31	68	3040	105	5.0	146	22	2130
21	2.2	2960	158	89	46	92	723	58	4.2	157	18	722
22	1.8	2430	110	267	115	317	258	41	4.3	103	14	2280
23	1.4	3110	88	752	149	1270	172	36	35	61	12	20300
24	1.4	586	68	1360	93	505	146	28	30	124	24	14700
25	1.9	192	50	367	42	255	2310	25	547	116	57	2760
26	3.0	332	39	200	45	169	1260	22	790	53	30	1680
27	3.1	198	33	157	40	128	264	17	114	40	17	445
28	3.1	100	29	163	41	105	164	13	46	30	12	229
29	3.2	71	29	193	---	88	123	11	29	23	9.1	139
30	3.1	52	33	133	---	76	103	24	22	19	7.8	92
31	7.1	---	39	97	---	80	---	24	---	19	8.4	---
MEAN	2.84	477	301	314	66.9	428	689	122	119	491	141	1830
MAX	9.2	3110	4040	2180	265	2210	3300	863	790	2790	2070	20300
MIN	1.4	5.9	13	28	30	41	63	11	4.2	19	7.8	19
IN.	.01	2.29	1.49	1.55	.30	2.12	3.30	.60	.57	2.43	.70	8.76

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

MEAN	131	130	141	134	207	319	317	290	247	214	54.0	146
MAX	1646	1378	1447	792	1031	1715	1734	2238	1307	2415	544	1830
(WY)	1942	1986	1983	1974	1985	1973	1944	1943	1942	1969	1982	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	104		414		194	
HIGHEST ANNUAL MEAN					509	1969
LOWEST ANNUAL MEAN					10.7	1954
HIGHEST DAILY MEAN	4040	Dec 16	20300	Sep 23	24000	Oct 13 1969
LOWEST DAILY MEAN	1.0	Sep 1	1.4	Oct 23-24	.00	Many Years
INSTANTANEOUS PEAK FLOW	--		31800	Sep 23	31800	Sep 23 1993
INSTANTANEOUS PEAK STAGE	--		28.66	Sep 23	28.66	Sep 23 1993
INSTANTANEOUS LOW FLOW	--		1.2	Oct 23-24	.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	1.1	Aug 27	1.7	Oct 3	.00	Many Years
ANNUAL RUNOFF (INCHES)	6.05		24.12		11.31	
10 PERCENT EXCEEDS	169		1230		317	
50 PERCENT EXCEEDS	11		70		16	
90 PERCENT EXCEEDS	1.8		6.6		1.4	

SALT RIVER BASIN

05506500 MIDDLE FORK SALT RIVER AT PARIS, MO

LOCATION.--Lat 39°29'01", long 92°00'49", in NE ¼ NE ¼ NE ¼ 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.

DRAINAGE AREA.--356 mi^2.

WATER-DISCHARGE RECORDS

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

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.

REMARKS.--Estimated daily discharges: July 18 to Aug. 2 and Sept. 24-30. Water-discharge records good except for estimated daily discharges, which are poor. City of Paris water intakes are in the same pool as gage. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.7	2.8	94	127	217	54	1650	129	26	2630	274	55
2	7.6	3.5	84	140	171	210	548	118	32	4880	326	177
3	6.7	104	79	150	194	2400	288	132	33	6360	178	1180
4	6.0	194	68	1570	171	2670	497	795	130	3920	94	782
5	4.6	105	58	2350	135	2670	569	1490	370	1260	64	199
6	3.4	60	51	1940	120	2980	312	371	357	513	52	154
7	3.4	35	43	746	117	2700	216	1430	1550	2510	38	959
8	3.8	24	37	205	114	1750	186	2650	655	5170	32	360
9	5.4	18	38	131	118	724	226	2260	231	6020	28	148
10	4.2	19	50	113	128	349	213	450	247	2920	990	87
11	2.0	18	161	130	124	240	163	244	124	414	1010	58
12	1.2	37	436	123	264	184	150	308	71	251	3300	41
13	.69	462	253	121	599	146	1470	297	47	566	4130	116
14	.59	608	197	113	342	120	2740	188	35	2370	2290	2590
15	.55	185	1720	119	206	108	2860	137	27	3290	290	2470
16	.45	84	3700	102	117	125	3050	106	22	1940	145	2240
17	.35	48	3530	94	113	127	2650	86	19	598	105	453
18	.30	71	2430	86	114	123	905	76	30	249	78	167
19	.25	134	414	76	94	108	970	66	244	100	60	141
20	.19	1320	206	71	65	102	2320	59	252	200	51	589
21	.18	2700	173	87	69	136	932	56	308	1600	45	960
22	.17	3020	144	165	83	407	330	51	118	707	41	2940
23	.16	3430	118	442	124	1980	228	47	67	1270	34	7850
24	.15	2560	97	1370	115	1950	187	129	42	2250	29	10900
25	.15	763	82	1020	67	990	310	60	365	3130	26	5680
26	.16	679	70	417	49	365	251	45	966	2910	26	2480
27	.18	714	62	338	46	255	188	37	261	2350	25	464
28	.20	264	52	478	49	203	145	32	103	249	21	300
29	.22	159	52	469	---	173	133	26	86	28	18	200
30	1.9	117	61	378	---	209	129	25	131	25	20	125
31	1.4	---	80	303	---	2000	---	26	---	46	47	---
MEAN	2.14	598	472	451	147	857	827	385	232	1959	447	1495
MAX	9.7	3430	3700	2350	599	2980	3050	2650	1550	6360	4130	10900
MIN	.15	2.8	37	71	46	54	129	25	19	25	18	41
IN.	.01	1.87	1.53	1.46	.43	2.78	2.59	1.25	.73	6.35	1.45	4.69

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

MEAN	170	183	174	169	270	440	464	363	314	283	102	150
MAX	1815	2083	1255	829	1634	1837	3164	1396	1747	2100	1195	1495
(WY)	1987	1986	1983	1946	1985	1973	1973	1981	1947	1981	1958	1993
MIN	.000	.000	.37	1.08	2.61	3.26	13.3	12.6	2.31	.37	1.13	.18
(WY)	1957	1954	1954	1954	1989	1956	1989	1941	1988	1954	1953	1953

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	196		659		257	
HIGHEST ANNUAL MEAN					743	1973
LOWEST ANNUAL MEAN					53.1	1956
HIGHEST DAILY MEAN	3700	Dec 16	10900	Sep 24	24800	Apr 22 1973
LOWEST DAILY MEAN	.00	Aug 27	.15	Oct 24-25	.00	Many Years
INSTANTANEOUS PEAK FLOW	--		11500	Sep 24	45000	Apr 21 1973
INSTANTANEOUS PEAK STAGE	--		19.03	Sep 24	33.5	Apr 21 1973
INSTANTANEOUS LOW FLOW	--		.15	Oct 24-25	.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	.16	Oct 21	.16	Oct 21	.00	Many Years
ANNUAL RUNOFF (INCHES)	7.48		25.13		9.79	
10 PERCENT EXCEEDS	406		2410		584	
50 PERCENT EXCEEDS	29		144		30	
90 PERCENT EXCEEDS	2.4		19		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.

REMARKS.--Sediment records fair.

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, 1,300 mg/L, Mar. 31; minimum daily mean, 5 mg/L, Jan. 2 and 3.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 12,800 tons, Sept. 23; minimum daily, 0.01 ton, many days.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	9.7	58	1.5	2.8	21	.19	94	83	21
2	7.6	46	.95	3.5	22	.20	84	176	40
3	6.7	27	.49	104	41	15	79	174	37
4	6.0	33	.53	194	232	123	68	145	27
5	4.6	25	.31	105	58	18	58	113	18
6	3.4	23	.21	60	37	5.9	51	138	19
7	3.4	31	.29	35	43	4.0	43	137	16
8	3.8	38	.40	24	44	2.8	37	146	14
9	5.4	45	.66	18	38	1.9	38	155	16
10	4.2	46	.53	19	33	1.7	50	149	20
11	2.0	36	.25	18	32	1.5	161	124	53
12	1.2	27	.09	37	42	4.3	436	122	143
13	.69	24	.04	462	261	431	253	112	76
14	.59	29	.05	608	385	653	197	126	67
15	.55	26	.04	185	211	110	1720	498	3340
16	.45	24	.03	84	143	33	3700	529	5300
17	.35	17	.02	48	109	14	3530	318	3040
18	.30	6	.01	71	119	23	2430	224	1500
19	.25	12	.01	134	143	59	414	149	173
20	.19	24	.01	1320	649	2750	206	108	61
21	.18	20	.01	2700	642	4700	173	81	38
22	.17	19	.01	3020	470	3820	144	54	21
23	.16	23	.01	3430	355	3290	118	35	11
24	.15	17	.01	2560	282	1950	97	30	7.9
25	.15	19	.01	763	256	529	82	28	6.1
26	.16	17	.01	679	231	421	70	23	4.4
27	.18	18	.01	714	205	395	62	13	2.2
28	.20	21	.01	264	194	140	52	12	1.6
29	.22	22	.01	159	101	44	52	10	1.4
30	1.9	23	.12	117	180	56	61	10	1.6
31	1.4	21	.08	---	---	---	80	10	2.1

SALT RIVER BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	127	7	2.3	217	64	38	54	---	10
2	140	5	1.7	171	65	30	210	---	80
3	150	5	2.0	194	68	35	2400	459	3170
4	1570	571	3560	171	57	26	2670	535	3860
5	2350	644	4130	135	42	15	2670	444	3200
6	1940	416	2190	120	39	13	2980	522	4190
7	746	259	561	117	41	13	2700	664	4810
8	205	195	108	114	30	9.3	1750	690	3280
9	131	142	52	118	20	6.4	724	392	806
10	113	41	12	128	22	7.7	349	215	206
11	130	19	6.7	124	28	9.2	240	138	90
12	123	18	5.9	264	33	26	184	92	46
13	121	17	5.4	599	212	346	146	64	25
14	113	16	4.8	342	167	161	120	48	16
15	119	15	4.7	206	144	78	108	38	11
16	102	14	3.7	117	---	31	125	33	11
17	94	13	3.2	113	---	29	127	23	7.8
18	86	12	2.8	114	---	29	123	15	5.1
19	76	11	2.3	94	---	21	108	15	4.4
20	71	10	2.0	65	---	13	102	10	2.7
21	87	16	3.8	69	---	13	136	16	6.0
22	165	33	16	83	---	19	407	51	87
23	442	139	197	124	---	32	1980	1250	7010
24	1370	293	1080	115	---	30	1950	1040	5600
25	1020	202	565	67	---	13	990	298	857
26	417	110	127	49	---	9.0	365	188	188
27	338	58	54	46	---	8.5	255	131	91
28	478	68	89	49	---	9.0	203	108	59
29	469	92	115	---	---	---	173	92	43
30	378	57	58	---	---	---	209	112	89
31	303	56	45	---	---	---	2000	1300	7650
		APRIL			MAY			JUNE	
1	1650	753	3560	129	13	4.4	26	12	.86
2	548	381	591	118	15	4.7	32	7	.63
3	288	239	185	132	18	6.5	33	12	1.1
4	497	---	250	795	42	111	130	38	26
5	569	---	300	1490	118	451	370	159	165
6	312	---	145	371	115	118	357	100	96
7	216	---	82	1430	136	652	1550	633	2710
8	186	---	47	2650	106	768	655	422	828
9	226	---	79	2260	64	392	231	200	127
10	213	---	77	450	56	68	247	145	97
11	163	---	50	244	54	36	124	140	46
12	150	105	43	308	120	103	71	151	29
13	1470	186	893	297	83	69	47	142	18
14	2740	836	6090	188	28	15	35	91	8.6
15	2860	823	6300	137	21	7.6	27	86	6.2
16	3050	485	4000	106	20	5.8	22	80	4.7
17	2650	291	2100	86	20	4.6	19	78	4.0
18	905	222	554	76	16	3.2	30	74	6.3
19	970	171	462	66	17	3.0	244	120	79
20	2320	536	3250	59	14	2.3	252	297	202
21	932	389	1060	56	9	1.4	308	153	139
22	330	191	173	51	7	1.0	118	198	61
23	228	123	77	47	8	1.1	67	226	41
24	187	70	36	129	21	6.7	42	162	19
25	310	51	42	60	44	7.0	365	397	463
26	251	45	30	45	44	5.4	966	390	1030
27	188	54	27	37	34	3.3	261	245	180
28	145	48	19	32	21	1.8	103	135	39
29	133	29	11	26	11	.77	86	102	23
30	129	14	4.9	25	10	.68	131	102	36
31	---	---	---	26	12	.82	---	---	---

SALT RIVER BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	2630	523	4350	274	260	385	55	76	11
2	4880	705	9110	326	220	235	177	79	48
3	6360	478	8280	178	104	51	1180	530	1910
4	3920	314	3400	94	93	24	782	380	903
5	1260	162	623	64	81	14	199	180	100
6	513	119	176	52	69	9.7	154	157	79
7	2510	365	2900	38	65	6.6	959	532	1420
8	5170	778	10900	32	49	4.2	360	192	204
9	6020	397	6540	28	67	5.0	148	110	45
10	2920	178	1490	990	1240	4710	87	84	20
11	414	96	112	1010	974	2840	58	93	15
12	251	92	63	3300	84	704	41	82	9.1
13	566	118	185	4130	616	6810	116	111	54
14	2370	181	1190	2290	283	1900	2590	672	4950
15	3290	472	4260	290	161	131	2470	376	2520
16	1940	291	1730	145	93	37	2240	242	1480
17	598	102	164	105	64	18	453	116	162
18	249	87	78	78	36	7.7	167	79	35
19	100	79	38	60	59	9.5	141	152	60
20	200	263	455	51	99	14	589	336	596
21	1600	283	1570	45	31	3.7	960	374	956
22	707	416	974	41	36	3.9	2940	1000	8690
23	1270	1180	4490	34	34	3.1	7850	642	12800
24	2250	1230	8070	29	21	1.7	10900	232	6910
25	3130	473	4440	26	55	3.9	5680	167	3430
26	2910	258	2690	26	59	4.2	2480	241	2940
27	2350	143	1260	25	63	4.1	464	232	1790
28	249	77	197	21	74	4.2	300	167	689
29	28	62	37	18	85	4.2	200	128	235
30	25	57	19	20	67	3.7	125	38	37
31	46	59	16	47	75	9.4	---	---	---

SALT RIVER BASIN

05506800 ELK FORK SALT RIVER NEAR MADISON, MO

LOCATION.--Lat 39°26'05", long 92°10'04", in SE ¼ NE ¼ SW ¼ 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 mi^2.

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 ft^3/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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	.78	16	26	60	22	806	66	12	3110	257	20
2	1.5	.82	12	23	51	422	250	55	11	1320	80	215
3	1.4	1.1	9.8	33	42	2330	174	93	9.4	203	31	1800
4	1.5	.90	8.2	1040	35	1690	864	233	106	111	18	402
5	1.2	.66	6.7	363	31	1240	361	181	192	52	24	83
6	.85	.51	7.9	163	29	1690	172	101	781	36	16	45
7	.82	.51	8.0	135	30	1060	124	958	1860	3500	11	32
8	.96	.48	8.0	71	31	429	116	980	237	6310	8.0	25
9	.99	.39	9.0	57	30	219	111	189	104	584	5.8	18
10	.77	.53	15	52	29	149	87	104	58	156	862	12
11	.69	.64	114	42	31	104	66	82	36	91	994	9.0
12	.63	53	142	42	149	74	116	71	26	63	2640	7.4
13	.68	235	76	50	218	54	2160	63	21	118	1530	283
14	.60	75	59	48	117	38	2670	46	16	961	154	3660
15	.58	23	2190	42	73	41	2180	34	12	2350	79	1600
16	.53	11	4250	40	45	61	1440	26	9.9	1370	47	193
17	.47	6.1	714	42	48	75	425	21	8.7	283	32	102
18	.43	5.4	182	35	31	68	196	148	309	126	23	63
19	.39	18	119	25	21	52	1640	161	144	70	18	135
20	.22	829	85	26	24	77	3650	55	141	304	13	962
21	.15	2020	62	61	33	108	493	30	66	246	10	286
22	.16	919	49	148	43	549	197	21	35	306	8.4	3910
23	.20	1380	40	533	38	1650	143	18	23	591	6.5	14200
24	.21	213	25	1230	19	439	116	38	21	628	5.5	9080
25	.21	137	24	361	16	232	995	93	61	447	7.5	2090
26	.21	289	19	224	16	156	404	32	121	117	5.4	1690
27	.24	142	16	238	18	119	157	19	67	135	4.6	253
28	.31	62	15	346	18	95	111	12	60	74	3.9	124
29	.40	34	17	376	---	77	94	9.3	81	33	4.9	72
30	.60	22	24	188	---	129	83	9.1	139	20	13	44
31	.56	---	30	109	---	1570	---	9.3	---	35	18	---
MEAN	.64	216	269	199	47.4	484	680	128	159	766	224	1381
MAX	1.5	2020	4250	1230	218	2330	3650	980	1860	6310	2640	14200
MIN	.15	.39	6.7	23	16	22	66	9.1	8.7	20	3.9	7.4
IN.	.00	1.21	1.55	1.15	.25	2.79	3.79	.74	.89	4.42	1.29	7.70

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

MEAN	116	146	160	113	178	279	314	220	180	168	46.6	137
MAX	1077	1248	750	533	935	1154	1651	810	1005	1409	256	1381
(WY)	1987	1986	1983	1974	1985	1973	1973	1990	1969	1981	1985	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	80.8		380		171	
HIGHEST ANNUAL MEAN					380	1993
LOWEST ANNUAL MEAN					23.6	1976
HIGHEST DAILY MEAN	4250	Dec 16	14200	Sep 23	24100	Apr 21 1973
LOWEST DAILY MEAN	.15	Oct 21	.15	Oct 21	.00	Aug 4-10 1976
INSTANTANEOUS PEAK FLOW	--		17500	Sep 23	42300	Apr 21 1973
INSTANTANEOUS PEAK STAGE	--		26.81	Sep 23	33.4	Apr 21 1973
INSTANTANEOUS LOW FLOW	--		0.09	Oct 21	.00	Aug 4-10 1976
ANNUAL SEVEN-DAY MINIMUM	.19	Oct 20	.19	Oct 20	.00	Aug 4 1976
ANNUAL RUNOFF (INCHES)	5.50		25.78		11.63	
10 PERCENT EXCEEDS	138		1010		286	
50 PERCENT EXCEEDS	8.6		60		14	
90 PERCENT EXCEEDS	.72		1.1		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 mi^2.

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.--Estimated daily discharges: July 9 to Aug. 22 and Sept. 24-30. 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 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.27	8.7	9.1	16	6.8	17	15	2.9	1280	3.5	4.5
2	.01	1.6	7.2	6.8	13	91	15	13	2.8	197	4.0	411
3	.01	1.0	5.3	6.5	12	719	14	12	2.4	67	3.2	1760
4	.01	1.0	4.6	1910	10	924	38	65	2.7	26	2.7	183
5	.01	.77	3.6	480	8.9	988	41	37	2.8	11	2.4	59
6	.00	.63	3.4	75	8.2	1020	26	20	197	6.5	2.1	32
7	.00	.55	3.3	38	8.0	578	19	498	328	3360	2.0	20
8	.01	.52	3.0	24	8.0	211	19	344	57	1760	1.9	13
9	.02	.53	3.1	17	8.0	90	18	66	21	119	1.8	8.9
10	.01	11	4.4	15	8.0	50	14	98	35	149	15	6.6
11	.01	32	14	12	9.1	31	11	402	11	64	81	4.9
12	.00	481	13	13	98	22	51	107	5.1	27	931	3.9
13	.00	280	11	18	82	17	701	60	3.4	23	544	5.1
14	.00	45	8.6	17	36	13	681	33	2.4	68	93	1860
15	.02	18	2040	12	21	11	2080	20	1.8	950	49	839
16	.01	9.8	1600	11	15	21	739	13	1.5	515	31	117
17	.01	6.6	160	14	11	27	168	8.9	2.0	430	22	53
18	.01	6.4	59	10	6.8	20	69	507	3.8	110	16	34
19	.01	20	35	6.7	6.0	17	867	121	8.4	58	12	94
20	.01	871	51	8.2	6.9	17	1210	34	5.1	73	8.0	57
21	.01	1710	35	28	10	21	146	17	2.7	619	5.0	117
22	.01	1480	20	71	15	104	60	11	1.6	368	3.0	4860
23	.01	834	15	357	14	552	38	9.2	24	507	2.6	7880
24	.01	110	11	427	6.8	142	39	7.2	5.1	400	2.4	1500
25	.00	68	8.4	111	6.6	66	1030	5.2	201	100	2.1	1000
26	.00	151	6.2	53	6.8	42	134	4.0	46	24	1.8	600
27	.00	49	5.0	43	5.5	30	52	3.3	14	18	1.5	200
28	.00	23	4.4	88	5.5	23	32	2.8	5.6	10	1.5	103
29	.01	15	5.3	131	---	19	23	2.6	3.0	6.0	1.4	62
30	.02	12	7.9	40	---	17	18	2.7	59	5.0	1.4	41
31	.04	---	11	22	---	16	---	2.3	---	4.5	1.6	---
MEAN	.009	208	134	131	16.5	191	279	82.0	35.3	366	59.7	748
MAX	.04	1710	2040	1910	98	1020	2080	507	328	3360	931	7880
MIN	.00	.27	3.0	6.5	5.5	6.8	11	2.3	1.5	4.5	1.4	3.9
IN.	.00	2.23	1.49	1.46	.17	2.11	2.99	.91	.38	4.06	.66	8.03

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

MEAN	13.8	99.4	103	40.8	89.6	89.9	86.0	97.4	53.0	103	27.3	67.4
MAX	95.9	652	442	151	389	340	302	313	221	482	143	748
(WY)	1987	1986	1983	1982	1985	1984	1984	1991	1982	1981	1982	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	46.1		188		72.4	
HIGHEST ANNUAL MEAN					188	1993
LOWEST ANNUAL MEAN					15.1	1980
HIGHEST DAILY MEAN	2040	Dec 15	7880	Sep 23	7880	Sep 23 1993
LOWEST DAILY MEAN	.00	Many Days	.00	Oct 6-7, 12-14, 25-28	.00	Many Years
INSTANTANEOUS PEAK FLOW	--		10900	Sep 23	10900	Sep 23 1993
INSTANTANEOUS PEAK STAGE	--		21.96	Sep 23	21.96	Sep 23 1993
INSTANTANEOUS LOW FLOW	--		.00	Many Days	.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 22	.00	Oct 22	.00	Many Years
ANNUAL RUNOFF (INCHES)	6.03		24.49		9.46	
10 PERCENT EXCEEDS	36		527		85	
50 PERCENT EXCEEDS	2.5		15		3.5	
90 PERCENT EXCEEDS	.03		.71		.02	

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 mi^2.

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, 1,381,000 ac-ft, Sept. 27, elevation, 636.77 ft; minimum, 452,000 ac-ft, Nov. 3, elevation, 600.76 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	603.36	600.84	612.91	610.31	609.07	607.13	613.42	624.50	616.03	615.40	634.07	624.98
2	603.36	600.91	612.56	609.94	608.93	607.17	614.00	624.42	615.75	618.20	633.83	624.57
3	603.28	600.76	612.24	609.71	608.85	607.50	614.03	624.13	615.44	620.30	633.42	625.21
4	603.27	600.88	611.79	609.69	608.81	609.24	614.18	623.95	615.23	622.00	633.00	625.61
5	603.24	600.90	611.27	610.82	608.69	610.94	614.39	624.22	615.06	623.20	632.50	625.37
6	603.17	600.92	610.78	611.48	608.55	612.85	614.47	624.44	614.81	623.80	632.07	625.01
7	603.08	600.93	610.30	611.49	608.45	614.55	614.45	624.42	615.23	624.20	631.57	624.82
8	603.08	600.87	609.76	611.23	608.26	615.78	614.39	625.30	615.41	626.77	631.06	624.47
9	603.08	600.88	609.28	610.91	608.15	616.30	614.32	625.90	615.36	633.90	630.53	623.94
10	603.04	600.93	608.94	610.68	608.04	616.51	614.26	625.78	615.09	629.48	630.13	623.32
11	603.02	600.92	608.54	610.34	607.90	616.33	614.27	625.68	615.01	630.05	630.39	622.65
12	603.01	601.10	608.30	609.99	607.83	616.14	614.07	625.46	614.96	630.26	631.76	622.02
13	602.98	601.61	608.26	609.75	608.04	615.91	614.22	625.15	614.86	630.53	633.14	621.33
14	603.00	602.20	608.05	609.29	608.21	615.67	615.83	624.76	614.76	631.06	633.48	621.41
15	602.96	602.40	607.89	608.96	608.13	615.49	617.53	624.33	614.66	631.91	633.22	623.08
16	602.92	602.50	611.06	608.64	608.00	615.05	619.69	623.90	614.57	633.30	632.79	623.87
17	602.82	602.50	613.37	608.32	607.83	614.51	621.02	623.44	614.38	633.77	632.29	623.96
18	602.77	602.60	614.66	607.88	607.59	613.93	621.66	623.21	614.24	633.93	631.79	623.57
19	602.72	602.80	615.08	607.50	607.24	613.34	621.74	622.77	614.14	633.98	631.47	623.08
20	602.53	603.10	615.22	607.11	607.10	612.80	623.34	622.16	614.06	633.83	630.96	623.02
21	602.49	607.50	615.27	606.90	607.17	612.16	624.15	621.51	614.13	634.03	630.41	623.14
22	602.41	608.15	614.90	606.69	607.28	611.62	624.03	621.29	614.03	633.86	629.87	623.25
23	602.20	610.12	614.51	606.89	607.14	611.66	623.84	620.96	613.80	633.61	629.33	629.36
24	602.17	611.78	614.01	607.50	607.10	612.34	623.83	620.68	613.90	633.99	629.00	634.23
25	602.16	612.59	613.51	608.36	607.08	612.80	624.16	619.99	614.10	634.22	628.72	636.23
26	602.09	612.77	612.91	608.66	607.07	612.88	624.57	619.30	614.30	634.51	628.18	636.75
27	601.71	613.00	612.34	608.74	607.09	612.95	624.64	618.59	614.50	634.80	627.63	636.77
28	601.37	613.20	611.80	608.91	607.13	613.01	624.62	618.01	614.40	634.79	627.00	636.23
29	601.35	613.23	611.43	609.02	---	613.05	624.62	617.37	614.40	634.36	626.44	635.52
30	600.89	613.30	611.10	609.10	---	612.55	624.51	616.91	614.50	634.40	625.83	634.86
31	600.83	---	610.71	609.19	---	612.58	---	616.49	---	633.90	625.46	---
MAX	603.36	613.30	615.27	611.49	609.07	616.51	624.64	625.90	616.03	634.80	634.07	636.77
MIN	600.83	600.76	607.89	606.69	607.07	607.13	613.42	616.49	613.80	615.40	625.46	621.33
(-)	453000	693000	637000	606000	565000	678000	978000	767000	721000	1277000	1005000	1311000
(=)	-44000	+240000	-56000	-31000	-41000	+113000	+300000	-211000	-46000	+556000	-272000	+306000

CAL YR 1992. . . . . +28000
WTR YR 1993. . . . .+814000

(-) 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 1992 TO SEPTEMBER 1993
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	496000	453000	685000	629000	604000	565000	696000	978000	756000	742000	1280000	991000
2	496000	454000	677000	621000	601000	566000	709000	975000	750000	809000	1270000	980000
3	495000	452000	670000	617000	599000	573000	710000	967000	742000	863000	1260000	998000
4	495000	454000	660000	616000	598000	607000	713000	962000	738000	908000	1250000	1010000
5	494000	454000	649000	640000	596000	642000	718000	970000	734000	941000	1230000	1000000
6	493000	455000	639000	654000	593000	683000	720000	976000	728000	958000	1210000	992000
7	491000	455000	629000	654000	581000	722000	720000	975000	738000	969000	1200000	987000
8	491000	454000	618000	648000	588000	750000	718000	1000000	742000	1040000	1180000	977000
9	491000	454000	608000	642000	585000	763000	717000	1020000	741000	1280000	1160000	962000
10	491000	455000	601000	637000	583000	768000	715000	1010000	735000	1130000	1150000	944000
11	490000	465000	593000	630000	580000	764000	715000	1010000	732000	1150000	1160000	926000
12	490000	456000	588000	622000	579000	759000	711000	1010000	731000	1150000	1200000	909000
13	490000	466000	588000	618000	583000	754000	714000	996000	729000	1160000	1250000	890000
14	490000	479000	583000	608000	587000	747000	752000	985000	727000	1180000	4260000	892000
15	489000	481000	580000	601000	585000	744000	793000	973000	724000	1210000	1250000	938000
16	489000	482000	645000	595000	582000	733000	847000	960000	722000	1260000	1240000	960000
17	487000	482000	695000	589000	579000	721000	882000	948000	718000	1270000	1220000	962000
18	486000	486000	724000	580000	574000	708000	899000	941000	715000	1280000	1200000	951000
19	485000	492000	734000	573000	568000	694000	901000	929000	712000	1280000	1190000	938000
20	482000	517000	737000	565000	565000	682000	945000	912000	711000	1270000	1180000	936000
21	481000	573000	738000	561000	566000	668000	968000	892000	712000	1280000	1160000	939000
22	480000	585000	730000	557000	568000	657000	964000	889000	710000	1280000	1140000	942000
23	476000	625000	721000	561000	566000	658000	959000	880000	705000	1270000	1120000	1120000
24	476000	660000	709000	573000	565000	672000	959000	873000	707000	1280000	1110000	1290000
25	475000	678000	698000	590000	564000	682000	968000	855000	711000	1290000	1100000	1360000
26	474000	682000	685000	596000	564000	684000	980000	837000	716000	1300000	1090000	1380000
27	468000	687000	672000	597000	565000	686000	982000	819000	721000	1310000	1070000	1380000
28	462000	691000	661000	600000	565000	687000	981000	804000	718000	1310000	1060000	1360000
29	462000	692000	663000	603000	---	688000	981000	789000	718000	1290000	1030000	1340000
30	454000	693000	646000	604000	---	676000	978000	777000	721000	1290000	1020000	1310000
31	453000	---	637000	606000	---	678000	---	768000	---	1280000	1010000	---
MAX	496000	693000	738000	654000	604000	768000	982000	1020000	756000	1310000	4260000	1380000
MIN	453000	452000	580000	557000	564000	565000	696000	768000	705000	742000	1010000	890000

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 mi^2, 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. 14-16, 29-30, Dec. 20-28, Jan. 23-24, and June 8 to July 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. Flow regulated by Clarence Cannon Dam, 0.5 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	153	4970	4300	2100	214	1570	1570	4250	1600	4020	6960
2	75	698	2870	3970	2380	621	1840	3830	3050	370	7990	5600
3	80	187	4990	3690	2210	1430	1310	3970	3130	125	8100	3810
4	49	226	5280	5010	1740	2580	1650	4280	3210	77	8160	6360
5	543	159	5560	6010	2080	825	1740	2810	3930	60	8120	6730
6	549	108	5740	5170	1800	1550	1700	2700	3580	42	8100	6790
7	533	109	5200	4280	1940	708	1820	2930	4240	64	8230	7150
8	55	157	5040	4470	1900	907	1730	4550	4450	83	8570	8400
9	58	150	5430	3740	1560	1670	1730	4340	3350	78	8390	8920
10	50	291	3590	3730	2090	2620	1860	6070	2600	74	8730	8970
11	40	172	3490	4150	1750	3350	1690	6240	1600	67	8190	9150
12	35	107	2450	3530	2390	3430	1770	5970	1230	66	6750	9210
13	32	103	1940	4300	1610	3430	2050	5910	1300	66	7170	7930
14	29	37	4060	3960	1700	2100	2250	6020	1250	63	8850	3330
15	128	50	3840	3930	2380	4910	2510	5910	1200	76	8870	2390
16	244	74	2580	3650	2600	7350	1710	5900	1050	71	8820	6620
17	1140	135	1690	3800	2440	7120	1800	6480	1550	65	8820	7340
18	130	143	1520	4370	3290	6780	1520	3850	2200	60	7580	6990
19	1440	129	202	3680	2360	7360	1980	8230	2500	1610	7000	7000
20	566	154	98	3880	332	6840	4670	8280	950	3370	8730	7060
21	603	611	2050	3210	28	7180	5880	5370	200	3800	8770	6920
22	1000	348	5110	690	978	6930	4940	3470	1750	5780	8790	4110
23	890	492	5790	96	1230	6560	2470	3800	1480	7880	7840	4290
24	160	1900	5620	94	838	3090	1620	6310	200	8030	3770	7230
25	151	1650	5780	938	1350	2350	1880	8510	900	8320	6660	11700
26	2320	1920	6560	1420	106	1260	1710	8550	375	8230	8450	12500
27	3380	1220	6060	619	84	743	1500	7540	1000	8270	9010	14300
28	1080	819	4650	1490	70	354	1590	6710	650	8300	9090	14900
29	3300	400	4010	3520	---	4460	1570	6710	450	8380	8890	12800
30	1450	2970	4560	2000	---	5360	1410	4670	750	3540	8470	11600
31	153	---	4640	1240	---	2370	---	4630	---	3310	5820	---
MEAN	655	522	4044	3192	1619	3434	2116	5358	1946	2643	7895	7902
MAX	3380	2970	6560	6010	3290	7360	5880	8550	4450	8380	9090	14900
MIN	29	37	98	94	28	214	1310	1570	200	42	3770	2390
IN.	.32	.25	1.98	1.57	.72	1.69	1.00	2.63	.92	1.30	3.87	3.75

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

MEAN	728	1529	2254	1190	1663	2715	2373	2266	2306	2350	1347	1363
MAX	4355	6038	10360	3703	8098	10530	10310	6741	6240	10810	7895	7902
(WY)	1987	1987	1983	1986	1982	1985	1983	1981	1982	1981	1993	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1175		3462		1841	
HIGHEST ANNUAL MEAN					3462	1993
LOWEST ANNUAL MEAN					283	1989
HIGHEST DAILY MEAN	6990	May 8	14900	Sep 28	65600	Jul 29 1981
LOWEST DAILY MEAN	21	Jan 20	28	Feb 21	.44	Oct 14 1979
INSTANTANEOUS PEAK FLOW	--		16100	Sep 28	72800	Jul 29 1981
INSTANTANEOUS PEAK STAGE	--		17.58	Sep 28	33.00	Apr 22 1973
INSTANTANEOUS LOW FLOW	--		26	Feb 22	.44	Oct 14 1979
ANNUAL SEVEN-DAY MINIMUM	42	Jul 21	43	Oct 8	.65	Oct 11 1979
ANNUAL RUNOFF (INCHES)	6.81		20.01		10.65	
10 PERCENT EXCEEDS	3520		8210		5300	
50 PERCENT EXCEEDS	415		2580		348	
90 PERCENT EXCEEDS	50		105		35	

SALT RIVER BASIN

05508000 SALT RIVER NEAR NEW LONDON, MO

LOCATION.--Lat 39°36'44", long 91°24'30", in NE ¼ NW ¼ 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 mi^2, 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: Feb. 12-22 and Mar. 10-22. 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 mi^2, 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	192	4580	4140	2070	150	1640	1270	4680	1700	3850	6540
2	58	608	3080	4140	1890	649	1610	2800	3460	411	7670	7940
3	84	336	4520	3220	1860	1610	1840	4260	3790	153	8140	3200
4	79	258	4960	5240	1660	3430	1330	4770	3770	111	8150	6060
5	77	242	5240	5800	2070	1950	1370	3880	4570	89	8170	6490
6	668	141	5270	5080	1680	2000	2010	2330	4420	81	8230	6680
7	670	125	4920	4290	1920	1540	1560	2910	4340	151	8520	6680
8	274	136	4870	4100	1780	1060	1920	4340	4580	161	9090	7890
9	75	173	5140	3780	1690	1520	1800	4180	3430	116	8830	8640
10	66	178	3680	3680	1940	2700	1580	5990	2720	102	9280	8640
11	59	385	3520	4120	1560	3400	1780	6280	1730	102	8680	8860
12	53	241	2910	3410	2500	3500	1990	6010	1330	97	11200	8900
13	46	179	1730	3800	1700	3500	2390	5950	1390	149	6380	8390
14	43	131	3900	4120	1800	2200	3390	6070	1330	283	8600	6060
15	43	113	5230	3730	2450	5100	3620	6000	1280	494	8610	1540
16	164	104	4190	3370	2750	7500	2590	6010	1170	383	8560	5770
17	821	118	2030	3710	2500	7200	2060	6680	1610	171	8510	7390
18	554	320	1740	4220	3300	6900	1670	3580	2500	120	8050	6810
19	684	290	1010	3690	2400	7400	2400	8170	2620	679	6180	7020
20	1420	1110	192	3820	400	6900	4540	8220	1040	3350	8400	7070
21	162	1300	2030	3190	50	7300	5420	7090	238	3700	8450	6910
22	835	1460	5000	2120	1000	7000	5050	3100	1830	5430	8470	10100
23	1480	762	5620	453	1530	6460	3350	4150	1580	8510	8390	9740
24	232	1860	5460	542	966	4700	1730	5600	223	8370	4280	7070
25	170	2010	5600	900	1870	2230	2720	8470	1080	8340	5590	11500
26	862	2100	6330	1040	711	1760	1920	8540	404	8190	8060	12500
27	3620	1900	5870	1170	151	882	1720	7930	1130	8120	8530	13700
28	2080	801	4550	961	126	449	1610	6830	698	8100	8920	15400
29	1850	581	3970	3730	---	2520	1580	6870	498	8120	8530	13600
30	2700	1470	4140	2090	---	5360	1820	5370	803	4830	8500	11900
31	417	---	4180	1000	---	3350	---	4980	---	3650	5980	---
MEAN	658	654	4047	3182	1654	3620	2334	5440	2141	2718	7961	8300
MAX	3620	2100	6330	5800	3300	7500	5420	8540	4680	8510	11200	15400
MIN	43	104	192	453	50	150	1330	1270	223	81	3850	1540
IN.	.31	.29	1.88	1.48	.69	1.68	1.05	2.53	.96	1.26	3.70	3.73

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

MEAN	1037	1109	1158	1258	1862	2820	3061	2390	2401	1582	933	1076
MAX	9124	6589	11100	6417	8787	13040	19110	12210	11490	14270	7961	9346
(WY)	1970	1929	1983	1974	1982	1973	1973	1943	1947	1969	1993	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

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1225		3577		1721	
HIGHEST ANNUAL MEAN					4692	1973
LOWEST ANNUAL MEAN					307	1989
HIGHEST DAILY MEAN	6730	May 8	15400	Sep 28	98200	Apr 22 1973
LOWEST DAILY MEAN	39	Aug 2	43	Oct 14-15	.00	1934, 1936
INSTANTANEOUS PEAK FLOW	--		17900	Aug 12	107000	Apr 22 1973
INSTANTANEOUS PEAK STAGE	--		17.22	Aug 12	31.8	Apr 22 1973
INSTANTANEOUS LOW FLOW	--		41	Oct 14-16	.00	1934, 1936
ANNUAL SEVEN-DAY MINIMUM	55	Oct 9	55	Oct 9	.00	1934, 1936
ANNUAL RUNOFF (INCHES)	6.73		19.58		9.43	
10 PERCENT EXCEEDS	3640		8270		4560	
50 PERCENT EXCEEDS	461		2720		270	
90 PERCENT EXCEEDS	72		163		28	

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.

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.

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.

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-PENDED (MG/L) (80154)
DEC 8...	2390	6.5	11
FEB 23...	1280	0.0	44
MAR 30...	3420	5.0	43
JUN 7...	3390	18.0	23
JUL 20...	2590	22.0	153
SEP 24...	5550	19.5	142
SEP 30...	11800	19.0	43

SALT RIVER BASIN

05508805 SPENCER CREEK BELOW PLUM CREEK NEAR FRANKFORD, MO

LOCATION.--Lat 39°31'13", long 91°20'32", in NW ¼ NW ¼ NW ¼ 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 mi^2.

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	.95	60	22	67	44	95	92	27	1020	256	11
2	1.4	.82	51	18	59	493	92	83	27	342	71	1480
3	1.3	.73	43	19	53	1550	77	82	27	100	42	2180
4	1.4	.77	38	3160	50	1680	117	512	27	54	31	330
5	1.5	.88	34	952	46	1510	122	267	28	38	26	104
6	1.1	.81	32	242	44	1390	93	149	96	32	25	91
7	1.0	.77	30	148	44	827	80	1330	326	1480	23	65
8	1.8	.75	27	113	43	389	84	954	89	1710	21	44
9	1.7	.79	26	92	42	237	79	224	51	204	19	32
10	1.4	105	31	82	44	171	69	133	38	247	238	25
11	1.3	199	33	71	50	130	60	954	37	133	434	21
12	1.2	755	35	72	281	110	58	335	76	62	5870	18
13	1.1	433	35	84	208	95	1070	216	32	69	1000	72
14	1.1	142	33	72	112	81	1290	134	24	104	190	5350
15	1.2	76	3690	67	79	78	4120	96	19	1320	106	1700
16	.84	50	2460	62	65	113	1370	73	16	1030	76	293
17	.59	34	429	65	53	132	465	64	16	188	63	150
18	.51	455	203	52	46	99	283	80	80	91	51	99
19	.40	349	139	45	44	90	1310	124	231	62	42	103
20	.46	2180	167	51	48	90	2350	69	87	51	35	752
21	.37	3110	124	112	62	99	446	54	38	401	31	224
22	.33	2280	84	242	76	222	274	47	26	125	26	7860
23	.33	1160	65	723	55	982	200	46	31	327	21	14500
24	.30	310	47	706	46	314	147	45	26	808	19	2600
25	.31	305	40	230	37	184	1260	39	488	161	18	1360
26	.32	479	30	148	43	140	327	35	111	77	16	1350
27	.33	204	27	123	38	114	171	32	46	51	14	529
28	.50	121	23	124	37	101	124	29	31	40	12	319
29	.56	88	26	183	---	87	105	26	25	33	12	215
30	.62	72	35	106	---	77	102	40	31	28	9.7	173
31	.65	---	33	84	---	102	---	31	---	183	9.3	---
MEAN	.88	430	262	267	66.9	378	548	206	73.6	341	284	1402
MAX	1.8	3110	3690	3160	281	1680	4120	1330	488	1710	5870	14500
MIN	.30	.73	23	18	37	44	58	26	16	28	9.3	11
IN.	.00	2.33	1.47	1.49	.34	2.12	2.97	1.15	.40	1.91	1.59	7.59

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

MEAN	44.4	201	221	90.2	215	286	243	261	96.0	195	64.2	124
MAX	376	1310	985	274	766	738	777	795	451	1788	284	1402
(WY)	1987	1986	1983	1982	1985	1978	1983	1991	1982	1981	1993	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	126		355		169	
HIGHEST ANNUAL MEAN					355	1993
LOWEST ANNUAL MEAN					36.5	1989
HIGHEST DAILY MEAN	7220	Aug 10	14500	Sep 23	15600	Jul 28 1981
LOWEST DAILY MEAN	.30	Oct 24	.30	Oct 24	.08	Aug 14 1989
INSTANTANEOUS PEAK FLOW	--		20300	Sep 22	20300	Sep 22 1993
INSTANTANEOUS PEAK STAGE	--		18.54	Sep 22	18.54	Sep 22 1993
INSTANTANEOUS LOW FLOW	--		.20	Oct 25	.00	Many Days 1989
ANNUAL SEVEN-DAY MINIMUM	.33	Oct 21	.33	Oct 21	.10	Sep 7 1990
ANNUAL RUNOFF (INCHES)	8.34		23.37		11.13	
10 PERCENT EXCEEDS	193		965		241	
50 PERCENT EXCEEDS	20		76		26	
90 PERCENT EXCEEDS	.98		1.4		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 mi^2.

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. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	4.7	261	148	326	195	563	459	65	6380	346	808
2	18	4.4	221	130	264	2020	444	411	51	5900	306	294
3	15	7.9	184	126	226	8650	383	401	42	2770	207	9390
4	14	7.1	160	14300	199	12200	366	447	38	731	164	3640
5	12	32	137	13700	181	6830	693	534	55	379	142	826
6	10	38	123	2590	165	7020	499	629	697	226	138	396
7	9.0	20	114	1130	156	4790	392	915	4180	7860	125	266
8	6.9	14	103	786	145	2590	558	2800	1720	23400	113	204
9	5.0	10	95	607	138	1450	686	1230	1350	5240	102	165
10	4.9	12	104	499	133	918	434	687	577	3210	380	132
11	4.6	278	121	437	135	654	339	3080	374	1490	5000	105
12	4.3	4360	282	400	233	507	343	1710	266	840	17500	88
13	4.1	6530	212	420	432	420	5400	1460	184	556	14300	77
14	3.9	1230	168	430	366	340	5400	1070	110	3510	1780	19600
15	3.6	494	6000	376	307	297	20400	567	71	9330	718	50600
16	3.4	290	17800	321	246	290	13800	388	48	26300	443	7730
17	3.2	206	4330	320	187	343	4130	277	36	6920	324	1410
18	3.0	153	1400	316	144	335	1690	3570	174	1580	250	848
19	2.2	126	790	230	143	287	4170	2360	288	1360	209	1250
20	2.2	133	704	574	143	281	6280	816	2150	1490	182	13700
21	2.4	13100	656	2400	237	329	2600	471	629	5810	164	3270
22	2.6	9640	506	2460	876	705	1290	336	234	1530	137	12000
23	2.4	12900	392	3420	536	5600	889	261	115	1340	141	72200
24	2.5	2810	300	4430	335	2320	824	212	70	4950	193	51500
25	2.4	1260	243	1670	258	1090	6880	166	3220	1560	279	10500
26	1.6	1720	196	879	237	738	3490	131	2180	673	176	7010
27	2.1	973	173	633	223	570	1570	104	587	429	124	2420
28	2.6	593	157	523	182	468	846	87	286	319	100	1180
29	2.4	418	150	475	---	405	670	76	158	253	83	766
30	2.4	321	155	437	---	351	542	61	461	213	76	568
31	2.9	---	162	402	---	374	---	69	---	196	699	---
MEAN	5.70	1923	1174	1793	255	2044	2886	832	681	4089	1448	9098
MAX	21	13100	17800	14300	876	12200	20400	3570	4180	26300	17500	72200
MIN	1.6	4.4	95	126	133	195	339	61	36	196	76	77
IN.	.01	2.38	1.50	2.29	.29	2.61	3.57	1.06	.84	5.22	1.85	11.24

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

MEAN	432	510	538	497	811	1004	1162	977	698	580	290	503
MAX	6704	4503	5924	2465	4250	3596	5549	6311	4735	4366	1994	9098
(WY)	1942	1986	1983	1949	1962	1922	1922	1929	1970	1981	1923	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	460		2186		666	
HIGHEST ANNUAL MEAN					2186	1993
LOWEST ANNUAL MEAN					27.3	1954
HIGHEST DAILY MEAN	17800	Dec 16	72200	Sep 23	76400	Oct 5 1941
LOWEST DAILY MEAN	1.6	Oct 26	1.6	Oct 26	.00	Several Years
INSTANTANEOUS PEAK FLOW	--		101000	Sep 23	120000	Oct 5 1941
INSTANTANEOUS PEAK STAGE	--		32.17	Sep 23	33.4	Oct 5 1941
INSTANTANEOUS LOW FLOW	--		1.4	Oct 26	.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	2.3	Oct 21	2.3	Oct 21	.00	At Times
ANNUAL RUNOFF (INCHES)	6.94		32.86		10.01	
10 PERCENT EXCEEDS	730		5680		1220	
50 PERCENT EXCEEDS	56		376		88	
90 PERCENT EXCEEDS	7.8		17		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 1992 TO SEPTEMBER 1993

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-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												
23...	1115	12100	120	6.5	6.5	160	11.0	87	K19000	K37000	44	13
JAN												
06...	1300	2370	195	7.1	1.0	180	13.8	94	K12000	3000	79	25
MAR												
24...	1200	2260	220	7.6	5.0	280	11.8	90	K760	9200	84	26
MAY												
19...	1600	1840	190	7.2	15.0	110	8.7	85	K4000	K4500	76	24
JUL												
20...	1000	584	298	7.7	25.0	40	7.0	83	K2300	640	150	48
SEP												
28...	1300	1140	289	7.3	16.0	49	8.7	86	K2200	800	130	42

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												
23...	2.9	2.7	5.4	56	7.3	4.4	0.20	8.0	97	81	0.13	3090
JAN												
06...	4.0	4.2	5.6	57	14	8.3	<0.10	9.9	150	113	0.20	956
MAR												
24...	4.7	6.7	5.6	65	19	12	0.10	10	159	133	0.22	932
MAY												
19...	3.9	4.7	4.9	70	12	7.0	0.20	8.2	129	113	0.18	592
JUL												
20...	6.9	5.9	5.3	138	15	7.7	0.20	14	189	184	0.26	224
SEP												
28...	6.2	4.5	4.5	127	14	5.5	0.20	14	182	171	0.25	511

CUIVRE RIVER BASIN

05514500 CUIVRE RIVER NEAR TROY, MO--Continued

WATER-QUALITY DATA, WATER YEAROCTOBER 1992 TO SEPTEMBER 1993

DATE	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)
NOV											
23...	0.030	0.550	0.150	0.070	1.6	0.590	0.280	0.230	--	--	240
JAN											
06...	0.040	1.30	--	0.180	1.4	0.440	0.210	0.160	--	--	1100
MAR											
24...	0.020	2.00	0.460	0.410	1.0	0.550	0.140	0.110	546	96	280
MAY											
19...	0.060	0.930	--	0.260	1.5	0.410	0.220	0.190	476	80	120
JUL											
20...	0.020	1.10	--	0.070	0.90	0.240	0.090	0.080	135	--	20
SEP											
28...	0.010	0.840	--	0.070	0.50	0.120	0.060	0.070	182	97	--

DATE	BARIUM, DISSOLVED (UG/L AS BA) (01005)	COBALT, DISSOLVED (UG/L AS CO) (01035)	IRON, DISSOLVED (UG/L AS FE) (01046)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)
NOV											
23...	37	<3	210	<4	36	<10	2	<1	<1.0	35	<6
JAN											
06...	70	<3	280	<4	61	<10	5	<1	<1.0	61	<6
MAR											
24...	59	<3	220	<4	19	<10	2	<1	<1.0	8	<6
MAY											
19...	52	<3	83	<4	17	<10	2	<1	<1.0	62	<6
JUL											
20...	110	<3	45	<4	160	<10	<1	<1	<1.0	100	<6

MISSISSIPPI RIVER MAIN STEM

05587450 MISSISSIPPI RIVER AT GRAFTON, IL

LOCATION.--Lat 38°58'05", long 90°25'42", in NE ¼ 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 mi^2, 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: Apr. 1-3. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102000	66900	240000	144000	148000	80200	240000	390000	222000	319000	594000	304000
2	78600	63300	228000	139000	142000	80600	248000	386000	217000	332000	592000	300000
3	70300	77200	219000	132000	140000	99800	248000	382000	211000	350000	596000	301000
4	65000	85000	215000	167000	143000	146000	265000	377000	206000	361000	587000	306000
5	63000	95000	212000	212000	142000	190000	272000	375000	209000	370000	570000	308000
6	62000	105000	202000	213000	137000	212000	275000	378000	211000	380000	548000	307000
7	60000	112000	175000	210000	135000	228000	277000	383000	209000	389000	522000	306000
8	58500	118000	152000	201000	131000	248000	286000	384000	202000	403000	494000	305000
9	58000	118000	123000	196000	128000	275000	299000	385000	207000	413000	470000	303000
10	57000	124000	119000	193000	125000	293000	305000	387000	210000	423000	447000	301000
11	56600	136000	121000	181000	123000	293000	311000	387000	222000	427000	428000	297000
12	56500	140000	118000	175000	123000	272000	315000	379000	238000	431000	417000	293000
13	58000	157000	113000	165000	127000	246000	321000	364000	252000	436000	409000	288000
14	62000	168000	119000	145000	130000	231000	331000	348000	261000	444000	404000	288000
15	66000	165000	140000	142000	133000	221000	342000	341000	261000	452000	398000	301000
16	75300	152000	199000	144000	129000	220000	358000	337000	259000	472000	388000	311000
17	82000	132000	205000	144000	116000	205000	378000	336000	256000	505000	380000	313000
18	82200	123000	212000	144000	90400	202000	384000	339000	253000	502000	372000	307000
19	81700	126000	218000	143000	87200	200000	388000	336000	251000	521000	364000	299000
20	82100	141000	221000	131000	84300	199000	395000	329000	253000	538000	355000	293000
21	78400	170000	220000	128000	77600	190000	398000	324000	254000	550000	345000	292000
22	75300	195000	217000	134000	81100	179000	397000	317000	250000	555000	338000	291000
23	71800	222000	207000	129000	86700	185000	397000	305000	249000	557000	333000	304000
24	70100	230000	194000	138000	84000	204000	399000	292000	252000	557000	331000	320000
25	68000	237000	169000	167000	90100	217000	407000	279000	258000	557000	329000	331000
26	63200	245000	137000	185000	80900	226000	412000	268000	268000	556000	327000	342000
27	65800	255000	110000	164000	83600	232000	411000	259000	283000	542000	324000	346000
28	67500	262000	109000	159000	83500	237000	407000	252000	293000	534000	321000	346000
29	62200	261000	114000	158000	---	239000	402000	246000	301000	538000	318000	346000
30	63600	252000	116000	156000	---	237000	396000	237000	307000	559000	314000	347000
31	65300	---	122000	152000	---	234000	---	229000	---	574000	308000	---
MEAN	68650	157800	169900	161000	113600	210400	342100	333300	244200	469300	416900	309900
MAX	102000	262000	240000	213000	148000	293000	412000	390000	307000	574000	596000	347000
MIN	56500	63300	109000	128000	77600	80200	240000	229000	202000	319000	308000	288000
IN.	.46	1.03	1.14	1.08	.69	1.42	2.23	2.24	1.59	3.16	2.81	2.02

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

MEAN	94640	92990	102200	86360	87600	144800	176100	163300	138800	151600	125300	107300
MAX	334900	171300	169900	161000	113600	210400	342100	333300	244200	469300	416900	309900
(WY)	1987	1987	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993
MIN	28050	33270	31810	34800	40940	72220	82570	69140	36310	30420	37230	37850
(WY)	1989	1990	1990	1990	1989	1989	1990	1988	1988	1988	1988	1988

SUMMARY STATISTICS**	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	123300		250700		122800	
HIGHEST ANNUAL MEAN					250700	1993
LOWEST ANNUAL MEAN					53860	1989
HIGHEST DAILY MEAN	262000	Nov 28	596000	Aug 3	596000	Aug 3 1993
LOWEST DAILY MEAN	46600	Aug 26	56500	Oct 12	20100	Dec 14 1988
INSTANTANEOUS PEAK FLOW	--		598000	Aug 1	598000	Aug 1 1993
INSTANTANEOUS PEAK ELEVATION	--		441.96	Aug 1	441.96	Aug 1 1993
INSTANTANEOUS LOW FLOW	--		56500	Oct 12	20100	Dec 14 1988
ANNUAL SEVEN-DAY MINIMUM	51500	Sep 1	57800	Oct 7	23600	Dec 12 1988
ANNUAL RUNOFF (INCHES)	9.80		19.87		9.74	
10 PERCENT EXCEEDS	214000		411000		250000	
50 PERCENT EXCEEDS	109000		238000		92400	
90 PERCENT EXCEEDS	62800		82100		36400	

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

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.6 N., R.11 W., 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 mi^2, approximately.

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

REMARKS.--Sediment records poor.

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, 1,120 mg/L, Jan. 5; minimum daily mean, 35 mg/L, Oct. 14.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 647,000 tons, Jan. 5; minimum daily, 6,330 tons, Oct. 18.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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-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												
10...	1015	120000	394	8.0	6.5	44	10.8	86	80	130	220	53
DEC												
18...	1100	211000	440	7.9	2.0	110	12.5	88	K9600	5800	200	50
JAN												
28...	1030	157000	518	8.0	0.5	32	13.0	89	130	220	230	55
FEB												
19...	1030	87000	602	8.0	0.5	--	12.8	87	K22	54	--	--
MAR												
16...	0930	209000	433	7.7	2.0	49	12.4	88	K52	250	180	44
APR												
06...	1130	273000	325	7.5	8.0	63	--	--	K130	K0	170	42
MAY												
13...	1000	364000	387	7.9	18.0	22	11.6	120	K250	K160	210	53
JUN												
02...	1100	217000	489	7.8	18.5	43	7.8	82	160	94	250	63
JUL												
15...	1500	429000	375	7.5	24.0	50	6.2	72	390	490	170	44
17...	1200	491000	394	7.6	24.0	33	5.8	67	2200	540	180	48
AUG												
11...	1300	405000	470	7.9	24.5	14	5.1	60	--	K50	220	55
SEP												
01...	1200	303000	474	7.8	26.5	26	6.6	82	K100	120	210	54

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

MISSISSIPPI RIVER MAIN STEM

05587455 MISSISSIPPI RIVER BELOW GRAFTON, IL--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)
NOV												
10...	22	19	3.6	186	51	29	0.30	5.7	315	308	0.43	102000
DEC												
18...	19	12	3.9	150	45	24	0.20	8.9	294	273	0.40	167000
JAN												
28...	22	16	3.1	179	--	--	--	--	--	--	--	--
FEB												
19...	--	--	--	201	--	--	--	--	--	--	--	--
MAR												
16...	16	16	4.5	126	34	30	0.10	7.5	270	246	0.37	152000
APR												
06...	15	12	5.6	132	28	24	0.20	8.6	238	227	0.32	175000
MAY												
13...	19	9.7	3.3	160	38	17	0.20	8.5	270	261	0.37	265000
JUN												
02...	22	10	3.0	181	44	20	0.30	7.0	288	293	0.39	169000
JUL												
15...	15	7.1	3.4	144	26	12	0.20	11	240	222	0.33	278000
17...	15	6.9	3.6	141	27	12	0.20	12	246	227	0.33	326000
AUG												
11...	19	8.0	3.3	168	35	13	0.20	13	280	260	0.38	306000
SEP												
01...	19	8.8	3.4	175	33	14	0.30	12	267	261	0.36	218000

DATE	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	BARIUM, DISSOLVED (UG/L AS BA) (01005)
NOV												
10...	0.030	2.80	0.150	0.140	1.5	0.440	0.140	0.130	239	83	20	49
DEC												
18...	0.040	4.30	0.150	0.140	0.70	0.200	0.170	0.140	318	--	30	61
JAN												
28...	0.040	3.30	--	0.040	0.60	0.140	0.080	0.080	161	63	--	--
FEB												
19...	0.030	5.00	0.170	0.170	1.1	0.140	0.120	0.120	--	--	--	--
MAR												
16...	0.030	3.80	0.550	0.540	2.1	0.410	0.210	0.190	186	89	20	57
APR												
06...	0.040	2.70	0.390	0.310	1.7	0.330	0.140	0.100	218	96	--	--
MAY												
13...	0.050	3.60	0.030	0.030	0.74	0.170	0.100	0.090	88	--	<10	74
JUN												
02...	0.040	3.32	--	0.038	0.56	0.135	0.077	0.083	158	--	30	70
JUL												
15...	0.060	3.70	0.050	0.030	0.87	0.280	0.110	0.110	130	96	20	73
17...	0.070	3.80	0.030	0.030	0.81	0.220	0.110	0.130	94	95	<10	75
AUG												
11...	0.010	1.90	--	<0.010	0.70	0.230	0.100	0.110	65	64	<10	74
SEP												
01...	0.060	2.50	--	0.040	0.40	0.140	0.130	0.130	267	45	10	76

MISSISSIPPI RIVER MAIN STEM

05587455 MISSISSIPPI RIVER BELOW GRAFTON, IL--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
NOV											
10...	<3	13	7	16	<10	2	<1	<1.0	150	<6	--
DEC											
18...	<3	54	<4	15	<10	2	<1	<1.0	120	<6	--
MAR											
16...	<3	34	<4	11	<10	3	<1	<1.0	100	<6	--
MAY											
13...	<3	<3	5	1	<10	2	1	<1.0	120	<6	<0.05
JUN											
02...	<3	12	5	2	<10	<1	<1	<1.0	130	<6	--
JUL											
15...	<3	59	4	3	<10	2	<1	<1.0	110	6	--
17...	<3	10	6	5	<10	2	<1	<1.0	110	<6	0.04
AUG											
11...	<3	6	7	<1	<10	2	<1	<1.0	120	<6	--
SEP											
01...	<3	14	5	2	<10	4	<1	<1.0	130	<6	0.02

DATE	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
MAY											
13...	<0.05	<0.05	0.05	0.11	0.20	<0.05	<0.05	0.21	0.33	<0.05	<0.05
JUL											
17...	--	0.01	--	0.11	1.2	--	--	0.89	2.2	0.29	0.01
SEP											
01...	--	0.02	--	0.06	0.13	--	--	0.18	0.47	0.04	<0.01

MISSISSIPPI RIVER MAIN STEM

05587455 MISSISSIPPI RIVER BELOW GRAFTON, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	102000	177	48800	66900	55	10000	240000	390	253000
2	78600	155	32900	63300	59	10200	228000	325	200000
3	70300	136	25800	77200	63	13100	219000	270	160000
4	65000	119	20900	85000	65	13100	215000	241	140000
5	63000	104	18500	95000	103	24300	212000	211	121000
6	62000	91	15600	105000	166	47500	202000	130	71000
7	60000	80	14200	112000	177	54000	175000	80	37600
8	58500	70	9550	118000	195	62000	152000	109	44300
9	58000	61	10000	118000	221	70500	123000	108	35600
10	57000	54	8730	124000	236	78800	119000	95	30600
11	56600	47	7180	136000	247	91000	121000	71	23000
12	56500	41	6380	140000	267	101000	118000	60	19300
13	58000	36	6330	157000	326	139000	113000	61	18600
14	62000	35	6360	168000	394	178000	119000	69	22400
15	66000	48	8530	165000	379	168000	140000	143	56300
16	75300	60	12300	152000	608	248000	199000	299	161000
17	82000	72	16700	132000	578	206000	205000	371	206000
18	82200	71	15800	123000	548	181000	212000	349	200000
19	81700	66	14600	126000	505	171000	218000	335	197000
20	82100	65	14300	141000	409	156000	221000	294	175000
21	78400	66	13900	170000	449	208000	220000	261	155000
22	75300	59	11900	195000	516	310000	217000	273	159000
23	71800	57	11100	222000	567	340000	207000	230	129000
24	70100	56	10600	230000	519	323000	194000	212	111000
25	68000	50	9180	237000	520	333000	169000	204	93200
26	63200	49	8330	245000	537	355000	137000	186	69000
27	65800	59	10500	255000	534	367000	110000	134	39800
28	67500	53	9710	262000	451	319000	109000	148	43600
29	62200	56	9400	261000	442	311000	114000	152	47000
30	63600	52	8950	252000	424	288000	116000	139	43800
31	65300	52	9270	---	---	---	122000	68	22400
		JANUARY			FEBRUARY			MARCH	
1	144000	74	29000	148000	137	54500	80200	70	15100
2	139000	92	34500	142000	116	44700	80600	92	20100
3	132000	131	47300	140000	99	37400	99800	120	32900
4	167000	534	251000	143000	245	94100	146000	158	63300
5	212000	1120	647000	142000	324	124000	190000	207	116000
6	213000	961	553000	137000	198	73200	212000	271	156000
7	210000	848	480000	135000	110	40000	228000	348	215000
8	201000	782	424000	131000	63	22100	248000	376	252000
9	196000	722	382000	128000	45	15700	275000	361	268000
10	193000	666	347000	125000	46	15600	293000	285	226000
11	181000	615	301000	123000	52	17200	293000	223	176000
12	175000	567	268000	123000	58	19400	272000	208	152000
13	165000	524	232000	127000	61	21100	246000	194	128000
14	145000	483	188000	130000	64	22400	231000	177	110000
15	142000	446	171000	133000	65	23300	221000	150	89800
16	144000	411	160000	129000	65	22400	220000	147	84700
17	144000	380	148000	116000	64	20000	205000	140	79700
18	144000	350	136000	90400	64	15500	202000	141	75500
19	143000	323	125000	87200	63	14900	200000	173	91600
20	131000	298	105000	84300	63	14400	199000	---	85400
21	128000	275	94900	77600	63	13100	190000	---	62800
22	134000	246	89100	81100	62	13700	179000	---	52100
23	129000	183	64100	86700	62	14500	185000	---	53400
24	138000	229	87000	84000	62	14000	204000	---	74100
25	167000	811	371000	90100	61	14900	217000	---	90800
26	185000	350	175000	80900	61	13300	226000	---	93900
27	164000	262	115000	83600	61	13700	232000	---	93000
28	159000	484	206000	83500	60	13600	237000	---	90700
29	158000	391	167000	---	---	---	239000	---	83200
30	156000	192	81100	---	---	---	237000	---	74800
31	152000	152	62400	---	---	---	234000	---	70200

MISSISSIPPI RIVER MAIN STEM

05587455 MISSISSIPPI RIVER BELOW GRAFTON, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	240000	---	71500	390000	112	118000	222000	189	113000
2	248000	---	84000	386000	103	107000	217000	169	98800
3	248000	---	103000	382000	93	95800	211000	142	81100
4	265000	---	114000	377000	74	74900	206000	139	77400
5	272000	---	121000	375000	58	58300	209000	153	86300
6	275000	148	110000	378000	54	55400	211000	167	95400
7	277000	117	87800	383000	60	62200	209000	188	106000
8	286000	105	81400	384000	64	66800	202000	221	121000
9	299000	117	94700	385000	64	66400	207000	193	108000
10	305000	126	104000	387000	63	65800	210000	169	95700
11	311000	95	80000	387000	62	64500	222000	160	95800
12	315000	82	69600	379000	59	60400	238000	154	99300
13	321000	87	75400	364000	66	65300	252000	149	101000
14	331000	83	74500	348000	47	44500	261000	143	101000
15	342000	78	71900	341000	50	46200	261000	138	97500
16	358000	73	70300	337000	54	49300	259000	133	93200
17	378000	68	69300	336000	62	56000	256000	130	89700
18	384000	63	65800	339000	115	105000	253000	133	90700
19	388000	62	65300	336000	120	109000	251000	138	93500
20	395000	91	97300	329000	121	108000	253000	148	101000
21	398000	135	145000	324000	104	90500	254000	170	116000
22	397000	133	142000	317000	127	108000	250000	157	106000
23	397000	121	130000	305000	129	106000	249000	158	106000
24	399000	124	134000	292000	137	108000	252000	162	110000
25	407000	136	149000	279000	150	113000	258000	150	105000
26	412000	122	136000	268000	163	118000	268000	136	98500
27	411000	115	128000	259000	165	116000	283000	155	119000
28	407000	95	104000	252000	164	111000	293000	185	146000
29	402000	76	82900	246000	168	111000	301000	172	140000
30	396000	113	121000	237000	195	125000	307000	153	126000
31	---	---	---	229000	195	121000	---	---	---
		JULY			AUGUST			SEPTEMBER	
1	319000	152	129000	594000	---	98600	304000	---	32200
2	332000	156	139000	592000	---	88000	300000	---	32400
3	350000	183	174000	596000	---	89400	301000	---	35000
4	361000	198	196000	587000	---	66600	306000	---	41700
5	370000	293	296000	570000	---	78800	308000	---	45600
6	380000	---	286000	548000	---	81800	307000	---	46300
7	389000	---	275000	522000	---	77400	306000	---	47000
8	403000	---	277000	494000	---	69900	305000	---	47800
9	413000	---	269000	470000	---	68800	303000	---	47400
10	423000	---	259000	447000	---	69100	301000	---	47100
11	427000	---	234000	428000	---	75100	297000	---	44600
12	431000	---	210000	417000	---	65100	293000	---	42200
13	436000	---	188000	409000	---	59800	288000	---	38900
14	444000	---	173000	404000	---	58800	288000	---	38000
15	452000	---	159000	398000	---	56500	301000	---	50600
16	472000	---	131000	388000	---	49200	311000	---	61200
17	505000	---	128000	380000	---	44700	313000	---	62500
18	502000	---	95100	372000	---	40400	307000	---	54300
19	521000	---	104000	364000	---	36400	299000	---	44500
20	538000	---	125000	355000	---	31600	293000	---	37500
21	550000	---	144000	345000	---	26200	292000	---	35600
22	555000	---	130000	338000	---	23800	291000	---	33800
23	557000	---	95800	333000	---	23300	304000	---	45900
24	557000	---	78400	331000	---	25400	320000	---	63500
25	557000	---	72500	329000	---	27500	331000	---	76800
26	556000	---	65100	327000	---	29700	342000	---	91400
27	542000	---	62900	324000	---	30900	346000	---	96200
28	534000	---	62000	321000	---	32100	346000	---	94800
29	538000	---	58100	318000	---	33400	346000	---	93500
30	559000	---	69400	314000	---	33600	347000	---	93700
31	574000	---	77500	308000	---	32000	---	---	---

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 mi^2, approximately. The 3,959 mi^2 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.

GAGE.--Water-stage encoder. 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: Feb. 11, 12, Mar. 2-10, July 31 to Aug. 3, and Aug. 5. Records good except those for estimated daily discharges, which are poor. Flow regulated by upstream main-stem reservoirs. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water quality data. U.S. Army Corps of Engineers satellite data collection platform at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 358,000 ft^3/s Apr. 22, 1952, gage height, 25.60 ft; minimum daily discharge, 4,420 ft^3/s Jan. 13, 1957; minimum gage height, -0.19 ft Dec. 25, 1990, result of freezeup.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34500	24800	24200	21800	23400	28500	108000	52000	55500	124000	146000	91500
2	34100	27500	23700	19000	23400	37200	91500	52200	59100	156000	124000	84300
3	33800	30100	23700	18500	24800	44800	85800	52600	64400	113000	104000	76700
4	33400	30900	24000	17600	27900	43400	85900	52200	61600	99100	88500	68300
5	33400	29200	24000	17900	31100	56400	79200	51300	66600	123000	75000	63900
6	33000	27400	25300	20200	30500	55100	70200	51000	70200	128000	71100	64100
7	32900	26400	25600	23000	31300	54000	66200	53500	69200	108000	67800	61100
8	35100	25600	24500	23000	33700	58800	63800	70600	70600	104000	64100	58200
9	47900	24900	24500	22900	33800	80500	62500	90400	68600	108000	60200	55800
10	60300	24400	25300	23000	33000	103000	62500	98200	65200	123000	57400	53500
11	56000	24300	25700	23200	36200	109000	62100	120000	65500	130000	54600	52300
12	55100	24300	26600	23800	38000	112000	58100	110000	66300	149000	55700	51700
13	54100	24200	26900	23200	36100	108000	57400	101000	63000	164000	58100	50500
14	52800	23700	28900	22400	32400	84900	57300	96900	72200	179000	54800	49600
15	51500	23700	32800	23100	30900	65200	55400	93100	76700	192000	51600	49000
16	48800	23700	32800	23300	29000	55000	55200	85600	67000	179000	50800	48200
17	45900	23500	31700	23300	27600	52400	54700	77400	67200	162000	50400	47400
18	43200	23200	29900	22900	26600	56700	54500	74300	68800	181000	53200	47300
19	41600	27300	28900	23400	26200	49800	53600	70900	80500	187000	53700	49600
20	39800	36900	28200	23500	25800	44300	56300	65700	85300	163000	62400	54600
21	37400	31300	27800	23700	26300	41800	67400	64100	79300	156000	60100	47900
22	34900	29000	27400	23900	27000	42300	77400	63200	74600	179000	54800	61900
23	33200	27900	27200	24200	28700	49700	71900	62700	73000	205000	53100	70000
24	31600	27000	26900	24300	28400	50700	66400	67600	79600	289000	54800	60900
25	30400	26300	26700	24000	27000	50500	62500	64400	99700	273000	51900	57600
26	28000	26400	24900	24100	25700	56600	60500	57800	94900	252000	49800	59700
27	28100	26300	24000	23900	26700	62100	58900	56900	95900	232000	47800	58900
28	27900	25000	24600	23700	28200	74200	56400	58200	94800	189000	46800	53600
29	27100	24500	25900	23700	---	78400	54100	52800	102000	169000	48500	50300
30	26300	24600	27000	23900	---	78100	53200	52400	97300	149000	70400	49200
31	25100	---	26700	23700	---	99700	---	55100	---	144000	85600	---
TOTAL	1197200	794300	826300	702100	819700	1983100	1968900	2174100	2254600	5109100	2027000	1747600
MEAN	38620	26480	26650	22650	29270	63970	65630	70130	75150	164800	65390	58250
MAX	60300	36900	32800	24300	38000	112000	108000	120000	102000	289000	146000	91500
MIN	25100	23200	23700	17600	23400	28500	53200	51000	55500	99100	46800	47300
AC-FT	2375000	1575000	1639000	1393000	1626000	3933000	3905000	4312000	4472000	10130000	4021000	3466000

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

MEAN	42980	37890	24290	20870	26850	40740	55660	51040	55450	50050	43830	44100
MAX	77770	69430	55240	42280	52560	79590	205400	94370	130600	164800	70030	71920
(WY)	1987	1976	1987	1973	1983	1979	1952	1984	1984	1993	1951	1951
MIN	25580	17000	9953	10800	13220	15380	21820	33790	33710	33860	29820	34140
(WY)	1962	1962	1956	1957	1957	1957	1957	1956	1956	1963	1955	1991

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL TOTAL	12815200		21604000			
ANNUAL MEAN	35010		59190		41180	
HIGHEST ANNUAL MEAN					65930	1984
LOWEST ANNUAL MEAN					26340	1957
HIGHEST DAILY MEAN	79800	Jul 26	289000	Jul 24	347000	Apr 19 1952
LOWEST DAILY MEAN	18300	Jan 18	17600	Jan 4	4420	Jan 13 1957
INSTANTANEOUS PEAK FLOW			307000	Jul 24	307000	Jul 24 1993
INSTANTANEOUS PEAK STAGE			25.37	Jul 24	25.37	Jul 24 1993
ANNUAL SEVEN-DAY MINIMUM	21200	Jan 16	19700	Jan 1	5560	Nov 30 1955
ANNUAL RUNOFF (AC-FT)	25420000		42850000		29830000	
10 PERCENT EXCEEDS	45500		108000		64500	
50 PERCENT EXCEEDS	35700		52400		37900	
90 PERCENT EXCEEDS	23600		24000		17400	

NODAWAY RIVER BASIN

06817700 NODAWAY RIVER NEAR GRAHAM, MO

LOCATION.--Lat 40°12'08", long 95°04'07", NE ¼ NE ¼ NE ¼ 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 mi^2, approximately.

WATER-DISCHARGE RECORDS

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: Jan. 11-30, Feb. 17-25, July 28 to Aug. 2, Aug. 24-25, and Sept. 19-21. Records fair except for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	572	757	1070	1640	1050	971	4380	555	1170	11900	2280	4620
2	553	2850	1050	1630	1410	2290	2900	649	1150	8670	1950	2890
3	536	3910	1020	2280	2000	6050	2150	1450	1120	4290	1810	2590
4	516	2170	1000	2530	2560	6930	1680	1730	1180	3170	1740	2170
5	492	1450	908	2100	2740	8330	1340	1870	1480	15800	1680	1770
6	471	1180	837	2090	2200	5910	1160	1350	5150	14700	1630	2880
7	452	1040	836	1780	1530	5390	1470	2430	5810	10400	1630	2180
8	577	963	844	1630	1650	4300	2400	5430	3590	6370	1560	1650
9	898	907	864	1300	1140	2920	1910	10700	2250	17000	1490	1420
10	1030	869	1100	1250	1160	2060	1390	10700	1710	12800	1450	1340
11	682	826	1260	1200	3510	1230	1110	11000	1390	13400	1440	1310
12	578	790	1380	950	3670	865	976	8530	1350	10100	3290	1310
13	528	759	2350	850	2000	607	963	5350	2170	13700	6640	1320
14	497	728	9330	780	1150	490	998	4920	8850	22100	2300	1310
15	482	692	9630	720	789	616	992	2920	4900	14200	1770	1440
16	468	669	5230	680	493	588	997	2440	2700	6380	1610	1360
17	446	653	3340	650	440	584	1040	2090	2510	4880	1520	1320
18	431	648	2570	640	400	566	943	1850	2180	9320	1770	1310
19	424	2120	2160	630	760	456	982	1650	2590	6420	1510	2000
20	420	7660	1820	620	880	473	1470	1530	3010	5760	2370	1920
21	414	5440	1610	620	800	575	1260	1390	2380	17600	2330	1960
22	405	3020	1480	620	700	668	966	1310	1790	22900	1600	25100
23	399	2170	1380	620	660	756	854	2960	1510	52000	1500	13500
24	388	1740	1200	620	620	730	816	3610	1350	43600	1420	3410
25	379	1560	1010	610	700	602	766	2710	2240	14900	1350	3970
26	372	1540	1870	610	1030	571	695	1860	1990	10200	1270	7930
27	361	1400	1050	610	1050	541	628	1590	1420	1820	1210	2820
28	362	1240	1060	610	1020	532	608	1490	3380	2250	1180	1710
29	366	1160	1100	600	---	543	603	1560	3210	3740	1220	1300
30	361	1130	1060	600	---	3730	599	1310	2670	3100	10200	1110
31	359	---	1400	952	---	7490	---	1270	---	2660	8920	---
MEAN	491	1735	2026	1065	1361	2205	1302	3232	2607	12460	2375	3364
MAX	1030	7660	9630	2530	3670	8330	4380	11000	8850	52000	10200	25100
MIN	359	648	836	600	400	456	599	555	1120	1820	1180	1110
IN.	.41	1.40	1.69	.89	1.03	1.84	1.05	2.70	2.11	10.41	1.99	2.72

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

MEAN	496	546	684	455	807	1070	1629	1747	1604	2024	731	1067
MAX	2313	1735	2026	1199	1839	2205	3614	3899	4936	12460	2758	3364
(WY)	1987	1993	1993	1983	1983	1993	1984	1984	1984	1993	1987	1993
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	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1138		2870		1052	
HIGHEST ANNUAL MEAN					2870	1993
LOWEST ANNUAL MEAN					320	1985
HIGHEST DAILY MEAN	16200	Sep 16	52000	Jul 23	52000	Jul 23 1993
LOWEST DAILY MEAN	165	Jul 3	359	Oct 31	28	Jun 9 1989
INSTANTANEOUS PEAK FLOW	--		90700	Sep 22	90700	Sep 22 1993
INSTANTANEOUS PEAK STAGE	--		26.89	Sep 22	26.89	Sep 22 1993
INSTANTANEOUS LOW FLOW	--		351	Oct 31	23	Sep 9 1985
ANNUAL SEVEN-DAY MINIMUM	178	Jun 29	366	Oct 25	33	May 24 1989
ANNUAL RUNOFF (INCHES)	11.22		28.24		10.36	
10 PERCENT EXCEEDS	2130		6510		2460	
50 PERCENT EXCEEDS	702		1420		456	
90 PERCENT EXCEEDS	303		569		67	

NODAWAY RIVER BASIN

06817700 NODAWAY RIVER NEAR GRAHAM, MO--Continued
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1989 to October 1989, November 1992 to current year.

REMARKS.--This site replaced the Nodaway River near Oregon, Missouri.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00304)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
10...	1245	868	9.5	392	7.9	14.3	125	19	3500	1500	141
DEC											
01...	1045	1060	0.5	435	8.1	8.5	60	<10	410	270	151
JAN											
05...	1115	1980	0.0	424	7.9	9.2	63	<10	K150	K110	165
FEB											
16...	1140	559	1.5	387	7.7	9.4	67	39	230	140	146
MAR											
16...	1600	730	6.0	388	7.7	10.0	80	89	K270	300	141
APR											
07...	1205	1241	9.0	376	8.1	12.9	113	35	370	740	141
MAY											
11...	1245	11900	16.0	244	6.8	9.1	92	200	56000	35000	97
JUN											
15...	1215	4550	21.5	230	7.7	6.8	81	250	43000	49000	99
JUL											
24...	1000	51300	22.0	154	7.3	6.0	69	120	34000	34000	61
AUG											
24...	1245	1270	27.0	399	8.1	7.0	88	23	2400	620	161
SEP											
15...	1345	1420	15.5	348	8.2	9.1	90	51	K23000	8800	157

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, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV											
10...	4.90	0.030	0.050	0.40	0.170	0.160	180	50	14	9.2	3.0
DEC											
01...	4.40	0.040	0.070	0.50	0.190	0.120	--	--	--	--	--
JAN											
05...	5.80	0.020	0.070	0.47	0.140	0.080	--	--	--	--	--
FEB											
16...	2.80	0.040	0.420	1.2	0.360	0.190	--	--	--	--	--
MAR											
16...	2.50	0.030	0.170	1.5	0.600	0.130	180	49	13	8.7	4.4
APR											
07...	3.40	0.030	0.040	0.34	1.20	0.360	--	--	--	--	--
MAY											
11...	2.80	0.220	0.270	4.0	0.850	0.390	100	29	7.0	7.8	5.1
JUN											
15...	4.10	0.120	0.080	11	0.480	0.140	--	--	--	--	--
JUL											
24...	0.960	0.090	0.110	3.2	1.50	1.00	61	18	4.0	2.6	4.2
AUG											
24...	3.00	0.010	0.030	2.1	0.800	0.210	--	--	--	--	--
SEP											
15...	3.10	0.030	0.040	2.2	0.970	0.270	--	--	--	--	--

NODAWAY RIVER BASIN

06817700 NODAWAY RIVER NEAR GRAHAM

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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-PENDED (MG/L) (00530)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	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)
NOV										
10...	26	10	0.30	219	259	--	--	<1	<1.0	3
DEC										
01...	--	--	--	246	108	--	--	--	--	--
JAN										
05...	--	--	--	266	87	970	<10	--	--	--
FEB										
16...	--	--	--	240	8	2300	10	--	--	--
MAR										
16...	28	15	0.20	229	477	5500	30	<1	<1.0	1
APR										
07...	--	--	--	225	158	5600	30	--	--	--
MAY										
11...	16	5.3	0.30	163	5490	41000	390	2	<1.0	4
JUN										
15...	--	--	--	152	8310	41000	550	--	--	--
JUL										
24...	7.4	4.3	0.20	107	3260	31000	770	2	<1.0	3
AUG										
24...	--	--	--	240	1470	9300	<10	--	--	--
SEP										
15...	--	--	--	214	1340	9600	10	--	--	--

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)
NOV										
10...	12	28	<1	310	9	0.20	30	6	<0.05	<0.05
MAR										
16...	26	11	<1	410	19	--	40	<3	<0.05	<0.05
MAY										
11...	400	72	1	3400	22	<0.10	250	25	0.36	<0.05
JUL										
24...	72	46	1	1700	14	<0.10	190	14	<0.05	<0.05

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV										
10...	<0.05	0.15	0.12	<0.20	<0.05	<0.05	0.05	0.12	<0.05	<0.05
MAR										
16...	<0.05	0.10	0.06	<0.20	<0.05	<0.05	<0.05	0.06	<0.05	<0.05
MAY										
11...	<0.05	0.22	0.09	0.40	<0.05	<0.05	0.40	2.7	<0.05	<0.05
JUL										
24...	<0.05	0.08	0.16	<0.20	<0.05	<0.05	0.23	0.66	<0.05	<0.05

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO

LOCATION.--Lat 39°45'12", long 94°51'28", in NW ¼ SW ¼ 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 mi^2, 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.--Estimated daily discharges: Oct 21-30. 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 ft^3/s, computed by U.S. Army Corps of Engineers. Flood of June 1844 reached a stage of 24.5 ft, discharge, about 350,000 ft^3/s, computed by U.S Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36900	28100	29600	27800	26500	27900	130000	56800	54300	131000	162000	97400
2	36500	32400	28900	23600	27000	38000	105000	56800	56100	163000	146000	93100
3	36400	36300	28400	22900	28900	56700	95300	58300	62800	140000	129000	86600
4	36300	36100	28400	22900	32600	52500	96200	57700	62100	114000	110000	75900
5	36200	34200	28400	22200	37500	61000	90600	56300	64500	146000	95400	68100
6	36200	31700	28400	22800	35900	60300	80100	54800	74300	183000	85200	66100
7	35800	30300	29700	25100	34700	56500	75700	61000	79000	179000	79500	66300
8	37200	29600	29000	26900	35800	60500	77500	72000	74500	170000	75400	61300
9	46800	28800	28700	26600	35900	77200	73500	124000	73300	162000	69500	57800
10	68400	28300	29600	26300	34000	102000	71300	121000	67600	170000	64000	54600
11	67000	28000	30400	26200	36900	114000	71400	146000	67400	165000	59800	52900
12	61100	28100	30300	26900	45800	117000	67200	143000	67800	163000	57300	52200
13	58500	28100	33200	26900	41900	113000	64900	127000	65500	175000	67100	51300
14	56000	27900	42700	26000	35900	93100	66000	116000	81000	197000	62100	50600
15	54500	27400	50100	25700	33200	71100	63700	109000	89900	196000	56300	50500
16	52600	27500	43500	26300	31400	61500	62200	100000	75400	188000	54500	49600
17	50000	27500	39500	26200	29900	55700	61500	89300	72100	184000	52900	47900
18	47400	27200	36900	26000	28700	59100	60500	82800	78200	184000	55200	47500
19	45700	29400	35000	25900	28400	57100	59700	78200	85900	195000	56400	49600
20	44200	52800	33900	26200	28000	49700	62200	71200	96500	185000	63700	63600
21	42200	43500	33100	26200	27900	45400	69200	66300	86600	182000	70300	59400
22	39500	36300	32600	26400	27900	44200	85400	65400	78900	196000	62900	85900
23	36900	34200	32200	26700	28600	50100	82600	61500	73600	218000	58600	118000
24	35200	33100	31400	26900	29300	55600	74700	70200	74000	259000	60900	99000
25	33700	32500	30800	26600	28000	53000	69100	67800	96900	293000	58600	84000
26	31800	32400	29700	26500	26500	56400	66400	58900	97500	328000	54500	82000
27	30000	32200	28400	26400	25700	61800	64600	55000	94900	313000	51000	80800
28	30100	31200	28400	26500	27000	71800	62900	56800	91500	274000	48700	68900
29	29700	29900	29600	26400	---	82000	59900	53700	105000	229000	47200	61100
30	29000	29900	30600	26600	---	81700	57900	51300	96900	198000	65700	56900
31	28200	---	31100	26700	---	111000	---	53000	---	177000	92200	---
MEAN	42260	31830	32340	25850	31780	67640	74240	78750	78130	195400	73290	67960
MAX	68400	52800	50100	27800	45800	117000	130000	146000	105000	328000	162000	118000
MIN	28200	27200	28400	22200	25700	27900	57900	51300	54300	114000	47200	47500
IN.	.12	.08	.09	.07	.08	.19	.20	.22	.21	.54	.20	.18

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

MEAN	38480	34810	22330	19650	26500	44520	57230	51850	64870	55630	41450	40560
MAX	87650	70980	61820	45740	60570	96800	203000	104800	144700	195400	74110	75230
(WY)	1987	1976	1987	1973	1983	1979	1952	1984	1984	1993	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	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	39630		66950		41520	
HIGHEST ANNUAL MEAN					72080	1984
LOWEST ANNUAL MEAN					20490	1940
HIGHEST DAILY MEAN	121000	Jul 26	328000	Jul 26	380000	Apr 22 1952
LOWEST DAILY MEAN	20400	Jan 19	22200	Jan 5	2300	Jan 9 1937
INSTANTANEOUS PEAK FLOW	--		335000	Jul 26	397000	Apr 22 1952
INSTANTANEOUS PEAK STAGE	--		32.07	Jul 26	32.07	Jul 26 1993
INSTANTANEOUS LOW FLOW	--		21900	Jan 5	2300	Jan 9 1937
ANNUAL SEVEN-DAY MINIMUM	23100	Jan 17	23800	Jan 2	3330	Jan 7 1937
ANNUAL RUNOFF (INCHES)	1.28		2.16		1.34	
10 PERCENT EXCEEDS	53300		128000		70000	
50 PERCENT EXCEEDS	38800		56300		37000	
90 PERCENT EXCEEDS	25000		27300		15100	

MISSOURI RIVER MAIN STEM

06818000 MISSOURI RIVER AT ST. JOSEPH, MO--Continued
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to July 1992, November 1992 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: May 1984 to December 1984, July 1985 through September 1985, April 1986 to September 1986.
DISSOLVED OXYGEN: May 1984 to November 1984, July 1985 through September 1985, April 1986 to September 1986.

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

REMARKS.--Discontinued as national stream-quality accounting network station, September 1986. Ambient water-quality monitoring network station since November 1992.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
10...	0700	28700	7.0	764	8.1	15.5	128	21	5600	2800	230
DEC											
01...	0730	29500	2.5	810	8.3	18.2	135	<10	K1800	180	237
JAN											
05...	0825	22100	0.0	772	8.1	12.6	86	13	250	88	224
FEB											
16...	0940	31600	1.5	650	8.0	15.6	110	--	200	1200	179
MAR											
16...	1300	61100	2.5	508	7.6	9.2	67	61	230	5500	165
APR											
07...	0915	75700	7.5	534	8.0	9.6	81	58	21000	13000	174
MAY											
11...	0800	142000	16.0	484	7.7	7.1	72	200	54000	13000	135
JUN											
15...	0830	91800	22.0	610	8.1	6.0	72	95	22000	9800	177
JUL											
24...	1410	26500	23.5	347	7.9	5.9	70	45	30000	29000	119
AUG											
11...	1000	67500	26.5	667	8.2	--	--	--	1700	300	167
24...	0730	61100	25.5	673	8.0	6.6	86	30	K15000	1000	216
SEP											
15...	0800	50700	18.5	743	8.3	7.0	74	28	2500	K800	233

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, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	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)
NOV											
10...	3.80	0.020	0.080	0.80	0.340	0.130	--	320	81	28	39
DEC											
01...	3.90	0.030	0.070	0.60	0.200	0.110	--	--	--	--	--
JAN											
05...	3.60	0.020	0.110	0.56	0.190	0.070	--	--	--	--	--
FEB											
16...	2.30	0.030	0.270	0.89	0.310	0.170	--	--	--	--	--
MAR											
16...	1.80	0.050	0.610	3.9	0.800	0.230	--	170	46	13	25
APR											
07...	2.80	0.060	0.290	0.95	0.290	0.270	--	--	--	--	--
MAY											
11...	2.80	0.220	0.260	1.1	0.880	--	--	200	52	16	22
JUN											
15...	4.20	0.070	0.040	4.3	0.180	0.190	--	--	--	--	--
JUL											
24...	1.70	0.080	0.060	2.5	0.910	0.210	--	140	39	11	11
AUG											
11...	--	--	--	0.40	0.220	--	0.160	280	74	23	25
24...	3.40	0.040	0.020	1.5	0.570	--	--	--	--	--	--
SEP											
15...	2.50	0.020	0.040	1.3	0.260	0.160	--	--	--	--	--

MISSOURI RIVER MAIN STEM

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)
NOV											
10...	5.9	140	22	0.40	--	497	16	--	--	<1	<1.0
DEC											
01...	--	--	--	--	--	501	55	--	--	--	--
JAN											
05...	--	--	--	--	--	517	140	1500	<10	--	--
MAR											
16...	12	79	14	0.20	--	313	621	9100	300	<1	<1.0
APR											
07...	--	--	--	--	--	339	490	5700	60	--	--
MAY											
11...	6.6	74	12	0.30	--	317	3850	32000	130	2	<1.0
JUN											
15...	--	--	--	--	--	386	2870	18000	10	--	--
JUL											
24...	5.8	43	7.1	0.30	--	217	2440	20000	60	<1	<1.0
AUG											
11...	7.8	97	17	0.30	17	418	--	--	20	--	--
24...	--	--	--	--	--	420	598	3900	10	--	--
SEP											
15...	--	--	--	--	--	473	197	2500	10	--	--

DATE	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	SIMAZINE, WATER, DISS, REC (UG/L) (04035)	PROMETRYN, WATER, DISS, REC (UG/L) (04036)
NOV											
10...	3	4	5	<1	280	5	<0.10	20	4	<0.05	<0.05
MAR											
16...	3	200	980	<1	700	26	--	60	7	<0.05	<0.05
MAY											
11...	3	120	50	<1	2500	6	<0.10	190	20	0.48	<0.05
JUL											
24...	3	74	26	1	1100	4	<0.10	110	7	<0.05	<0.05
AUG											
11...	--	6	--	--	--	<1	<0.10	--	--	0.02	--

DATE	PROMETON, WATER, DISS, REC (UG/L) (04037)	DEISOPROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L) (04040)	CYANAZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROPAZINE WATER DISS REC (UG/L) (38535)	METOLACHLOR WATER DISSOLV (UG/L) (39415)	ATRAZINE, WATER, DISS, REC (UG/L) (39632)	ALACHLOR, WATER, DISS, REC, (UG/L) (46342)	METRIBUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV										
10...	<0.05	0.06	0.06	<0.20	<0.05	<0.05	0.05	0.11	<0.05	<0.05
MAR										
16...	<0.05	0.09	<0.05	<0.20	<0.05	<0.05	<0.05	0.05	<0.05	<0.05
MAY										
11...	<0.05	3.5	0.36	2.3	<0.05	<0.05	0.35	3.8	0.05	<0.05
JUL										
24...	<0.05	0.15	0.21	0.30	<0.05	<0.05	0.33	1.3	0.05	<0.05
AUG										
11...	0.01	--	0.09	0.33	--	--	0.20	0.74	0.02	<0.01

PLATTE RIVER BASIN

06820500 PLATTE RIVER NEAR AGENCY, MO

LOCATION.--Lat 39°41'20", long 94°42'15", in NE ¼ NW ¼ 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 mi^2, 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.--No estimated daily discharges. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	341	330	991	525	1130	611	17400	845	798	9400	3100	671
2	312	2360	926	618	1620	2250	12800	854	825	17600	1650	874
3	293	4820	910	788	2330	8460	4870	2730	836	19700	1330	592
4	285	2090	884	899	3790	10400	5280	3110	765	15400	1160	814
5	271	1190	833	799	3650	9580	2890	2550	818	17900	1050	763
6	256	862	756	843	3350	5950	2010	1710	2540	26200	976	642
7	245	712	678	785	2120	3110	2490	8660	11700	31500	898	2440
8	323	631	658	681	1750	2710	7560	13300	10700	44800	836	1660
9	615	577	737	561	1530	2060	8360	10200	3650	44600	776	810
10	1340	613	800	550	1170	1560	4070	10700	1870	35300	710	587
11	824	613	1010	560	2140	1250	2460	11200	1370	25400	658	481
12	552	611	1610	560	4420	1050	1900	11800	2340	19100	621	412
13	440	562	4440	540	2830	838	2160	8390	1510	16700	607	466
14	379	536	15600	500	1420	688	3320	3340	6010	17100	981	559
15	328	521	20000	520	944	737	2800	2250	11200	16000	680	379
16	286	473	17200	550	676	784	2360	1810	10600	13800	552	403
17	246	438	8890	550	550	738	2050	1520	2940	8920	497	390
18	228	421	3150	550	500	701	1770	1400	3080	5000	452	371
19	212	983	2160	550	520	657	1560	1210	3370	4960	717	1370
20	201	10800	1730	550	550	666	2900	1110	3750	3340	1170	1770
21	192	15000	1500	560	550	762	1760	1020	2510	7160	3780	2370
22	191	10800	1320	590	540	857	1480	956	1640	16500	1380	19900
23	191	3160	1220	631	520	1190	1270	936	1270	25400	811	36100
24	190	1850	980	680	520	1550	1160	3240	1080	40100	659	34700
25	175	1660	780	681	520	1150	1070	2770	1070	57500	583	28000
26	168	1910	774	660	520	995	990	1450	1050	47800	530	20600
27	167	1560	896	700	520	917	930	1120	964	32600	453	13300
28	165	1320	970	1030	550	881	901	956	816	22200	436	4850
29	174	1130	972	1050	---	856	1000	909	3480	11200	410	2180
30	190	1040	941	928	---	3000	898	1030	2230	3770	371	1600
31	208	---	684	896	---	13800	---	866	---	2600	384	---
MEAN	322	2319	3065	674	1472	2605	3416	3676	3226	21280	943	6002
MAX	1340	15000	20000	1050	4420	13800	17400	13300	11700	57500	3780	36100
MIN	165	330	658	500	500	611	898	845	765	2600	371	371
IN.	.21	1.47	2.01	.44	.87	1.71	2.17	2.41	2.05	13.94	.62	3.81

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

MEAN	661	542	379	389	821	1389	1465	1480	1950	1207	462	961
MAX	8584	4620	3248	3714	4912	6345	6835	6815	13640	21280	2935	7853
(WY)	1974	1962	1983	1974	1973	1979	1973	1982	1947	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1547		4108		976	
HIGHEST ANNUAL MEAN					4108	1993
LOWEST ANNUAL MEAN					67.4	1934
HIGHEST DAILY MEAN	22200	Apr 22	57500	Jul 25	57500	Jul 25 1993
LOWEST DAILY MEAN	106	Jul 4	165	Oct 28	.00	At Times
INSTANTANEOUS PEAK FLOW	--		60800	Jul 25	60800	Jul 25 1993
INSTANTANEOUS PEAK STAGE	--		36.07	Jul 25	36.07	Jul 25 1993
INSTANTANEOUS LOW FLOW	--		160	Oct 27	.00	At Times
ANNUAL SEVEN-DAY MINIMUM	117	Aug 26	176	Oct 24	.00	At Times
ANNUAL RUNOFF (INCHES)	11.96		31.69		7.53	
10 PERCENT EXCEEDS	3090		12200		2070	
50 PERCENT EXCEEDS	613		1030		185	
90 PERCENT EXCEEDS	191		430		21	

PLATTE RIVER BASIN

06821140 SMITHVILLE RESERVOIR NEAR SMITHVILLE, MO

LOCATION.--Lat 39°23'50", long 94°33'25", SW ¼ 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 mi^2.

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, 225,000 ac-ft, July 28, 1993, maximum elevation 874.31 ft; minimum, 2,360 ac-ft, Jan. 13, 1980, elevation, 819.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 225,000 ac-ft, July 28, elevation, 874.31 ft; minimum, 107,000 ac-ft, Jan. 19, elevation, 858.87 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	863.55	859.09	861.25	863.23	859.64	861.57	865.04	867.00	867.33	867.34	873.81	864.74
2	863.27	859.20	861.12	862.92	859.83	861.78	865.19	866.82	867.25	868.36	873.55	864.60
3	862.99	859.22	861.00	862.54	860.03	862.29	865.29	866.70	867.27	868.59	873.21	864.48
4	862.71	859.24	860.89	862.40	860.30	862.65	865.85	866.85	867.31	868.69	872.89	864.42
5	862.44	859.21	860.69	862.16	860.49	862.81	866.25	866.93	867.00	868.94	872.56	864.39
6	862.14	859.20	860.55	861.91	860.59	862.92	866.38	866.89	866.67	869.51	872.23	864.38
7	861.87	859.20	860.41	861.62	860.70	863.00	866.45	869.30	866.43	869.72	871.90	864.32
8	861.59	859.19	860.27	861.34	860.79	863.08	867.42	870.69	866.49	870.22	871.58	864.30
9	861.31	859.20	860.15	860.94	860.84	863.12	867.70	870.88	866.52	870.95	871.25	864.28
10	861.05	859.26	860.03	860.58	860.90	863.18	867.80	871.21	866.53	871.52	870.93	864.27
11	860.74	859.38	860.00	860.25	860.99	863.15	867.87	871.44	866.55	871.61	870.61	864.26
12	860.45	859.67	860.02	859.89	861.11	863.16	867.92	871.52	866.55	871.64	870.84	864.23
13	860.15	859.71	860.21	859.44	861.19	863.16	868.17	871.60	866.42	871.65	870.87	864.36
14	859.79	859.66	862.85	859.07	861.24	863.16	869.11	871.61	866.26	872.06	870.80	866.45
15	859.68	859.60	864.04	858.99	861.26	863.17	869.36	871.65	866.30	872.35	870.59	866.59
16	859.54	859.51	864.24	858.95	861.30	863.21	869.41	871.68	866.30	872.45	870.28	866.64
17	859.30	859.47	864.38	858.93	861.30	863.24	869.31	871.67	866.30	872.52	869.94	866.56
18	859.12	859.39	864.39	858.90	861.30	863.22	869.16	871.58	866.50	872.56	869.62	866.47
19	859.09	859.37	864.46	858.87	861.31	863.23	869.00	871.25	866.61	872.62	869.25	866.35
20	859.05	860.41	864.46	858.91	861.36	863.27	868.82	870.98	866.62	872.63	868.91	867.07
21	859.06	860.95	864.49	858.94	861.40	863.30	868.78	870.64	866.62	872.71	868.56	867.18
22	859.07	861.07	864.51	858.99	861.42	863.32	868.65	870.35	866.60	872.94	868.10	867.38
23	859.07	861.32	864.52	859.04	861.43	863.35	868.45	870.03	866.48	873.54	867.84	870.30
24	859.08	861.41	864.49	859.09	861.43	863.38	868.25	869.67	866.32	873.97	867.47	870.65
25	859.08	861.57	864.50	859.13	861.47	863.41	868.04	869.33	866.20	874.19	867.10	871.82
26	859.10	861.75	864.49	859.17	861.51	863.42	867.81	869.23	866.07	874.24	866.74	872.47
27	859.06	861.72	864.48	859.21	861.53	863.45	867.60	868.98	865.94	874.28	866.34	872.51
28	859.04	861.61	864.50	859.31	861.55	863.48	867.37	868.63	865.83	874.31	866.06	872.56
29	859.05	861.49	864.38	859.43	---	863.52	867.32	868.25	865.68	874.24	865.68	872.58
30	859.03	861.40	864.05	859.50	---	863.68	867.20	868.00	865.62	874.06	865.31	872.59
31	859.01	---	863.67	859.54	---	864.26	---	867.70	---	873.81	864.94	---
MAX	863.55	861.75	864.52	863.23	861.55	864.26	869.41	871.68	867.33	874.31	873.81	872.59
MIN	859.01	859.09	860.00	858.87	859.64	861.57	865.04	866.70	865.62	867.34	864.94	864.23
(-)	108000	123000	138000	111000	124000	142000	164000	168000	152000	220000	147000	209000
(=)	-31000	+15000	+15000	-27000	+13000	+18000	+22000	+4000	-16000	+68000	-73000	+62000

CAL YR 1992. . . . .+ 6000
WTR YR 1993. . . . .+70000

(-) 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 ¼ SW ¼ 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 mi^2.

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 good. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	968	138	578	1300	95	40	265	911	912	723	685	501
2	966	44	572	1290	95	369	75	908	44	716	1300	499
3	964	23	568	1280	114	372	542	827	25	50	1290	329
4	960	20	564	1070	97	194	327	125	657	84	1280	149
5	959	19	559	968	66	104	96	244	1290	201	1280	146
6	955	18	558	956	53	71	65	598	1300	180	1280	149
7	949	18	557	1040	48	55	419	2370	547	440	1270	81
8	971	18	555	1150	40	42	383	169	11	473	1270	10
9	960	18	564	1140	34	34	112	671	7.9	1090	1270	9.9
10	948	25	318	1140	33	31	76	1060	6.1	859	1260	9.5
11	942	150	51	1230	44	26	60	486	370	460	1120	9.1
12	940	298	21	1350	77	25	335	139	732	299	1860	9.0
13	984	354	2200	1300	38	22	1100	100	724	389	278	389
14	735	329	1210	755	31	21	276	77	361	1100	754	307
15	271	321	339	230	27	22	473	63	4.4	479	1070	34
16	569	320	146	175	37	22	837	53	4.1	258	1330	206
17	566	318	108	173	31	19	1020	492	4.3	94	1320	508
18	302	318	74	170	28	18	1010	1040	15	72	1310	505
19	11	749	55	86	26	21	977	1120	34	52	1310	1000
20	11	813	43	23	25	25	594	1250	34	328	1310	161
21	12	111	73	27	28	22	319	1370	34	113	1300	43
22	12	249	104	28	32	24	923	1370	34	579	1290	30
23	13	341	101	48	27	24	919	1370	346	257	1280	336
24	13	76	95	48	22	20	915	1370	490	344	1270	475
25	12	495	95	32	31	19	911	937	482	533	1270	1260
26	13	699	92	32	27	18	908	415	479	626	1260	414
27	16	612	92	62	23	18	904	1360	478	534	1250	219
28	15	598	401	159	21	18	993	1350	502	523	1270	90
29	15	590	1090	101	---	20	1070	1350	350	742	1250	44
30	16	584	1330	49	---	51	923	1410	6.8	1050	1230	36
31	16	---	1320	49	---	356	---	1340	---	1130	873	---
MEAN	487	289	466	563	44.6	68.5	594	850	343	477	1206	265
MAX	984	813	2200	1350	114	372	1100	2370	1300	1130	1860	1260
MIN	11	18	21	23	21	18	60	53	4.1	50	278	9.0
IN.	2.40	1.38	2.29	2.78	.20	.34	2.83	4.19	1.63	2.35	5.94	1.27

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

MEAN	163	119	84.7	93.5	96.5	165	234	316	247	242	144	198
MAX	1108	755	466	563	322	1261	640	1583	1289	2126	1206	1006
(WY)	1974	1978	1993	1993	1973	1973	1978	1974	1967	1965	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	286		476		168	
HIGHEST ANNUAL MEAN					476	1993
LOWEST ANNUAL MEAN					35.4	1988
HIGHEST DAILY MEAN	2560	Jul 26	2370	May 7	41000	Jul 20 1965
LOWEST DAILY MEAN	9.1	Sep 4	4.1	Jun 16	.00	Many Years
INSTANTANEOUS PEAK FLOW	--		6370	May 7	76600	Jul 20 1965
INSTANTANEOUS PEAK STAGE	--		30.43	May 7	44.8	Jul 20 1965
INSTANTANEOUS LOW FLOW	--		3.6	Jun 17	.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	11	Sep 10	12	Oct 19	.00	Many Years
ANNUAL RUNOFF (INCHES)	16.64		27.60		9.75	
10 PERCENT EXCEEDS	969		1270		433	
50 PERCENT EXCEEDS	65		320		27	
90 PERCENT EXCEEDS	12		19		4.8	

PLATTE RIVER BASIN

06821190 PLATTE RIVER AT SHARPS STATION, MO

LOCATION.--Lat 39°24'03", long 94°43'36", in NW ¼ SE ¼ SW ¼ 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: Jan. 1, 2, 20, 21, Mar. 8, 9, Apr. 17, 18, and May 18 to June 2. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1560	404	2360	2360	1790	632	12500	2850	1750	8070	11200	1310
2	1510	872	2280	2270	2640	2120	15400	2730	1600	12200	7360	1430
3	1540	4860	2140	2730	3510	6730	18100	3090	1080	13200	5070	1770
4	1560	5440	2100	3050	4930	10500	17100	5070	1420	15100	4280	1150
5	1520	2700	2000	2620	5530	12100	14000	4310	2640	17600	3750	1190
6	1540	1590	1900	2360	5270	12400	6950	4010	2730	18300	3450	1360
7	1540	1160	1790	2500	4530	10700	4580	13300	7090	20100	3260	1300
8	1630	953	1650	2660	3310	7500	9700	14800	10500	25500	3080	3180
9	1730	832	1690	2450	2890	5200	12300	16600	11400	33300	2890	2380
10	2190	861	1790	2250	2470	3090	12300	18100	6530	34400	2720	1350
11	2630	1210	1380	2430	2080	2400	7150	18700	2700	31000	2660	965
12	1880	1770	1740	2820	4590	1950	4350	16400	3060	27100	3650	758
13	1770	1490	5760	2810	5560	1620	5810	15400	4060	24300	1310	2520
14	1700	1240	13700	2180	3740	1300	7410	14600	3500	23100	1530	7750
15	729	1130	16200	1280	2150	1130	6290	9840	8300	23600	2440	3250
16	1050	1090	19000	1130	1300	1170	5950	4040	10500	21500	2590	1300
17	1040	1020	19500	1090	997	1200	4190	2950	11100	19900	2520	1430
18	924	969	17500	1040	896	1100	4670	2400	6030	18300	2440	1510
19	370	1870	12400	904	996	1080	3830	3000	4650	16000	2350	2790
20	309	8420	4680	900	1300	1070	4370	4000	4800	13500	2640	6210
21	296	11600	2960	890	1300	1090	3740	5000	4320	9760	3790	3990
22	287	13200	2550	896	1150	1270	3520	6000	3150	12200	5340	4900
23	282	14800	2220	1020	1240	1480	3220	7000	2530	13800	3570	10500
24	277	11600	1890	1090	1160	2100	2950	5500	2150	19200	2790	25000
25	270	4610	1510	1070	470	2250	2790	4000	1940	33000	2530	31000
26	252	4590	1170	1020	423	1690	2670	3500	1930	37300	2440	27600
27	237	3920	1180	1060	517	1490	2550	3000	1890	34200	2360	23400
28	233	3240	1440	1510	571	1380	2580	2500	1800	30100	2370	19600
29	230	2800	2560	2120	---	1350	4000	2100	1880	25900	2360	15700
30	235	2520	3100	1800	---	2290	3410	1800	4700	21500	2200	9580
31	245	---	3000	1540	---	8490	---	1550	---	16500	2180	---
MEAN	1018	3759	5005	1802	2404	3544	6946	7037	4391	21600	3326	7206
MAX	2630	14800	19500	3050	5560	12400	18100	18700	11400	37300	11200	31000
MIN	230	404	1170	890	423	632	2550	1550	1080	8070	1310	758
IN.	.49	1.76	2.42	.87	1.05	1.72	3.26	3.41	2.06	10.46	1.61	3.38

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

MEAN	1286	910	1288	669	1370	2407	2770	3129	2747	3548	1275	1817
MAX	6847	3759	5005	2153	3980	8745	6946	7688	10790	21600	3535	7206
(WY)	1986	1993	1993	1983	1982	1979	1993	1982	1984	1993	1987	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	2492		5697		1948	
HIGHEST ANNUAL MEAN					5697	1993
LOWEST ANNUAL MEAN					464	1989
HIGHEST DAILY MEAN	22200	Apr 24	37300	Jul 26	37300	Jul 26 1993
LOWEST DAILY MEAN	203	Feb 13	230	Oct 29	12	Aug 7-8, 13-14 1989
INSTANTANEOUS PEAK FLOW	--		37800	Jul 26	37800	Jul 26 1993
INSTANTANEOUS PEAK STAGE	--		36.43	Jul 26	36.43	Jul 26 1993
INSTANTANEOUS LOW FLOW	--		226	Oct 29	12	Aug 7-8, 13-14 1989
ANNUAL SEVEN-DAY MINIMUM	233	Feb 8	243	Oct 25	14	Aug 7 1989
ANNUAL RUNOFF (INCHES)	14.26		32.50		11.12	
10 PERCENT EXCEEDS	6100		16300		4900	
50 PERCENT EXCEEDS	1160		2640		657	
90 PERCENT EXCEEDS	315		1020		66	

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 1992 TO SEPTEMBER 1993

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-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												
09...	1310	828	361	8.0	6.0	45	13.4	108	2200	3700	140	42
MAR												
16...	0800	11200	446	7.9	5.0	--	9.4	74	K40	K180	--	--
MAY												
11...	1600	16420	233	6.6	17.5	200	7.0	74	5900	5800	100	31
AUG												
02...	1230	7240	267	7.8	24.5	310	5.2	62	22000	14000	120	37

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												
09...	9.5	11	5.9	B78	26	12	0.20	13	233	185	0.32	529
MAR												
16...	--	--	--	172	--	--	--	--	--	--	--	--
MAY												
11...	6.1	5.7	4.3	98	14	5.9	0.20	12	169	143	0.23	8490
AUG												
02...	6.6	5.5	4.4	104	15	5.4	0.30	10	168	153	0.23	--

B--Based on cation/anion balance, this value is considered suspect.

PLATTE RIVER BASIN

06821190 PLATTE RIVER AT SHARPS STATION, MO--Continued

DATE	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)
NOV											
09...	0.020	3.90	0.040	0.030	0.60	0.240	0.110	0.100	256	83	30
MAR											
16...	0.020	1.90	0.140	0.150	1.7	0.530	0.060	0.060	--	--	--
MAY											
11...	0.050	1.80	0.100	0.070	1.1	0.390	0.110	0.120	--	--	70
AUG											
02...	0.050	1.30	0.120	0.110	3.3	0.950	0.050	0.060	--	--	20

DATE	BARIUM, DISSOLVED (UG/L AS BA) (01005)	COBALT, DISSOLVED (UG/L AS CO) (01035)	IRON, DISSOLVED (UG/L AS FE) (01046)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)
NOV											
09...	110	<3	41	5	58	<10	3	<1	<1.0	180	<6
MAY											
11...	110	<3	61	<4	10	<10	3	<1	<1.0	140	<6
AUG											
02...	120	<3	16	<4	130	<10	3	<1	<1.0	160	<6

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 highway, north edge of DeSoto, 0.4 mi upstream from Kill Creek, and at mile 31.0.

DRAINAGE AREA.--59,756 mi^2, 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.--Records good except those for estimated daily discharges, which are poor. Natural flow 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 up-stream; since storage capacity is small, daily flows are not affected appreciably. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2460	2670	10600	6190	7630	9350	50300	24500	38500	25800	122000	41400
2	2330	2820	10400	5580	8130	14600	46800	22800	37500	45900	113000	41300
3	2270	2990	10600	5940	9360	23400	31600	25800	35500	39700	103000	40900
4	2230	3080	10700	6880	11200	25900	50000	24400	35100	31200	94200	40200
5	2060	2720	10600	6100	13100	31700	45800	28000	34100	29100	87400	39900
6	1940	2490	10500	5810	13500	34400	32900	27700	40300	69100	82400	39800
7	1880	2380	10400	5730	14900	36900	28800	39000	36800	57300	77300	39900
8	2070	2120	10400	5460	16500	37600	33100	43000	28500	37300	73100	40200
9	2320	2150	11200	5300	17000	35900	37600	93400	26700	37900	69400	40300
10	2290	2520	11800	4220	18700	34200	29800	103000	23200	102000	64800	40300
11	2350	3010	12300	4500	21600	34100	25600	93300	19400	74000	61900	38100
12	4560	4900	11900	4850	22600	28700	33700	88100	16900	42600	61000	37100
13	8790	4310	20600	4850	23000	19700	53400	58300	13900	35900	59100	37600
14	9520	3800	39300	4220	27500	16800	42900	44800	12100	35800	57900	44200
15	8360	3220	48700	3990	30900	17900	30900	39600	15400	47300	57100	38700
16	6590	3270	38100	4120	31400	17700	28300	34800	12400	37500	56500	34400
17	5990	3060	28600	4520	31000	25400	31900	33400	11300	34000	56200	31400
18	5270	3040	25400	4860	30000	28000	37200	32600	13000	44200	56500	29000
19	4660	6700	23300	4570	25800	28000	35100	29600	16200	94300	61300	42000
20	4420	24200	20700	4410	19400	28000	33500	31600	22800	88000	62700	51900
21	4220	24600	19200	4690	16800	27900	28800	36400	25600	91800	63000	39700
22	4100	17800	19400	5150	15300	27900	26000	38400	20900	119000	61500	47500
23	3840	14500	18800	5590	14500	27600	24700	40000	20300	124000	60500	41400
24	3890	13500	18100	5880	14100	24700	24300	39100	21800	121000	60100	43100
25	3730	15100	17800	5420	13100	22900	23900	32500	21500	135000	57200	49600
26	3570	16100	15500	5530	12200	21900	23500	34600	24400	157000	55900	41000
27	3570	14500	13100	5910	11500	20500	23000	38800	22300	167000	47800	37200
28	3490	12900	12700	7470	10400	15700	24600	41600	22400	164000	44200	34000
29	3520	12300	12500	8900	---	13400	27700	42300	31500	152000	50400	28100
30	2960	12200	10400	8810	---	13400	26400	40900	27700	140000	48000	25800
31	2300	---	7520	7910	---	22600	---	39100	---	132000	41700	---
MEAN	3921	7965	17460	5592	17900	24730	33070	43270	24270	81020	66680	39200
MAX	9520	24600	48700	8900	31400	37600	53400	103000	40300	167000	122000	51900
MIN	1880	2120	7520	3990	7630	9350	23000	22800	11300	25800	41700	25800
AC-FT	241100	474000	1073000	343900	994000	1521000	1968000	2661000	1444000	4982000	4100000	2333000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 1993, BY WATER YEAR (WY)

MEAN	5655	4203	3328	2777	4424	7147	9542	10740	14690	11950	6950	6866
MAX	51630	42320	21940	15990	20800	36560	43570	43270	78870	133200	66680	44660
(WY)	1974	1974	1974	1973	1949	1973	1973	1993	1951	1951	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1917 - 1993	
ANNUAL MEAN	7939		30570		7369	
HIGHEST ANNUAL MEAN					30570	1993
LOWEST ANNUAL MEAN					1326	1956
HIGHEST DAILY MEAN	48700	Dec 15	167000	Jul 27	486000	Jul 14 1951
LOWEST DAILY MEAN	526	Feb 7	1880	Oct 7	160	Oct 11 1956
ANNUAL SEVEN-DAY MINIMUM	774	Jan 15	2110	Oct 3	195	Oct 9 1956
INSTANTANEOUS PEAK FLOW			170000	Jul 27	510000	Jul 13 1951
INSTANTANEOUS PEAK STAGE			26.91	Jul 27	37.30	Jul 13 1951
INSTANTANEOUS LOW FLOW			1640	Oct 5	160	Oct 11 1956
ANNUAL RUNOFF (AC-FT)	5764000		22130000		5339000	
10 PERCENT EXCEEDS	24200		60700		17700	
50 PERCENT EXCEEDS	3590		25400		3240	
90 PERCENT EXCEEDS	1080		3950		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 mi^2, 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.--Estimated daily discharges: May 21-23. 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 ft^3/s, computed by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40300	30600	43000	40100	35500	37700	173000	84000	94500	142000	303000	135000
2	39300	31700	41300	34900	36200	43400	176000	80400	93800	180000	276000	138000
3	38500	35900	40700	31400	39000	85600	154000	88100	94300	196000	251000	133000
4	38400	44600	40500	33100	44400	94600	166000	87900	99200	173000	228000	122000
5	38200	42800	40000	32000	52500	97700	168000	89600	96700	160000	207000	112000
6	37700	38500	39900	29800	57800	111000	143000	90400	105000	200000	187000	107000
7	37700	35600	39800	30000	55400	104000	123000	117000	123000	233000	168000	107000
8	38400	33800	40400	32200	55800	103000	130000	123000	112000	220000	154000	107000
9	40400	32900	40800	34000	57700	107000	132000	200000	106000	220000	144000	104000
10	56600	33200	41100	32700	57300	125000	120000	242000	96800	275000	135000	99600
11	78600	33900	42600	31900	58800	144000	113000	240000	84700	288000	126000	95100
12	72000	36100	42800	33200	67700	145000	112000	243000	80500	248000	126000	92100
13	70400	35200	57900	33900	77300	137000	133000	219000	77900	228000	120000	97800
14	68600	33600	94900	33000	70300	123000	134000	185000	74300	231000	123000	110000
15	65700	32300	110000	31000	67400	101000	114000	163000	96400	247000	117000	96200
16	62100	31500	103000	30200	64700	85500	103000	143000	94700	250000	110000	84400
17	59100	31300	89200	30800	61500	80600	102000	126000	80800	242000	108000	77500
18	56100	31200	82100	31000	58800	83300	105000	119000	84900	237000	106000	72000
19	52600	34700	75700	30300	55000	87500	103000	111000	87200	267000	112000	85500
20	50500	69000	65900	30400	49800	81700	101000	105000	103000	289000	117000	117000
21	48500	88800	58400	31200	45400	75000	100000	100000	112000	288000	126000	104000
22	46000	71200	56200	31800	43800	71200	108000	98800	98600	310000	131000	109000
23	42200	63300	54900	32700	42700	71200	114000	99100	90900	340000	122000	147000
24	39500	59300	53300	33500	43000	77400	107000	103000	90800	359000	118000	159000
25	37700	56400	51700	33300	43600	79300	99000	106000	99600	414000	118000	186000
26	36000	55800	49300	32500	41000	76900	93100	100000	119000	503000	114000	169000
27	33900	52800	44900	32700	38600	81600	89500	94000	118000	529000	107000	150000
28	32000	49300	42700	34300	37600	84300	89400	96700	115000	501000	94700	134000
29	32200	46500	43100	36700	---	94100	93200	101000	124000	443000	102000	116000
30	31800	44400	44500	36600	---	101000	88800	98200	131000	385000	101000	101000
31	30200	---	43000	35800	---	125000	---	94300	---	338000	122000	---
MEAN	46810	43870	55280	32810	52090	94020	119600	127300	99490	288300	144300	115600
MAX	78600	88800	110000	40100	77300	145000	176000	243000	131000	529000	303000	186000
MIN	30200	30600	39800	29800	35500	37700	88800	80400	74300	142000	94700	72000
IN.	.11	.10	.13	.08	.11	.22	.28	.30	.23	.69	.34	.27

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

MEAN	45780	41040	27110	23140	32180	53730	69410	65400	82600	70630	49420	49360
MAX	135200	93340	75370	60980	77690	133700	215000	138500	193000	288300	144300	121300
(WY)	1974	1974	1987	1973	1973	1979	1952	1984	1947	1993	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	49600		102100		50850	
HIGHEST ANNUAL MEAN					102100	1993
LOWEST ANNUAL MEAN					22300	1934
HIGHEST DAILY MEAN	165000	Jul 31	529000	Jul 27	558000	Jul 14 1951
LOWEST DAILY MEAN	21600	Jan 20	29800	Jan 6	1500	Jan 10 1937
INSTANTANEOUS PEAK FLOW	--		541000	Jul 27	573000	Jul 14 1951
INSTANTANEOUS PEAK STAGE	--		48.87	Jul 27	48.87	Jul 27 1993
INSTANTANEOUS LOW FLOW	--		29300	Jan 6	1500	Jan 9 1937
ANNUAL SEVEN-DAY MINIMUM	24300	Jan 18	30700	Jan 15	2140	Jan 4 1940
ANNUAL RUNOFF (INCHES)	1.39		2.86		1.42	
10 PERCENT EXCEEDS	80600		198000		92400	
50 PERCENT EXCEEDS	43200		89600		42000	
90 PERCENT EXCEEDS	26800		33700		17400	

**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 ¼ NE ¼ 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 mi^2.

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.--Estimated daily discharges: Dec. 26 to Jan. 4. Records good, except for estimated daily discharges, which are poor. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	325	170	500	190	205	268	292	119	603	162	47
2	28	106	161	550	183	712	181	306	171	4170	141	537
3	28	107	145	300	180	1330	310	1060	109	1340	125	276
4	28	90	135	260	182	682	335	607	134	237	135	79
5	27	67	124	238	170	419	220	346	106	315	147	56
6	25	61	118	189	159	310	186	333	1020	1220	142	49
7	33	59	117	175	149	259	264	5170	359	8580	118	46
8	253	61	111	166	143	222	264	628	191	693	109	92
9	95	55	199	159	137	195	201	4210	164	337	103	49
10	50	571	189	159	132	178	176	972	115	12000	100	43
11	37	426	143	148	266	163	161	348	98	3350	207	35
12	32	554	125	231	240	157	737	265	90	322	101	38
13	27	202	5920	236	178	147	2570	225	80	745	91	1060
14	23	125	6690	194	158	138	809	179	71	2170	84	340
15	23	102	1570	172	151	138	477	153	60	1110	78	163
16	23	91	392	164	157	142	386	277	56	367	76	100
17	21	82	298	158	141	124	373	235	53	236	67	76
18	23	158	241	146	138	116	324	299	115	274	61	62
19	25	1450	213	138	135	147	304	190	103	219	54	3040
20	22	1700	185	182	146	133	288	174	64	235	54	1080
21	22	384	168	212	167	122	246	139	56	388	128	283
22	23	1310	158	239	152	123	227	123	50	2770	70	846
23	23	838	148	328	134	117	217	116	101	623	66	2380
24	23	271	131	333	124	112	215	107	96	803	60	2450
25	27	1030	120	243	123	109	258	94	85	465	50	7930
26	30	548	1500	225	157	102	207	84	66	281	45	863
27	35	276	1800	298	132	99	190	79	53	215	39	335
28	26	228	500	398	136	105	863	72	49	179	35	266
29	68	204	300	320	---	116	1060	112	44	156	36	224
30	80	188	230	209	---	161	357	478	41	141	33	192
31	74	---	200	191	---	248	---	179	---	136	78	---
MEAN	41.5	389	726	241	159	236	422	576	131	1441	90.2	768
MAX	253	1700	6690	550	266	1330	2570	5170	1020	12000	207	7930
MIN	21	55	111	138	123	99	161	72	41	136	33	35
IN.	.25	2.31	4.45	1.48	.88	1.45	2.51	3.53	.78	8.84	.55	4.56

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

MEAN	129	96.6	92.6	96.0	121	193	264	236	272	174	79.5	171
MAX	790	771	726	445	740	1407	1279	1457	1285	1616	431	1395
(WY)	1987	1962	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	168		437		161	
HIGHEST ANNUAL MEAN					437	1993
LOWEST ANNUAL MEAN					12.8	1956
HIGHEST DAILY MEAN	6690	Dec 14	12000	Jul 10	20000	Sep 13 1961
LOWEST DAILY MEAN	20	Jul 3	21	Oct 17	.00	Several Years
INSTANTANEOUS PEAK FLOW	--		17900	Jul 10	41000	Sep 13 1961
INSTANTANEOUS PEAK STAGE	--		33.91	Jul 10	44.46	Sep 13 1961
INSTANTANEOUS LOW FLOW	--		15	Oct 17	.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	23	Oct 15	23	Oct 15	.00	At Times
ANNUAL RUNOFF (INCHES)	12.19		31.59		11.64	
10 PERCENT EXCEEDS	269		821		270	
50 PERCENT EXCEEDS	60		163		42	
90 PERCENT EXCEEDS	26		47		5.0	

LITTLE BLUE RIVER BASIN

06893791 LONGVIEW RESERVOIR AT KANSAS CITY, MO

LOCATION.--Lat 38°55'29", long 94°27'35", SE ¼ NE ¼ NW ¼ 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 mi^2.

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, 27,300 ac-ft, Sept. 25, elevation, 895.99 ft; minimum, 21,200 ac-ft, Oct. 28-29, elevation, 889.93 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	890.27	890.28	891.77	891.39	891.74	891.40	891.93	892.18	891.77	891.10	891.23	890.57
2	890.26	890.37	891.65	891.40	891.67	891.65	891.89	891.98	891.72	891.84	891.14	890.55
3	890.23	890.37	891.60	891.44	891.62	892.47	891.84	892.89	891.65	892.58	891.09	890.64
4	890.21	890.37	891.53	892.15	891.61	892.73	891.89	893.06	891.57	892.18	891.07	890.64
5	890.19	890.35	891.50	892.05	891.59	892.58	891.86	892.69	891.52	891.88	891.03	890.63
6	890.17	890.34	891.45	891.92	891.54	892.35	891.81	892.47	891.46	891.89	891.02	890.63
7	890.13	890.32	891.38	891.81	891.50	892.14	891.72	894.89	892.01	895.50	890.98	890.64
8	890.27	890.27	891.38	891.71	891.49	891.94	891.90	893.90	891.89	894.61	890.95	890.56
9	890.32	890.26	891.39	891.64	891.46	891.87	891.86	894.32	891.80	893.41	890.93	890.57
10	890.31	890.36	891.48	891.65	891.48	891.69	891.77	893.94	891.69	894.13	890.93	890.54
11	890.28	890.62	891.48	891.57	891.46	891.67	891.72	893.24	891.57	894.72	890.91	890.50
12	890.25	891.29	891.44	891.62	891.72	891.54	891.66	892.67	891.51	893.60	890.90	890.47
13	890.23	891.51	891.69	891.70	891.71	891.50	892.10	892.28	891.43	892.69	890.88	890.53
14	890.20	891.46	894.26	891.69	891.60	891.36	892.66	892.07	891.36	892.77	890.86	890.97
15	890.19	891.44	894.75	891.63	891.57	891.31	892.46	891.93	891.32	893.37	890.83	891.09
16	890.17	891.40	893.60	891.61	891.54	891.41	892.29	891.88	891.06	893.15	890.79	891.07
17	890.14	891.37	892.93	891.54	891.56	891.41	892.20	891.80	891.03	892.50	890.79	891.06
18	890.11	891.33	892.58	891.52	891.48	891.39	892.05	891.93	891.00	892.20	890.74	891.03
19	890.08	891.82	892.27	891.48	891.45	891.41	891.95	891.97	891.02	891.90	890.69	891.00
20	890.06	892.70	892.08	891.52	891.45	891.41	891.89	891.77	891.02	891.66	890.68	892.40
21	890.04	892.81	891.90	891.57	891.47	891.40	891.84	891.66	891.02	891.56	890.64	892.07
22	890.02	892.46	891.80	891.66	891.47	891.40	891.79	891.60	890.97	892.43	890.67	891.83
23	890.01	893.37	891.71	891.79	891.42	891.33	891.59	891.52	890.93	892.44	890.67	892.44
24	889.98	892.82	891.63	891.95	891.43	891.36	891.63	891.49	890.98	892.09	890.69	892.61
25	889.98	892.77	891.58	891.91	891.37	891.39	891.62	891.44	891.02	892.03	890.69	895.99
26	889.95	892.89	891.52	891.83	891.44	891.39	891.55	891.40	891.01	891.97	890.69	895.36
27	889.94	892.52	891.50	891.84	891.45	891.39	891.52	891.37	890.97	891.72	890.65	893.74
28	889.93	892.24	891.45	891.98	891.42	891.38	891.47	891.33	890.94	891.56	890.64	892.86
29	889.93	892.04	891.45	892.00	---	891.38	892.72	891.30	890.91	891.44	890.59	892.33
30	889.96	891.85	891.47	891.88	---	891.34	892.44	891.73	890.88	891.33	890.60	892.07
31	889.96	---	891.47	891.80	---	891.75	---	891.89	---	891.25	890.55	---
MAX	890.32	893.37	894.75	892.15	891.74	892.73	892.72	894.89	892.01	895.50	891.23	895.99
MIN	889.93	890.26	891.38	891.39	891.37	891.31	891.47	891.30	890.88	891.10	890.55	890.47
(-)	21200	23000	22600	22900	22500	22800	23500	23000	22000	22400	21700	23200
(=)	-300	+1800	-400	+300	-400	+300	+700	-500	-1000	+400	-700	+1500

CAL YR 1992. . . . . +900
WTR YR 1993. . . . .+2700

(-) 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 ¼ SW ¼ NW ¼ 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 mi^2.

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 good. Construction of dam began Oct. 1982 and storage began Sept. 1985. Several observations of water temperature and specific conductance were made during the year. Complete regulation by Longview Reservoir (station 06893791) 300 ft upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	14	71	30	70	27	93	143	69	30	41	6.9
2	5.8	12	58	30	61	75	86	145	62	145	32	7.0
3	6.1	12	48	43	56	205	80	317	50	255	26	7.4
4	5.9	12	40	148	52	243	91	331	43	184	22	7.2
5	6.1	13	34	132	48	213	82	232	34	141	19	7.1
6	6.0	14	30	106	44	170	68	176	64	217	18	7.1
7	6.2	13	27	86	40	135	72	765	112	948	15	7.1
8	8.5	13	24	72	36	107	90	573	90	825	13	7.4
9	8.0	14	27	65	33	86	81	744	69	463	12	7.1
10	7.6	16	33	59	31	70	69	578	55	845	10	7.1
11	7.6	17	32	52	45	57	58	344	44	888	11	7.3
12	7.5	23	30	58	66	47	77	231	36	529	10	7.3
13	7.5	23	310	71	62	40	181	172	30	363	9.0	9.5
14	8.4	20	889	67	54	35	228	130	24	490	8.6	20
15	8.3	17	873	60	48	32	187	98	20	496	9.1	27
16	8.0	15	525	54	45	29	157	89	18	345	8.1	23
17	7.7	13	316	48	39	26	126	83	15	264	7.7	19
18	7.4	15	221	44	34	24	105	102	14	202	7.8	16
19	7.4	93	169	40	31	23	104	85	16	162	7.7	119
20	7.6	268	131	42	30	24	98	70	15	133	7.5	258
21	7.3	270	104	52	32	24	83	58	14	112	7.2	201
22	7.4	308	84	62	32	24	69	49	11	282	7.4	169
23	7.8	406	70	84	30	25	59	43	11	269	7.8	288
24	7.8	255	59	109	32	24	50	36	13	244	8.0	400
25	7.6	276	49	99	30	23	48	31	15	227	7.7	911
26	8.1	269	43	88	30	22	43	28	14	176	7.4	894
27	8.3	204	38	96	28	21	39	25	12	142	7.1	566
28	8.4	153	34	117	26	20	83	21	11	107	7.2	330
29	9.1	116	33	117	---	21	240	29	11	82	7.2	238
30	9.5	90	35	94	---	31	188	93	9.8	64	7.0	183
31	9.9	---	34	79	---	68	---	89	---	51	7.0	---
MEAN	7.57	99.5	144	74.3	41.6	63.6	101	191	33.4	312	12.1	159
MAX	9.9	406	889	148	70	243	240	765	112	948	41	911
MIN	5.8	12	24	30	26	20	39	21	9.8	30	7.0	6.9
IN.	.17	2.21	3.31	1.70	.86	1.46	2.24	4.37	.74	7.16	.28	3.52

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

MEAN	40.4	27.2	27.2	26.3	31.0	54.7	61.1	73.7	76.2	24.9	14.8	37.9
MAX	283	99.5	144	113	245	480	232	378	366	312	119	225
(WY)	1987	1993	1993	1974	1985	1973	1973	1990	1967	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	37.5		104		41.4	
HIGHEST ANNUAL MEAN					108	1973
LOWEST ANNUAL MEAN					11.0	1976
HIGHEST DAILY MEAN	889	Dec 14	948	Jul 7	3940	Sep 22 1970
LOWEST DAILY MEAN	4.3	Sep 1	5.8	Oct 1-2	.00	At Times
INSTANTANEOUS PEAK FLOW	--		1080	Jul 6	18700	Jul 13 1982
INSTANTANEOUS PEAK STAGE	--		12.96	Jul 6	21.24	Jul 13 1982
INSTANTANEOUS LOW FLOW	--		5.5	Oct 2	.00	At Times
ANNUAL SEVEN-DAY MINIMUM	5.1	Aug 16	6.0	Oct 1	.04	Aug 23 1984
ANNUAL RUNOFF (INCHES)	10.15		28.02		11.18	
10 PERCENT EXCEEDS	72		266		62	
50 PERCENT EXCEEDS	10		43		9.2	
90 PERCENT EXCEEDS	5.9		7.6		2.9	

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 mi^2.

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, 13,800 ac-ft, Sept. 26, elevation, 806.00 ft; minimum contents, 10,200 ac-ft, Apr. 12, elevation, 801.15 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	802.17	802.25	803.11	802.58	802.76	802.47	801.73	803.13	802.61	802.19	802.68	802.06
2	802.17	802.31	803.06	802.58	802.74	802.51	801.66	803.07	802.61	802.41	802.62	802.04
3	802.15	802.31	802.97	802.57	802.72	802.67	801.59	803.29	802.58	803.09	802.57	802.07
4	802.14	802.32	802.97	802.80	802.70	802.79	801.57	803.89	802.56	803.26	802.51	802.06
5	802.13	802.32	802.78	802.76	802.69	802.90	801.53	803.86	802.52	803.19	802.47	802.05
6	802.12	802.32	802.74	802.78	802.66	802.96	801.48	803.67	802.55	803.24	802.44	802.02
7	802.10	802.32	802.68	802.79	802.64	802.97	801.43	803.82	802.58	803.90	802.40	802.01
8	802.22	802.32	802.65	802.78	802.62	802.98	801.41	804.32	802.45	804.78	802.38	802.01
9	802.31	802.33	802.64	802.78	802.59	802.93	801.37	804.14	802.30	804.40	802.36	802.01
10	802.31	802.43	802.64	802.78	802.59	802.88	801.31	804.02	802.16	804.51	802.35	801.99
11	802.31	802.48	802.64	802.78	802.44	802.85	801.26	803.81	802.03	804.85	802.34	801.96
12	802.30	802.56	802.64	802.75	802.28	802.79	801.15	803.61	801.93	804.36	802.33	801.95
13	802.27	802.72	802.71	802.78	802.28	802.73	801.70	803.36	801.79	803.93	802.32	802.03
14	802.27	802.76	803.93	802.78	802.33	802.69	802.49	803.21	801.65	803.70	802.30	802.13
15	802.28	802.78	804.83	802.78	802.36	802.67	802.84	803.10	801.49	804.14	802.28	802.14
16	802.27	802.78	805.30	802.74	802.41	802.66	802.97	803.01	801.34	804.12	802.26	802.15
17	802.21	802.78	804.75	802.69	802.41	802.60	803.02	802.97	801.31	803.91	802.23	802.17
18	802.21	802.76	804.43	802.66	802.42	802.57	803.05	803.04	801.34	803.57	802.22	802.18
19	802.16	802.77	803.87	802.63	802.43	802.57	803.13	802.97	801.44	803.38	802.20	802.18
20	802.16	803.02	803.41	802.62	802.45	802.51	803.12	802.89	801.47	803.21	802.18	802.61
21	802.16	803.53	803.23	802.66	802.45	802.53	803.06	802.83	801.51	803.07	802.15	802.70
22	802.16	803.53	803.13	802.65	802.43	802.53	803.02	802.78	801.54	803.09	802.13	802.75
23	802.14	804.08	803.07	802.68	802.42	802.53	802.98	802.73	801.57	803.21	802.11	803.29
24	802.14	804.10	802.91	802.71	802.42	802.51	802.96	802.70	801.63	803.18	802.10	803.95
25	802.14	803.94	802.86	802.73	802.47	802.50	802.91	802.67	801.69	803.16	802.09	804.75
26	802.14	803.93	802.76	802.74	802.49	802.33	802.85	802.62	801.72	803.07	802.08	806.00
27	802.11	803.81	802.71	802.75	802.47	802.18	802.82	802.57	801.75	802.99	802.06	805.38
28	802.09	803.52	802.70	802.77	802.47	802.04	802.77	802.55	801.78	802.93	802.05	804.54
29	802.09	803.37	802.70	802.77	---	801.94	803.05	802.53	801.87	802.85	802.03	803.98
30	802.09	803.26	802.69	802.76	---	801.82	803.13	802.60	801.89	802.78	802.02	803.61
31	802.09	---	802.58	802.76	---	801.81	---	802.62	---	802.71	802.08	---
MAX	802.31	804.10	805.30	802.80	802.76	802.98	803.13	804.32	802.61	804.85	802.68	806.00
MIN	802.09	802.25	802.58	802.57	802.28	801.81	801.15	802.53	801.31	802.19	802.02	801.95
(-)	10800	11700	11200	11300	11100	10600	11600	11200	10700	11300	10800	11900
(=)	-100	+900	-500	+100	-200	-500	+1000	-400	-500	+600	-500	+1100

CAL YR 1992. . . . . +300
WTR YR 1993. . . . .+1000

(-) 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 ¼ NE ¼ NW ¼ 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 mi^2.

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.--No estimated daily discharges. Records good. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	8.6	87	38	54	35	75	96	35	16	39	1.0
2	5.6	8.9	77	38	52	43	74	91	35	32	34	1.1
3	5.6	9.2	71	43	50	58	75	135	31	83	30	1.7
4	5.4	9.6	65	58	48	65	75	188	29	95	26	1.5
5	5.1	9.4	60	58	46	73	75	176	27	99	23	.95
6	5.8	9.1	56	59	43	77	74	149	28	105	21	.45
7	5.3	8.9	53	60	41	77	76	221	64	262	20	.28
8	15	8.9	47	60	39	75	77	268	85	326	18	.23
9	13	8.7	42	59	37	72	76	242	77	255	17	.21
10	12	11	40	60	67	68	76	222	71	354	15	.14
11	12	13	38	57	98	64	76	188	68	328	15	.40
12	10	18	37	59	65	60	43	154	67	244	15	.87
13	10	20	108	60	26	55	30	128	66	190	14	3.1
14	11	20	317	58	27	52	48	109	67	191	13	5.9
15	10	21	373	56	29	50	75	95	67	232	12	6.2
16	8.3	21	350	54	32	47	87	84	29	219	11	6.8
17	6.9	19	246	52	33	44	89	81	.58	178	9.8	6.9
18	5.1	18	182	50	33	42	91	93	.52	141	8.6	7.0
19	4.7	30	141	48	34	41	102	81	.39	116	7.6	28
20	4.0	78	115	50	34	39	98	72	.22	95	6.7	37
21	3.8	132	97	51	34	38	93	65	.34	83	5.9	45
22	4.0	174	83	51	34	38	87	59	.27	91	5.4	59
23	3.7	218	73	54	33	38	83	55	.80	101	4.5	149
24	3.5	200	65	56	32	36	78	50	.68	98	4.2	209
25	3.2	191	58	56	36	66	74	45	.39	90	3.5	431
26	2.3	193	54	56	37	84	69	39	.22	78	2.8	386
27	1.7	167	50	57	36	76	65	35	.25	71	2.1	363
28	1.4	138	46	58	35	73	73	30	2.0	62	1.5	236
29	1.7	115	44	58	---	72	94	29	.57	55	1.5	166
30	2.2	99	43	57	---	75	99	43	.36	49	1.0	134
31	2.7	---	40	56	---	75	---	39	---	44	1.8	---
MEAN	6.16	65.9	102	54.4	41.6	58.3	76.9	108	28.5	141	12.6	76.3
MAX	15	218	373	60	98	84	102	268	85	354	39	431
MIN	1.4	8.6	37	38	26	35	30	29	.22	16	1.0	.14
IN.	.21	2.14	3.42	1.82	1.26	1.96	2.49	3.64	.92	4.74	.42	2.47

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

MEAN	24.1	16.3	16.7	12.9	15.8	32.8	47.3	51.8	44.1	21.4	22.3	25.3
MAX	276	65.9	102	54.4	51.7	107	204	273	174	141	230	179
(WY)	1987	1993	1993	1993	1975	1978	1984	1990	1984	1993	1982	1977
MIN	.007	.12	.029	.000	.037	.37	.46	.20	.17	.049	.000	.000
(WY)	1989	1977	1977	1977	1989	1989	1989	1989	1989	1989	1988	1976

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	29.3		64.6		27.6	
HIGHEST ANNUAL MEAN					64.6	1993
LOWEST ANNUAL MEAN					.31	1989
HIGHEST DAILY MEAN	373	Dec 15	431	Sep 25	4850	Aug 13 1982
LOWEST DAILY MEAN	.55	Jul 6	.14	Sep 10	.00	Many Years
INSTANTANEOUS PEAK FLOW	--		506	Sep 25	11000	Aug 13 1982
INSTANTANEOUS PEAK STAGE	--		11.71	Sep 25	22.14	Aug 13 1982
INSTANTANEOUS LOW FLOW	--		.08	Jun 20	.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	1.4	Jul 3	.37	Sep 6	.00	Many Years
ANNUAL RUNOFF (INCHES)	11.60		25.49		10.90	
10 PERCENT EXCEEDS	66		151		60	
50 PERCENT EXCEEDS	12		49		8.4	
90 PERCENT EXCEEDS	3.7		2.5		.04	

LITTLE BLUE RIVER BASIN

06894000 LITTLE BLUE RIVER NEAR LAKE CITY, MO

LOCATION.--Lat 39°06'02", long 94°18'01", in SW ¼ SE ¼ 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 mi^2.

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. 24 to Dec. 1. Records good except for estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	365	347	202	336	229	645	510	252	1420	191	40
2	22	146	296	208	309	576	426	505	277	1260	103	30
3	22	90	257	332	297	1070	629	1950	214	1200	83	98
4	21	83	228	663	288	950	641	1210	260	672	76	38
5	19	64	198	488	273	750	441	887	172	696	69	27
6	19	56	185	395	257	588	369	716	318	1020	68	24
7	19	52	171	353	244	491	530	2750	511	3240	58	23
8	330	45	157	320	239	420	595	1640	396	2040	53	38
9	132	43	219	295	218	344	450	2320	309	1420	51	26
10	63	298	231	303	230	299	368	1810	245	3850	50	23
11	45	214	191	267	384	258	317	1250	213	2450	378	20
12	40	622	175	334	417	230	952	963	196	1450	165	20
13	35	263	833	398	265	207	2010	764	182	1250	57	435
14	33	183	1690	337	238	192	1070	565	176	2030	46	327
15	31	154	2420	300	221	181	823	436	155	1860	41	109
16	29	138	1620	277	222	179	669	370	128	1130	36	59
17	27	127	1100	265	214	157	555	456	62	761	33	49
18	25	127	800	245	252	148	534	818	85	589	31	43
19	24	552	621	234	210	168	750	429	98	433	29	1140
20	23	1500	506	265	200	158	538	339	62	349	38	822
21	22	990	435	336	217	148	424	276	48	323	31	443
22	22	980	383	357	206	152	357	231	42	1050	29	412
23	22	1440	343	465	190	154	316	214	48	672	312	2520
24	24	985	294	497	176	144	285	188	85	568	109	1820
25	24	797	272	404	178	156	289	170	64	506	38	4730
26	24	681	243	387	241	199	238	157	41	408	30	2250
27	24	592	230	450	223	188	215	146	33	431	27	1670
28	26	519	214	514	204	185	533	137	81	403	24	1120
29	26	456	218	444	---	191	1120	242	37	307	23	789
30	36	399	245	370	---	503	662	907	29	176	25	574
31	39	---	217	351	---	655	---	357	---	218	86	---
MEAN	41.0	432	495	357	248	331	592	765	161	1103	77.1	657
MAX	330	1500	2420	663	417	1070	2010	2750	511	3850	378	4730
MIN	19	43	157	202	176	144	215	137	29	176	23	20
IN.	.26	2.62	3.10	2.24	1.40	2.08	3.59	4.79	.97	6.91	.48	3.99

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

MEAN	135	101	87.5	91.9	121	199	231	240	252	144	93.9	161
MAX	983	854	495	357	576	1153	1069	1299	1216	1103	1455	1018
(WY)	1987	1962	1993	1993	1985	1973	1983	1990	1967	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	162		440		155	
HIGHEST ANNUAL MEAN					440	1993
LOWEST ANNUAL MEAN					11.5	1956
HIGHEST DAILY MEAN	2560	Apr 20	4730	Sep 25	27700	Aug 13 1982
LOWEST DAILY MEAN	13	Aug 24	19	Oct 5-7	.00	Several Years
INSTANTANEOUS PEAK FLOW	--		6600	Sep 25	42300	Aug 13 1982
INSTANTANEOUS PEAK STAGE	--		17.96	Sep 25	27.94	Sep 14 1961
INSTANTANEOUS LOW FLOW	--		18	Oct 6	.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	18	Aug 18	21	Oct 1	.00	Several Years
ANNUAL RUNOFF (INCHES)	12.01		32.43		11.47	
10 PERCENT EXCEEDS	376		1070		300	
50 PERCENT EXCEEDS	56		257		46	
90 PERCENT EXCEEDS	21		30		7.0	

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 mi^2, 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43500	36900	48200	48700	40200	40500	153000	91700	101000	154000	332000	120000
2	42800	37800	46100	45300	40200	42200	183000	88700	101000	180000	299000	127000
3	42100	36100	44200	40900	41100	66200	168000	101000	99800	204000	267000	132000
4	41800	40400	43900	44300	44200	105000	164000	111000	104000	208000	242000	131000
5	41900	47300	43900	45600	50200	97100	170000	99400	105000	190000	220000	126000
6	42100	44100	44000	38800	59100	107000	160000	96200	103000	190000	205000	119000
7	41700	39700	44000	35700	61600	108000	134000	108000	125000	218000	182000	114000
8	43200	36800	44300	35400	59400	103000	132000	135000	126000	239000	166000	112000
9	45600	34900	45200	37200	60600	104000	139000	147000	114000	223000	153000	110000
10	47000	34500	46600	38600	62200	117000	130000	201000	110000	233000	147000	106000
11	70700	35800	46900	37100	61400	129000	121000	228000	97800	240000	143000	103000
12	80400	41700	48200	36500	66100	148000	117000	229000	90600	251000	149000	99200
13	73400	44500	48500	38000	79500	140000	138000	231000	89300	257000	147000	98600
14	72000	38100	124000	38600	79900	132000	161000	208000	85000	252000	140000	107000
15	68700	35600	168000	36900	73200	114000	144000	186000	91900	254000	134000	109000
16	65400	34400	155000	34700	70600	95300	123000	167000	110000	261000	129000	103000
17	61700	33500	127000	33800	66900	85600	115000	148000	97500	259000	124000	97200
18	58600	33300	110000	34200	64300	85400	115000	138000	94300	254000	121000	93200
19	55100	34400	100000	34200	60400	89500	116000	128000	105000	251000	119000	94400
20	52000	56100	87500	33800	56700	90400	114000	119000	108000	265000	120000	117000
21	50100	113000	74500	34500	51600	82700	111000	113000	122000	309000	121000	124000
22	48100	96800	67700	35700	48200	77600	110000	113000	117000	321000	125000	129000
23	45600	89500	65100	36800	46600	76000	119000	115000	105000	324000	125000	139000
24	42200	74200	62800	39100	45700	78400	118000	114000	99400	367000	124000	151000
25	40400	68500	60700	38900	46900	82600	109000	117000	101000	405000	121000	159000
26	39000	70100	58600	37400	46000	80500	100000	114000	116000	476000	119000	166000
27	37500	63300	55600	37200	43300	80900	94700	106000	125000	567000	116000	159000
28	35600	57900	51400	39100	41200	85600	92700	104000	123000	611000	110000	147000
29	34200	53300	49800	42000	---	90200	100000	108000	122000	587000	107000	136000
30	34600	50100	50600	42000	---	101000	98800	110000	137000	536000	108000	122000
31	34400	---	51200	40900	---	120000	---	106000	---	414000	111000	---
MEAN	49400	50420	68180	38450	55970	95310	128300	134900	107500	306500	155700	121700
MAX	80400	113000	168000	48700	79900	148000	183000	231000	137000	611000	332000	166000
MIN	34200	33300	43900	33800	40200	40500	92700	88700	85000	154000	107000	93200
IN.	.12	.12	.16	.09	.12	.23	.29	.32	.25	.73	.37	.28

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

MEAN	45870	41130	27920	23730	32840	53750	71770	66750	83830	72790	49730	48950
MAX	141900	96020	74470	65720	79780	133500	220600	136000	192100	306500	155700	126600
(WY)	1974	1974	1987	1973	1973	1979	1952	1984	1947	1993	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	53310		109900		51580	
HIGHEST ANNUAL MEAN					109900	1993
LOWEST ANNUAL MEAN					22410	1934
HIGHEST DAILY MEAN	176000	Jul 27	611000	Jul 28	611000	Jul 28 1993
LOWEST DAILY MEAN	21100	Jan 21	33300	Nov 18	1700	Jan 9 1940
INSTANTANEOUS PEAK FLOW	--		633000	Jul 27	633000	Jul 27 1993
INSTANTANEOUS PEAK STAGE	--		31.15	Jul 27	31.15	Jul 27 1993
INSTANTANEOUS LOW FLOW	--		33100	Nov 18	1700	Jan 9 1940
ANNUAL SEVEN-DAY MINIMUM	24000	Jan 19	34400	Jan 16	2070	Jan 5 1940
ANNUAL RUNOFF (INCHES)	1.49		3.06		1.44	
10 PERCENT EXCEEDS	89600		204000		94600	
50 PERCENT EXCEEDS	45900		99800		42200	
90 PERCENT EXCEEDS	26900		38600		17600	

GRAND RIVER BASIN

06897500 GRAND RIVER NEAR GALLATIN, MO

LOCATION.--Lat 39°55'37", long 93°56'33", in SW ¼ NW ¼ 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 mi^2, 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 published in error from 1982 to 1992. The correct datum of gage is 707.56 ft above sea level. This figure supersedes figures published in reports from 1982 to 1992. 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. higher.

REMARKS.--Estimated daily discharges: Dec. 13, 14, Dec. 22 to Jan. 4, Feb. 14 to Mar. 1, Mar. 3-5, 9-14, July 7-8, 14-15, and July 24. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	332	167	1160	617	1880	600	15800	901	607	23800	2400	420
2	309	850	1060	800	3190	1980	6590	1420	702	34700	2220	441
3	290	4040	961	1100	2670	13000	3640	4360	749	37900	1690	433
4	265	2120	897	1500	2830	17000	4260	3250	648	21300	1510	441
5	247	983	813	1220	2500	11000	3500	1740	922	26500	1360	385
6	229	627	679	1140	1710	6780	2090	1270	7220	42300	1310	496
7	214	477	635	1230	1000	4120	2650	20200	29200	80100	1280	696
8	295	396	606	1050	785	3040	18100	23100	21000	83700	1180	2080
9	1490	348	673	819	670	2000	17300	8300	9810	68400	1030	1070
10	1330	337	716	658	387	1500	6570	9210	4270	55800	915	675
11	656	327	799	625	658	1300	3660	11200	2440	48500	953	512
12	439	514	1160	597	2650	1100	2470	13600	1880	34700	974	423
13	346	696	3800	577	1640	950	2080	8600	1970	17500	941	486
14	292	509	25000	512	1200	800	6330	4120	3880	29900	1450	1040
15	259	442	37400	512	900	805	6880	2590	9960	27700	1390	1220
16	232	372	29400	508	1200	854	6920	1910	3720	12900	1010	1300
17	211	360	8870	482	1100	837	5450	1500	1840	9630	834	883
18	200	305	4760	444	1000	744	3170	1300	1790	5100	772	667
19	188	448	3370	412	1200	683	2720	1150	3340	4140	871	1470
20	185	16800	2640	406	1100	667	7100	993	6530	3130	912	4900
21	179	23600	1950	419	950	846	4600	901	4670	9110	2190	4070
22	181	10200	1630	418	900	1090	2370	831	1950	25500	1620	23900
23	181	4160	1440	479	800	1680	1710	800	1180	49600	1010	43300
24	175	2740	1170	556	700	2220	1420	2100	909	85500	766	47600
25	169	2170	838	632	650	1450	1230	3180	905	83800	629	33700
26	161	3610	886	637	600	1140	1050	1380	973	67600	553	18200
27	151	2980	985	648	600	982	921	935	712	42100	528	10500
28	146	1910	1100	1440	600	887	860	759	630	9320	507	4920
29	144	1470	1200	2910	---	828	987	671	2700	5240	544	3210
30	144	1280	1000	2620	---	819	1100	672	1560	3680	515	2420
31	147	---	935	1820	---	12000	---	700	---	2710	467	---
MEAN	316	2841	4469	896	1288	3023	4784	4311	4289	33930	1107	7062
MAX	1490	23600	37400	2910	3190	17000	18100	23100	29200	85500	2400	47600
MIN	144	167	606	406	387	600	860	671	607	2710	467	385
IN.	.16	1.41	2.29	.46	.60	1.55	2.37	2.21	2.13	17.39	.57	3.50

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

MEAN	823	871	539	506	949	1742	1914	1736	2318	1668	555	1140
MAX	8965	8613	5463	4212	6196	8760	7906	7703	22670	33930	4136	11610
(WY)	1974	1929	1983	1932	1962	1979	1927	1945	1947	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	2222		5740		1228	
HIGHEST ANNUAL MEAN					5740	1993
LOWEST ANNUAL MEAN					129	1938
HIGHEST DAILY MEAN	37400	Dec 15	85500	Jul 24	85500	Jul 24 1993
LOWEST DAILY MEAN	88	Jul 4	144	Oct 29-30	2.0	Aug 30 1980
INSTANTANEOUS PEAK FLOW	--		89800	Jul 7	89800	Jul 7 1993
INSTANTANEOUS PEAK STAGE	--		41.5	Jul 7	41.5	Jul 7 1993
INSTANTANEOUS LOW FLOW	--		144	Oct 28-31	2.0	Aug 30 1980
ANNUAL SEVEN-DAY MINIMUM	94	Jul 2	151	Oct 26	2.6	Oct 23 1956
ANNUAL RUNOFF (INCHES)	13.45		34.64		7.42	
10 PERCENT EXCEEDS	4710		17100		2450	
50 PERCENT EXCEEDS	631		1170		213	
90 PERCENT EXCEEDS	169		392		26	

GRAND RIVER BASIN

06899500 THOMPSON RIVER AT TRENTON, MO

LOCATION.--Lat 40°04'45", long 93°38'39" in NE ¼ SW ¼ 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 mi^2, 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: Mar. 11-14 and Apr. 3-4. Records poor. Several observations of water temperature and specific conductance were made during the year. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

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 ft^3/s, determined by U.S. Army Corps of Engineers, occurred before new channel was dredged.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	809	287	1780	643	2360	533	5830	1040	889	28300	5100	1740
2	731	913	1650	805	2510	2800	4210	3340	798	14900	2000	1540
3	675	1790	1560	1050	2200	7830	2880	7570	763	10000	1460	972
4	628	1490	1490	2160	2140	7960	2190	6070	915	9720	1260	757
5	586	981	1380	1140	1870	7340	1600	3840	1670	30700	1100	651
6	541	666	1290	630	1470	6150	1400	2720	5920	52000	1010	1170
7	512	535	1220	570	1010	4340	2370	11700	5700	45800	932	932
8	508	470	1160	513	922	3480	8140	9550	8170	41100	858	793
9	493	434	1200	516	742	2760	6200	7450	5270	30700	794	672
10	464	416	1270	1160	695	2040	4240	4770	2630	25300	726	535
11	435	452	1740	1190	1410	1500	2580	10400	1750	38300	672	466
12	409	898	2500	1130	2210	1100	1870	9460	1410	26600	935	422
13	384	599	4830	998	1840	900	1670	6480	1210	17700	1750	613
14	365	494	23600	885	1060	750	4450	3470	5660	15300	1710	1840
15	348	436	20100	802	626	674	4060	2360	3690	9510	1350	1840
16	333	392	9530	794	965	687	4180	1890	2480	7730	884	1070
17	322	363	5290	724	942	662	3140	1530	1540	5020	1700	682
18	312	354	2680	626	928	574	2340	1320	3030	3210	883	570
19	301	605	2000	601	1020	540	3030	1150	5070	2800	645	1870
20	299	18100	1540	606	934	536	6830	1030	4230	2390	1590	3470
21	294	12800	1180	623	850	648	3800	931	4670	7350	7060	1940
22	292	7750	1000	600	719	1050	2310	861	2120	21000	5910	3840
23	288	4720	875	669	573	2780	1790	990	1380	34700	1520	3210
24	283	2660	1190	845	516	2740	1510	3350	1080	32700	1070	1770
25	278	2540	987	1090	474	1840	1300	2270	1070	33600	881	9080
26	271	4350	944	904	488	1420	1130	1550	843	15200	778	6320
27	264	2860	897	1040	530	1230	1010	1110	738	10200	733	5220
28	261	2280	1010	1770	520	1110	956	927	703	5830	709	3550
29	261	2070	1150	2670	---	1030	1850	958	701	2900	606	1900
30	256	1880	777	3530	---	1110	1430	1040	5160	2260	576	1200
31	255	---	1020	2960	---	6990	---	945	---	1920	1110	---
MEAN	402	2486	3188	1105	1162	2423	3010	3615	2709	18860	1558	2021
MAX	809	18100	23600	3530	2510	7960	8140	11700	8170	52000	7060	9080
MIN	255	287	777	513	474	533	956	861	701	1920	576	422
IN.	.28	1.66	2.20	.76	.72	1.67	2.01	2.50	1.81	13.03	1.08	1.35

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

MEAN	603	685	496	478	903	1619	1700	1584	1791	1109	548	755
MAX	4678	6280	4209	3682	4377	5765	5580	5494	16460	18860	3990	8443
(WY)	1974	1962	1983	1946	1962	1979	1973	1935	1947	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	2211		3576		1021	
HIGHEST ANNUAL MEAN					3576	1993
LOWEST ANNUAL MEAN					117	1934
HIGHEST DAILY MEAN	63100	Sep 18	52000	Jul 6	73800	Jun 6 1947
LOWEST DAILY MEAN	123	Aug 31	255	Oct 31	1.0	Jun 17 1956
INSTANTANEOUS PEAK FLOW	--		54000	Jul 6	95000	Jun 6 1947
INSTANTANEOUS PEAK STAGE	--		22.80	Jul 6	25.7	Jun 6 1947
INSTANTANEOUS LOW FLOW	--		254	Oct 3	1.0	Jun 17 1956
ANNUAL SEVEN-DAY MINIMUM	146	Jun 30	264	Oct 25	1.7	Aug 4 1934
ANNUAL RUNOFF (INCHES)	18.02		29.07		8.31	
10 PERCENT EXCEEDS	4380		7740		2340	
50 PERCENT EXCEEDS	725		1260		211	
90 PERCENT EXCEEDS	220		494		28	

**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 ¼ 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 mi^2, 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: Jan. 1-8 and Feb. 16 to Mar. 6. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2070	717	5740	2940	6580	1850	32400	6620	3480	38700	28800	2480
2	1870	1270	5020	2190	9790	2360	26400	5890	2740	66600	25600	3110
3	1700	3320	4430	2430	12400	19500	14300	29200	2910	82800	13800	3440
4	1580	7220	4000	13000	13000	39000	13400	37400	3050	79200	9810	3100
5	1450	4830	3570	15100	11800	42600	14600	28300	3780	75000	8020	2350
6	1330	3060	3200	8980	10200	40800	10200	15300	10800	82100	6860	2300
7	1240	2100	2890	6140	7860	29600	6300	27200	40100	104000	5960	4310
8	1200	1690	2730	4430	6530	19100	27600	47200	45300	124000	5270	3250
9	1360	1470	2590	3440	5950	13600	36800	44400	45100	139000	4930	3330
10	3110	1370	3330	2460	5040	10200	30800	35000	28200	159000	4610	2570
11	2630	2100	3800	2350	5320	7430	16300	30100	12600	157000	4470	2120
12	1730	7520	4210	2630	12100	5630	9620	33200	7280	156000	4910	1870
13	1360	8810	5620	2970	14300	4390	11600	30400	5890	150000	7420	2550
14	1170	4480	37500	3240	8780	3480	29900	18700	16500	129000	7360	28600
15	1040	2900	54100	2910	5370	3120	30500	10800	25000	108000	6780	29400
16	946	2200	70300	2690	4100	3140	26500	7780	16800	86200	5150	17000
17	891	1810	77900	2530	2510	3170	20400	6050	8330	65300	3770	13000
18	876	1730	60300	2320	2300	2970	13000	5070	7450	45200	4380	5650
19	836	3700	30700	2060	2150	2700	9820	4420	11900	31500	3400	3720
20	789	27900	16200	1930	2560	2590	21300	3870	13500	24400	2990	17800
21	766	51900	10500	2070	2650	2720	23500	3440	13800	19000	4210	18200
22	751	58300	8120	2400	2530	3610	12900	3180	10000	37400	10400	27600
23	732	53600	6700	2930	2320	9000	7790	3030	5460	46500	6880	42300
24	717	34000	5470	4230	2110	13000	6180	3010	3910	62500	3560	45700
25	697	18100	4220	4390	1610	9470	5220	7530	4190	142000	2860	48800
26	675	23200	3720	4040	1500	6300	4490	6670	3660	155000	2550	56600
27	656	20200	3580	4130	1660	4850	3970	4140	3080	124000	2340	63600
28	645	11900	3620	6660	1660	4150	3600	3180	3690	97300	2230	55300
29	632	8330	3610	10100	---	3760	5290	2730	4410	67200	2170	40300
30	610	6810	3730	8750	---	3590	10600	2710	9180	42800	2080	26400
31	613	---	3620	5970	---	18200	---	3280	---	28300	2080	---
MEAN	1183	12550	14680	4594	5881	10830	16180	15150	12400	87900	6634	19220
MAX	3110	58300	77900	15100	14300	42600	36800	47200	45300	159000	28800	63600
MIN	610	717	2590	1930	1500	1850	3600	2710	2740	19000	2080	1870
IN.	.20	2.04	2.46	.77	.89	1.82	2.62	2.54	2.01	14.73	1.11	3.12

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

MEAN	2693	3009	2090	2028	3673	6137	6939	5666	7308	4792	1809	3291
MAX	20630	29030	15440	14750	19250	34220	26680	23750	67270	87900	9194	28090
(WY)	1974	1932	1983	1932	1962	1979	1973	1935	1947	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	7360		17390		4112	
HIGHEST ANNUAL MEAN					17390	1993
LOWEST ANNUAL MEAN					367	1934
HIGHEST DAILY MEAN	77900	Dec 17	159000	Jul 10	166000	Jun 8 1947
LOWEST DAILY MEAN	305	Jul 5	610	Oct 30	10	Aug 12 1934
INSTANTANEOUS PEAK FLOW	--		166000	Jul 26	180000	Jun 7 1947
INSTANTANEOUS PEAK STAGE	--		42.52	Jul 10	42.52	Jul 10 1993
INSTANTANEOUS LOW FLOW	--		610	Oct 30	10	Aug 12 1934
ANNUAL SEVEN-DAY MINIMUM	323	Jul 2	647	Oct 25	12	Aug 7 1934
ANNUAL RUNOFF (INCHES)	14.56		34.31		8.12	
10 PERCENT EXCEEDS	23300		45500		10300	
50 PERCENT EXCEEDS	2570		5470		965	
90 PERCENT EXCEEDS	634		1730		123	

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

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, 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 1992 TO SEPTEMBER 1993

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-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												
12...	1110	7780	268	7.7	7.5	310	14.1	118	33000	26000	110	34
DEC												
02...	1210	4980	415	7.9	2.5	--	16.5	121	--	1700	--	--
JAN												
06...	0935	8980	237	7.4	0.0	--	12.9	87	5200	K1700	--	--
FEB												
17...	0930	2510	370	7.7	1.5	--	10.9	77	190	270	--	--
MAR												
17...	0945	3230	420	8.0	4.0	69	9.3	70	K69	K72	190	58
APR												
08...	0915	29800	270	7.8	9.5	760	11.6	103	7300	7300	110	35
MAY												
12...	1300	33700	211	7.1	18.0	690	7.3	77	11000	6200	100	31
JUN												
16...	0830	18400	185	7.5	23.0	300	6.0	70	20000	10000	77	24
JUL												
27...	1200	128000	--	7.4	25.5	260	6.1	80	2000	4900	53	17
AUG												
25...	1315	2820	258	7.8	27.5	260	5.1	64	K200	K240	120	39
SEP												
16...	0900	23600	156	7.5	16.0	540	7.8	79	5700	8200	67	21

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												
12...	6.3	6.9	5.8	105	22	10	0.20	9.5	183	165	0.25	3840
DEC												
02...	--	--	--	148	--	--	--	--	--	--	--	--
MAR												
17...	11	11	3.8	165	39	8.1	<0.10	11	249	250	0.34	2170
APR												
08...	6.5	6.8	3.2	101	24	6.2	0.20	8.3	179	155	0.24	14400
MAY												
12...	5.6	6.0	3.6	102	16	4.0	0.20	11	168	140	0.23	15300
JUN												
16...	4.2	4.1	3.4	66	14	4.5	0.30	7.8	132	109	0.18	6560
JUL												
27...	2.6	1.6	3.1	63	4.0	1.4	0.20	8.4	72	78	0.10	24900
AUG												
25...	6.4	5.2	1.3	110	17	3.8	0.20	10	143	152	0.19	1090
SEP												
16...	3.5	3.1	4.1	64	10	2.7	0.20	8.1	99	96	0.13	6310

GRAND RIVER BASIN

06902000 GRAND RIVER NEAR SUMNER MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)
NOV												
12...	0.030	1.40	0.090	0.080	0.80	0.220	0.060	0.050	2300	98	80	130
DEC												
02...	0.020	0.690	0.080	0.060	0.70	0.280	0.040	0.040	--	--	--	--
JAN												
06...	0.020	0.490	--	0.090	1.4	0.470	0.040	0.030	--	--	--	--
FEB												
17...	0.010	0.670	0.190	0.200	0.73	0.250	0.050	0.040	--	--	--	--
MAR												
17...	0.010	0.620	0.110	0.110	0.94	0.280	0.030	0.030	--	--	20	120
APR												
08...	0.010	0.880	0.210	0.060	0.55	0.220	0.060	0.070	10000	91	70	77
MAY												
12...	0.030	0.580	0.060	0.010	3.1	0.200	0.070	0.060	--	--	160	110
JUN												
16...	0.040	1.20	0.060	0.220	9.8	1.00	0.420	0.350	--	--	100	120
JUL												
27...	0.010	0.210	0.100	0.070	1.9	0.550	0.090	0.060	--	--	610	58
AUG												
25...	0.010	0.540	0.050	0.050	0.79	--	0.040	0.060	--	--	<10	100
SEP												
16...	0.020	0.610	0.100	0.070	2.2	0.340	0.090	0.090	--	--	1200	69

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
NOV											
12...	<3	110	<4	340	<10	4	<1	<1.0	130	<6	--
MAR											
17...	<3	7	<4	70	<10	3	<1	<1.0	210	<6	--
APR											
08...	<3	56	<4	11	<10	2	<1	<1.0	140	<6	<0.05
MAY											
12...	<3	210	<4	3	<10	4	<1	<1.0	130	<6	--
JUN											
16...	<3	77	<4	1	<10	4	<1	<1.0	94	<6	--
JUL											
27...	<3	150	<4	6	<10	3	<1	<1.0	66	<6	--
AUG											
25...	<3	<3	6	34	<10	2	<1	<1.0	140	<6	--
SEP											
16...	<3	190	<4	44	<10	4	<1	<1.0	77	<6	--

DATE	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
APR											
08...	<0.05	<0.05	0.08	0.05	<0.20	<0.05	<0.05	<0.05	0.05	<0.05	<0.05

CHARITON RIVER BASIN

06904050 CHARITON RIVER AT LIVONIA, MO

LOCATION.--Lat 40°29'00", long 92°41'10", in NW ¼ SE ¼ NW ¼ 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 mi^2.

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.--No estimated daily discharges. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1650	831	1050	1590	1960	1500	2960	974	857	837	2150	1770
2	1640	361	1330	1650	2080	2460	2190	1960	867	1230	2180	1770
3	1590	508	1490	1850	1930	3510	1610	4210	878	1190	2070	1700
4	1610	993	1450	3440	1800	3600	1500	3750	1030	1190	1990	1800
5	1630	967	1420	2660	1750	3460	1560	3220	1570	2230	1950	1800
6	1270	948	1420	2160	1710	2860	1660	1500	994	4010	1950	1870
7	938	937	1360	1850	1660	2120	1650	2550	900	5390	1800	1630
8	917	932	1490	1640	1650	1690	1720	3410	3630	6980	1900	1810
9	915	932	1620	1610	1640	1530	1800	2470	3330	7340	1920	1800
10	911	934	1680	1620	1810	1580	1380	912	2820	7180	2150	1780
11	907	886	1840	1630	2040	1660	1430	1240	1150	8130	2500	1770
12	904	957	1910	1650	2370	1600	1410	1710	855	7820	3910	1770
13	900	965	1810	1630	2120	1550	1600	1430	1020	5690	2930	2040
14	903	958	1940	1640	1760	1530	1780	1220	1010	4290	2550	2520
15	916	947	2980	1590	1650	1540	1640	1060	974	2650	2270	1970
16	903	940	3280	1580	1620	1550	2070	993	965	2080	2050	1940
17	894	935	2220	1580	1590	1520	2090	959	957	1570	1910	1890
18	895	934	1610	1590	1570	1520	1720	939	836	1620	1850	1850
19	904	981	1600	1620	1550	1530	2030	916	587	2280	1830	1860
20	910	2330	1510	1580	1570	1500	3220	904	531	1840	1830	1930
21	909	3370	1630	1600	1590	1530	2930	896	690	3050	1820	1900
22	911	2770	1730	1650	1590	2050	1570	893	935	5580	1810	2510
23	921	2780	1710	1820	1560	2690	1070	884	920	6020	1800	2630
24	935	1650	1670	2040	1540	2220	1440	371	918	6950	1800	2310
25	934	960	1660	1850	1540	2030	1670	650	914	6870	1790	2900
26	930	1860	1660	1700	1530	1960	1640	897	902	4490	1780	3070
27	931	1500	1650	1800	1510	1810	1620	885	898	3480	1780	2410
28	931	1050	1650	1900	1490	1750	1620	890	896	3010	1770	2030
29	932	997	1660	1840	---	1730	2570	884	893	2360	1780	1940
30	927	976	1710	1690	---	2090	1890	919	915	2170	1780	1890
31	927	---	1680	1650	---	3760	---	888	---	2080	1780	---
MEAN	1042	1236	1723	1797	1721	2046	1835	1464	1155	3923	2045	2029
MAX	1650	3370	3280	3440	2370	3760	3220	4210	3630	8130	3910	3070
MIN	894	361	1050	1580	1490	1500	1070	371	531	837	1770	1630
IN.	1.39	1.60	2.30	2.40	2.07	2.73	2.37	1.95	1.49	5.24	2.73	2.62

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

MEAN	439	500	676	389	563	919	914	815	821	1112	661	601
MAX	1219	1527	2005	1797	1956	2046	1898	1897	1839	3923	2045	2029
(WY)	1986	1978	1983	1993	1983	1993	1983	1978	1980	1993	1993	1993
MIN	27.2	26.2	19.9	13.6	23.0	58.6	31.1	52.1	33.6	23.6	32.3	29.6
(WY)	1977	1990	1977	1977	1989	1989	1989	1980	1988	1988	1988	1976

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	894		1838		702	
HIGHEST ANNUAL MEAN					1838	1993
LOWEST ANNUAL MEAN					69.3	1989
HIGHEST DAILY MEAN	3720	Apr 13	8130	Jul 11	8960	Jul 18 1982
LOWEST DAILY MEAN	51	Feb 9	361	Nov 2	13	Jan 11 1977
INSTANTANEOUS PEAK FLOW	--		8280	Jul 11	9200	Jul 18 1982
INSTANTANEOUS PEAK STAGE	--		25.97	Jul 11	28.33	Jul 18 1982
INSTANTANEOUS LOW FLOW	--		210	Nov 3	13	Jan 11 1977
ANNUAL SEVEN-DAY MINIMUM	64	Feb 8	774	Oct 28	13	Jan 11 1977
ANNUAL RUNOFF (INCHES)	14.10		28.89		11.05	
10 PERCENT EXCEEDS	1660		2930		1640	
50 PERCENT EXCEEDS	879		1650		433	
90 PERCENT EXCEEDS	136		906		32	

CHARITON RIVER BASIN

06904500 CHARITON RIVER AT NOVINGER, MO

LOCATION.--Lat 40°14'05", long 92°41'14", on south line of SE ¼ NE ¼ 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 mi^2, 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. 29 to Dec. 3 and Jan. 9-14. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1800	1090	1200	1880	3300	1850	6050	1810	934	10500	2740	1970
2	1790	909	1100	1870	3520	6840	4290	4480	947	2830	2740	2020
3	1780	550	1500	2500	3050	9990	2660	13700	963	2330	2560	1970
4	1770	1130	1920	11000	2760	9880	2190	10000	1240	1960	2430	2030
5	1760	1150	1670	4990	2580	9170	2050	6970	2780	4760	2300	2000
6	1570	1030	1600	3530	2440	7140	2190	3470	2290	9680	2220	3480
7	1060	961	1570	2780	2260	5000	2150	8070	2370	11900	2040	2060
8	1020	948	1610	2340	2280	3530	3290	8580	7370	18100	2060	2120
9	1020	946	1910	2210	2160	2650	3680	5190	6730	18200	2100	2110
10	1020	955	2120	2160	2620	2390	2300	2300	4650	17600	3260	2070
11	1000	933	2390	2100	3720	2360	1990	2360	2170	19500	3140	2040
12	992	1110	2470	2070	5180	2170	1860	3230	1010	20200	11300	1990
13	986	1090	2240	2020	3440	1960	3790	2570	1130	17600	6130	5290
14	991	1020	3080	2000	2610	1910	6370	1910	1360	12200	3930	9090
15	1010	991	7790	1940	2250	1960	3710	1560	1300	6410	3240	3920
16	1050	978	9220	1870	2080	2000	5020	1350	1100	4300	2760	2820
17	930	969	4330	1840	1990	1910	4080	1250	1060	2910	2410	2580
18	904	996	2480	1800	1940	1820	2820	1190	998	2510	2210	2390
19	911	1450	2210	1810	1870	1820	4630	1140	1260	3370	2110	2480
20	921	8280	1940	1850	1890	1870	7960	1110	961	2730	2090	2940
21	924	10300	1880	1900	1950	1950	5730	1080	579	4420	2050	2600
22	928	6880	2100	2050	1950	4280	3410	1060	887	15300	2030	5880
23	927	8750	2060	2770	1870	7390	1800	1130	891	17700	2020	5030
24	945	3840	1890	3450	1820	4630	1980	744	889	20300	2000	2840
25	947	2650	1950	2760	1790	3530	2390	569	1000	20200	1980	6020
26	939	4430	1920	2340	1790	3230	2290	1000	857	14400	1980	6110
27	946	2980	1880	2690	1800	2860	2230	995	834	7030	2010	3510
28	1010	1840	1850	3170	1800	2670	2210	997	1080	7150	2010	2700
29	1050	1640	1900	2910	---	2550	6050	976	861	4040	1990	2480
30	1060	1300	3090	2400	---	3730	4530	1020	2230	3190	2000	2420
31	1060	---	2670	2280	---	12200	---	983	---	2860	2030	---
MEAN	1130	2403	2501	2686	2454	4105	3523	2993	1758	9877	2770	3232
MAX	1800	10300	9220	11000	5180	12200	7960	13700	7370	20300	11300	9090
MIN	904	550	1100	1800	1790	1820	1800	569	579	1960	1980	1970
IN.	.95	1.96	2.11	2.26	1.87	3.45	2.87	2.52	1.43	8.31	2.33	2.63

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

MEAN	514	585	557	524	802	1459	1430	1240	1448	954	550	556
MAX	3352	5051	3318	3074	2889	4105	5302	4846	9687	9877	3614	3380
(WY)	1974	1932	1983	1946	1962	1993	1973	1973	1947	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1368		3299		884	
HIGHEST ANNUAL MEAN					3299	1993
LOWEST ANNUAL MEAN					81.6	1956
HIGHEST DAILY MEAN	10300	Nov 21	20300	Jul 24	21700	Apr 2 1960
LOWEST DAILY MEAN	103	Feb 9	550	Nov 3	.10	Aug 31 1936
INSTANTANEOUS PEAK FLOW	--		21500	Jul 24	22900	Jun 13 1947
INSTANTANEOUS PEAK STAGE	--		25.71	Jul 24	28.50	Jun 13 1947
INSTANTANEOUS LOW FLOW	--		417	May 25	.10	Aug 31 1936
ANNUAL SEVEN-DAY MINIMUM	115	Feb 7	848	Jun 21	.27	Aug 26 1936
ANNUAL RUNOFF (INCHES)	13.60		32.70		8.77	
10 PERCENT EXCEEDS	2540		7070		2280	
50 PERCENT EXCEEDS	997		2120		200	
90 PERCENT EXCEEDS	325		989		17	

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO

LOCATION.--Lat 39°32'25", long 92°47'23", in NW ¼ SW ¼ 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 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Prior to Oct. 1, 1953, published as "near Keytesville". Prior to May 1929, monthly discharge only, published in WSP 1309.

GAGE.--Water-stage recorder. Datum of gage is 632.05 ft above 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.--No estimated daily discharges. Records poor. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1720	1560	1320	2760	2550	1800	7630	3590	1020	24800	3230	2100
2	1710	2070	1300	1930	3400	3650	5390	1960	1000	21600	2930	2110
3	1700	1250	1410	2550	3390	10800	3910	8570	1020	10400	2830	2700
4	1700	758	1630	11900	2970	9970	3210	12500	1910	4810	2570	2190
5	1690	1070	1600	6980	2740	10200	2580	7970	2120	4020	2430	2120
6	1680	1100	1490	4690	2570	8610	2340	5580	2850	11000	2360	2880
7	1540	1010	1480	3480	2400	6910	2380	5640	4250	17700	2320	3780
8	1140	953	1470	2790	2300	5190	2650	10600	2730	26600	2160	2190
9	1060	945	1580	2330	2290	3760	3770	6540	7610	26400	2210	2190
10	1040	949	2370	2160	2200	2960	3520	4180	5050	25400	4170	2100
11	1040	1080	3350	2040	2800	2650	2380	2360	3820	24500	4400	2020
12	1020	2900	2710	2130	5000	2500	2230	2710	2010	28200	12600	2000
13	1000	2690	2570	2170	4900	2270	4940	3090	1200	29800	13500	2190
14	991	1400	3730	2120	3330	2080	11800	2420	1270	28300	5630	15800
15	985	1150	10500	2020	2590	2050	7880	1880	1390	17100	3920	11400
16	979	1080	14800	1960	2250	2110	6680	1570	1350	7890	3260	4490
17	1020	1050	7990	1890	2080	2100	5710	1370	1260	4300	2840	3290
18	958	1200	4530	1820	1980	1990	4080	1290	1660	2800	2560	2890
19	933	2660	2890	1700	1880	1920	4560	1210	2080	2450	2400	2910
20	932	10700	2480	1740	1890	1930	7400	1150	2450	3200	2320	4700
21	930	15400	2110	2000	1940	2030	7750	1110	1380	2600	2270	3540
22	927	8880	2050	2210	2020	2920	4760	1080	869	9290	2230	10700
23	919	12300	2170	2890	1940	8760	2960	1080	1030	20400	2200	17200
24	908	6350	2030	4260	1870	6940	1980	1150	1560	26700	2160	7970
25	909	4170	1860	3690	1800	4550	2090	918	2450	30200	2130	9330
26	905	5020	1950	2870	1760	3620	2320	666	1610	30600	2110	14200
27	891	4340	1890	2810	1810	3260	2200	972	1110	24600	2090	7060
28	892	2700	1880	3400	1770	2890	2120	1010	1050	13100	2070	4200
29	945	1750	1840	3700	---	2710	2370	1010	1660	8700	2080	3110
30	982	1450	1970	2940	---	2610	6490	1020	3270	4520	2070	2740
31	993	---	3980	2440	---	9060	---	1060	---	3480	2140	---
MEAN	1130	3331	3062	3044	2515	4348	4336	3137	2135	15980	3361	5203
MAX	1720	15400	14800	11900	5000	10800	11800	12500	7610	30600	13500	17200
MIN	891	758	1300	1700	1760	1800	1980	666	869	2450	2070	2000
IN.	.70	1.99	1.89	1.88	1.40	2.68	2.59	1.93	1.27	9.86	2.07	3.11

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

MEAN	734	832	763	742	1114	1945	2049	1862	2018	1449	709	769
MAX	5695	6574	5449	4516	4102	5724	8981	7800	14830	15980	4856	5203
(WY)	1974	1962	1983	1946	1937	1973	1973	1973	1947	1993	1932	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1656		4320		1246	
HIGHEST ANNUAL MEAN					4320	1993
LOWEST ANNUAL MEAN					166	1989
HIGHEST DAILY MEAN	15400	Nov 21	30600	Jul 26	30600	Jul 26 1993
LOWEST DAILY MEAN	180	Feb 11	666	May 26	4.6	Aug 7 1934
INSTANTANEOUS PEAK FLOW	--		31500	Jul 1	31900	Apr 23 1973
INSTANTANEOUS PEAK STAGE	--		21.93	Jul 1	21.96	Apr 23 1973
INSTANTANEOUS LOW FLOW	--		628	May 26	4.6	Aug 7 1934
ANNUAL SEVEN-DAY MINIMUM	200	Feb 8	907	Oct 22	4.8	Aug 4 1934
ANNUAL RUNOFF (INCHES)	12.06		31.36		9.05	
10 PERCENT EXCEEDS	3410		10300		3230	
50 PERCENT EXCEEDS	1070		2370		350	
90 PERCENT EXCEEDS	460		1040		36	

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO--Continued
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1962 to June 1963, August 1967 to July 1975, January 1978 to September 1986, November 1992 to current year.

REMARKS.--National stream-quality accounting network station from January 1978 to September 1986 and an ambient water-quality monitoring network station from November 1992 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00304)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
12...	1410	3730	7.5	180	7.6	6.1	51	69	14000	25000	58
DEC											
02...	0945	1290	2.5	345	8.0	15.6	114	<10	--	K50	104
JAN											
06...	1210	4630	0.0	214	7.3	12.0	81	55	5700	K3200	62
FEB											
17...	1200	2060	1.0	265	7.9	12.5	87	--	110	K36	93
MAR											
17...	1230	2070	4.0	274	7.8	9.8	73	27	K34	K40	92
APR											
08...	1230	1020	10.0	273	7.9	15.4	137	21	240	200	95
MAY											
12...	0745	2590	19.0	311	7.8	7.6	86	58	5300	1900	116
JUN											
16...	1210	1330	24.5	270	8.0	8.0	100	43	6800	1000	104
JUL											
26...	1410	31100	25.5	A144	7.4	5.6	75	70	K1700	4900	59
AUG											
25...	1000	2140	26.5	215	7.9	4.7	59	25	K160	K240	82
SEP											
16...	1245	4180	16.5	230	7.8	8.8	90	53	4700	K3400	82

A--Laboratory value replacing missing field value.
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, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV											
12...	0.660	0.020	0.070	0.90	0.270	0.080	78	23	5.0	4.7	4.3
DEC											
02...	0.430	0.040	0.060	0.40	0.090	0.070	--	--	--	--	--
JAN											
06...	0.470	0.040	0.110	1.2	0.500	0.200	--	--	--	--	--
FEB											
17...	0.540	0.030	0.040	0.50	0.220	0.080	--	--	--	--	--
MAR											
17...	0.530	0.010	0.020	0.87	0.250	0.090	120	35	7.4	6.2	4.2
APR											
08...	0.460	0.020	0.040	0.22	0.100	0.100	--	--	--	--	--
MAY											
12...	0.250	0.050	0.060	0.99	0.300	--	140	42	8.6	7.4	3.8
JUN											
16...	0.580	0.020	0.040	1.5	0.450	0.150	--	--	--	--	--
JUL											
26...	0.140	0.030	0.060	1.4	0.620	0.230	61	19	3.3	2.3	3.2
AUG											
25...	0.650	0.010	0.030	0.79	0.360	0.100	--	--	--	--	--
SEP											
16...	0.320	0.030	0.050	1.8	0.120	0.140	--	--	--	--	--

CHARITON RIVER BASIN

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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-PENDED (MG/L) (00530)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	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)
NOV										
12...	24	5.2	0.20	115	515	--	--	2	<1.0	6
DEC										
02...	--	--	--	201	154	--	--	--	--	--
JAN										
06...	--	--	--	141	369	5800	10	--	--	--
MAR										
17...	34	5.1	<0.10	173	181	2400	120	1	<1.0	4
APR										
08...	--	--	--	175	250	3000	50	--	--	--
MAY										
12...	43	3.9	0.20	203	823	6900	110	<1	<1.0	3
JUN										
16...	--	--	--	168	696	4900	70	--	--	--
JUL										
26...	11	1.4	0.10	88	1120	7600	180	<1	<1.0	3
AUG										
25...	--	--	--	138	548	3000	30	--	--	--
SEP										
16...	--	--	--	148	1110	6200	20	--	--	--

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)
NOV										
12...	150	19	<1	720	80	<0.10	60	21	<0.05	<0.05
MAR										
17...	78	26	<1	220	17	--	40	5	<0.05	<0.05
MAY										
12...	180	12	<1	640	3	<0.10	40	27	<0.05	<0.05
JUL										
26...	190	15	1	520	36	<0.10	50	14	<0.05	<0.05

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV										
12...	<0.05	0.26	0.51	0.60	<0.05	<0.05	0.16	1.1	<0.05	<0.05
MAR										
17...	<0.05	0.15	0.21	0.40	<0.05	<0.05	<0.05	0.41	<0.05	<0.05
MAY										
12...	<0.05	0.10	0.06	<0.20	<0.05	<0.05	<0.05	0.16	<0.05	<0.05
JUL										
26...	<0.05	0.07	0.07	<0.20	<0.05	<0.05	<0.05	0.49	<0.05	<0.05

LITTLE CHARITON RIVER BASIN

06906190 LONG BRANCH RESERVOIR NEAR MACON, MO

LOCATION.--Lat 39°45'05", long 92°30'20", NW ¼ 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 mi^2.

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, 57,500 ac-ft, July 26, elevation, 799.02 ft; minimum, 29,200 ac-ft, Oct. 31, elevation, 788.85 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	789.37	789.02	794.97	792.93	792.34	791.66	793.55	793.50	791.44	793.67	796.76	792.62
2	789.34	789.10	794.80	792.88	792.34	791.73	793.44	793.37	791.41	798.48	796.49	792.51
3	789.33	789.28	794.56	792.82	792.32	792.27	793.32	793.27	791.39	798.48	796.23	792.58
4	789.32	789.31	794.38	793.48	792.28	793.11	793.27	793.27	791.37	798.26	795.97	792.56
5	789.31	789.33	794.16	794.18	792.23	793.65	793.18	793.20	791.73	797.93	795.72	792.47
6	789.27	789.32	793.99	794.08	792.21	794.05	793.06	793.10	791.80	797.79	795.49	792.51
7	789.24	789.31	792.80	793.93	792.15	794.48	792.95	793.25	792.18	797.73	795.26	792.57
8	789.16	789.28	793.62	793.79	792.08	794.61	792.90	793.53	792.38	798.30	795.03	792.52
9	789.19	789.27	793.46	793.63	792.02	794.57	792.82	793.47	792.37	798.57	794.80	792.41
10	789.19	789.28	793.38	793.50	791.99	794.47	792.74	793.34	792.30	798.23	794.75	792.33
11	789.16	789.32	793.32	793.36	791.97	794.30	792.67	793.24	792.23	798.00	794.70	792.24
12	789.14	789.55	793.27	793.24	792.06	794.12	792.56	793.14	792.14	798.14	794.45	792.11
13	789.12	790.27	793.17	793.11	792.21	793.94	792.52	793.03	792.06	797.77	795.70	792.06
14	789.09	790.42	793.09	792.98	792.19	793.76	793.51	792.89	791.99	798.30	795.72	792.44
15	789.10	790.42	793.55	792.86	792.14	793.58	795.00	792.78	791.92	798.21	795.49	793.57
16	789.09	790.43	794.68	792.79	792.13	793.46	795.48	792.64	791.81	797.95	795.26	793.71
17	789.03	790.45	795.27	792.69	792.06	793.35	795.52	792.54	791.72	797.61	795.08	793.59
18	789.02	790.49	795.13	792.59	791.98	793.18	795.44	792.47	791.79	797.28	794.86	793.43
19	789.00	790.69	794.95	792.44	791.91	793.07	795.34	792.36	791.81	796.98	794.65	793.29
20	788.87	791.60	794.74	792.39	791.90	792.90	795.31	792.26	791.86	796.70	794.44	793.41
21	788.97	793.65	794.57	792.31	791.87	792.82	795.23	792.16	791.84	796.51	794.23	793.41
22	788.96	795.03	794.40	792.24	791.81	792.78	795.05	792.07	791.77	796.32	794.02	793.50
23	788.94	795.49	794.22	792.27	791.78	793.24	794.86	792.01	791.71	796.24	793.83	794.47
24	788.94	795.72	794.02	792.37	791.78	793.56	794.67	791.95	791.63	797.24	793.63	794.76
25	788.93	795.63	793.83	792.42	791.81	793.56	794.51	791.87	791.77	798.95	793.46	794.71
26	788.93	795.74	793.66	792.40	791.83	793.47	794.32	791.79	791.74	799.02	793.31	795.27
27	788.90	795.66	793.46	792.36	791.77	793.33	794.12	791.71	791.68	798.54	793.15	795.29
28	788.87	795.50	793.34	792.35	791.71	793.22	793.95	791.64	791.65	798.12	793.01	795.09
29	788.87	795.32	793.21	792.40	---	793.14	793.82	791.59	791.60	797.71	792.90	794.90
30	788.86	795.15	793.12	792.38	---	793.04	793.66	794.55	791.67	797.35	792.77	794.66
31	788.85	---	793.05	792.36	---	793.19	---	791.52	---	797.01	792.74	---
MAX	789.37	795.74	795.27	794.18	792.34	794.61	795.52	794.55	792.38	799.02	796.76	795.29
MIN	788.85	789.02	792.80	792.24	791.71	791.66	792.52	791.52	791.37	793.67	792.74	792.06
(-)	29200	45200	39400	37600	35900	39800	41000	35500	35800	50900	38600	43800
(=)	-1300	+16000	-5800	-1800	-1700	+3900	+1200	-5500	+300	+15100	-12300	+5200

CAL YR 1992. . . . . +2000
WTR YR 1993. . . . .+13300

(-) 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 ¼ NW ¼ NW ¼ 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 mi^2.

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 good. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	10	342	222	174	77	275	271	56	410	440	185
2	9.1	9.8	353	215	174	106	267	257	55	1040	411	180
3	9.2	9.6	343	221	171	180	256	247	54	1090	391	184
4	9.4	9.6	334	295	165	248	250	254	55	885	381	181
5	9.4	9.6	324	322	158	291	240	240	73	726	369	173
6	9.4	9.6	312	317	150	315	229	233	86	668	361	183
7	9.4	9.6	301	311	142	334	219	262	130	990	352	184
8	9.4	9.6	289	302	134	339	213	274	149	1020	344	178
9	9.4	9.6	278	295	125	335	208	267	147	1060	336	168
10	9.4	9.6	271	288	118	331	201	254	137	884	334	158
11	9.5	9.6	264	275	116	323	194	244	127	797	331	142
12	9.6	9.6	258	259	141	313	186	234	116	808	333	125
13	9.6	9.6	248	242	157	302	204	222	104	829	371	129
14	9.9	9.4	249	240	154	292	294	207	96	887	370	189
15	10	9.4	310	227	148	281	361	196	86	779	363	272
16	9.8	9.4	353	209	144	270	376	184	77	681	355	281
17	9.6	9.4	370	199	131	256	378	169	73	594	346	270
18	9.6	9.6	363	190	118	241	370	161	77	519	339	257
19	9.6	10	357	185	109	231	369	146	80	475	329	250
20	9.6	88	348	177	101	221	364	131	84	446	318	260
21	9.6	262	340	168	99	211	362	120	81	418	308	255
22	9.6	332	333	164	69	216	356	107	75	404	297	299
23	9.6	343	323	166	35	258	349	99	69	414	285	331
24	9.6	349	311	175	34	280	342	93	83	653	275	336
25	9.6	348	302	181	36	279	335	85	78	1180	259	348
26	9.6	350	290	179	69	270	326	77	73	1160	245	359
27	9.6	346	277	176	87	259	314	70	69	911	229	356
28	9.6	339	261	177	82	249	303	67	67	714	217	349
29	9.6	333	250	180	---	238	296	63	65	595	208	341
30	9.6	328	242	181	---	230	283	61	92	516	200	332
31	9.6	---	232	179	---	254	---	59	---	470	196	---
MEAN	10.2	120	304	223	119	259	291	173	87.1	743	319	242
MAX	30	350	370	322	174	339	378	274	149	1180	440	359
MIN	9.1	9.4	232	164	34	77	186	59	54	404	196	125
IN.	.11	1.20	3.13	2.30	1.11	2.67	2.90	1.78	.87	7.65	3.29	2.41

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

MEAN	67.1	72.6	99.5	67.2	61.8	150	189	173	97.2	104	68.7	85.2
MAX	425	354	304	299	205	688	939	511	349	743	401	727
(WY)	1974	1986	1993	1974	1975	1973	1973	1973	1984	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	83.9		242		103	
HIGHEST ANNUAL MEAN					317	1973
LOWEST ANNUAL MEAN					7.13	1989
HIGHEST DAILY MEAN	370	Dec 17	1180	Jul 25	5460	Apr 22 1973
LOWEST DAILY MEAN	8.4	Jun 14	9.1	Oct 2	.00	Many Years**
INSTANTANEOUS PEAK FLOW	--		1360	Jul 7	8700	Apr 21 1973
INSTANTANEOUS PEAK STAGE	--		14.12	Jul 7	20.60	Apr 21 1973
INSTANTANEOUS LOW FLOW	--		9.1	Oct 2	.00	Many Years**
ANNUAL SEVEN-DAY MINIMUM	9.3	Oct 2	9.3	Oct 2	.00	Many Years**
ANNUAL RUNOFF (INCHES)	10.21		29.39		12.50	
10 PERCENT EXCEEDS	252		377		292	
50 PERCENT EXCEEDS	57		231		28	
90 PERCENT EXCEEDS	9.6		9.6		.96	

**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 ¼ NW ¼ NW ¼ 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 mi^2.

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: Aug. 15-18. Records good except for estimated daily discharges, which are fair. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	49	344	285	210	156	440	297	108	3640	625	202
2	32	136	368	280	202	662	352	294	111	3970	566	375
3	9.4	49	357	352	196	1240	337	345	107	2230	535	447
4	7.3	29	351	1770	190	890	458	734	365	1190	515	227
5	7.9	21	337	607	184	794	356	418	151	918	499	200
6	7.8	17	325	439	179	704	293	314	376	1320	491	326
7	8.0	14	315	383	175	592	268	1690	342	5220	478	246
8	8.5	13	305	360	174	487	299	905	223	5100	468	214
9	8.9	12	303	341	168	411	265	396	200	2200	457	195
10	11	15	349	350	165	376	237	330	172	1060	649	179
11	9.6	32	409	324	175	344	218	323	157	916	504	168
12	9.4	159	326	312	241	324	365	314	147	896	3090	159
13	9.6	113	303	300	218	309	1220	275	139	1450	1020	282
14	10	48	349	352	200	292	1340	241	133	2410	607	1410
15	11	30	1430	278	178	280	1160	221	127	1270	490	489
16	11	24	1720	255	190	282	920	202	124	1040	430	382
17	11	22	579	238	204	268	584	187	146	891	400	342
18	9.9	35	468	236	186	243	482	186	382	739	380	306
19	11	147	430	251	216	234	1340	170	275	654	361	331
20	11	1160	405	249	158	239	912	160	257	767	348	474
21	11	1360	382	245	169	256	511	151	157	770	336	339
22	12	664	368	273	202	501	440	145	136	730	324	2400
23	12	675	355	437	133	874	408	146	123	729	316	6210
24	11	446	338	463	108	503	386	140	124	1720	310	3110
25	11	478	326	303	91	389	415	133	639	1670	288	1540
26	11	504	313	269	114	341	373	125	205	1150	267	994
27	11	412	302	269	190	309	349	119	149	1010	249	506
28	11	379	288	285	176	286	333	114	153	865	235	422
29	13	363	283	266	---	268	334	112	140	769	229	382
30	13	351	295	242	---	273	317	129	310	690	221	358
31	12	---	288	216	---	740	---	120	---	645	236	---
MEAN	12.5	259	429	362	178	447	524	304	206	1569	514	774
MAX	55	1360	1720	1770	241	1240	1340	1690	639	5220	3090	6210
MIN	7.3	12	283	216	91	156	218	112	107	645	221	159
IN.	.07	1.31	2.25	1.90	.84	2.34	2.66	1.60	1.04	8.22	2.69	3.93

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

MEAN	129	132	137	131	150	266	335	253	211	209	84.0	150
MAX	1019	756	666	527	732	1107	2079	705	1069	1569	514	783
(WY)	1987	1986	1983	1965	1985	1973	1973	1973	1969	1993	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	139		468		182	
HIGHEST ANNUAL MEAN					510	1973
LOWEST ANNUAL MEAN					17.3	1989
HIGHEST DAILY MEAN	1720	Dec 16	6210	Sep 23	17000	Apr 21 1973
LOWEST DAILY MEAN	7.3	Oct 4	7.3	Oct 4	.00	Many Years
INSTANTANEOUS PEAK FLOW	--		8650	Jul 7	30000	Apr 21 1973
INSTANTANEOUS PEAK STAGE	--		18.71	Jul 7	20.78	Apr 21 1973
INSTANTANEOUS LOW FLOW	--		6.2	Oct 4	.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	8.3	Oct 3	8.3	Oct 3	.00	Many Years
ANNUAL RUNOFF (INCHES)	8.59		28.85		11.25	
10 PERCENT EXCEEDS	340		950		433	
50 PERCENT EXCEEDS	74		303		44	
90 PERCENT EXCEEDS	14		23		3.0	

LAMINE RIVER BASIN

06906800 LAMINE RIVER NEAR OTTERVILLE, MO

LOCATION.--Lat 38°42'09", long 92°58'42", in NE ¼ NE ¼ NW ¼ 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 mi^2.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	20	298	172	240	305	692	292	242	4680	150	18
2	12	28	255	154	216	4570	535	247	140	7590	643	38
3	10	43	223	197	197	5180	400	230	105	5340	173	65
4	9.4	81	194	5020	179	2810	399	1020	92	819	98	82
5	8.0	50	167	1610	165	1610	442	667	79	331	72	65
6	7.1	34	147	703	154	909	423	375	8750	2770	67	44
7	6.5	35	139	510	145	640	342	1660	15100	39600	59	32
8	7.4	26	132	425	136	480	307	4250	964	18800	53	27
9	7.0	21	203	367	130	376	354	743	432	1190	47	22
10	6.8	60	2280	345	122	314	297	462	248	623	43	18
11	8.4	3500	1200	314	124	255	245	408	178	486	41	15
12	8.5	14700	562	311	238	216	205	355	138	343	42	14
13	7.1	8260	396	595	429	189	819	294	111	264	51	149
14	7.5	904	4350	604	279	168	7050	241	90	2850	43	12700
15	8.1	518	16600	466	210	156	5920	199	75	20100	36	3020
16	7.0	353	14400	356	189	180	9930	177	63	12200	31	518
17	6.0	263	1820	429	178	230	2230	180	56	1480	28	241
18	5.8	231	957	401	141	192	1020	187	51	674	25	150
19	5.5	4190	675	314	142	184	703	248	58	392	23	1930
20	6.5	14900	583	554	152	208	1840	167	77	273	21	17600
21	6.0	20500	466	2550	712	211	1080	127	65	283	20	3110
22	6.6	11800	401	2400	1140	247	671	107	54	2490	20	649
23	6.5	13500	342	3050	562	2280	503	96	43	1490	18	14900
24	6.3	1330	282	3190	342	795	404	106	37	483	17	18100
25	6.2	1310	240	924	251	494	1220	97	622	248	15	20800
26	6.5	1630	213	617	277	379	1460	77	605	162	14	13500
27	6.7	783	189	501	233	304	632	63	157	121	13	1380
28	6.9	556	177	505	213	259	431	56	89	95	13	744
29	7.7	436	182	441	---	235	357	54	62	79	12	444
30	9.5	354	194	308	---	241	334	547	48	66	12	300
31	12	---	202	258	---	999	---	763	---	58	16	---
MEAN	7.73	3347	1564	922	268	826	1375	468	961	4077	61.8	3689
MAX	14	20500	16600	5020	1140	5180	9930	4250	15100	39600	643	20800
MIN	5.5	20	132	154	122	156	205	54	37	58	12	14
IN.	.02	6.88	3.32	1.96	.51	1.75	2.83	.99	1.98	8.66	.13	7.58

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

MEAN	15.1	624	533	283	341	617	730	1110	332	825	126	647
MAX	32.0	3347	1564	922	756	1580	1444	4718	961	4077	420	3689
(WY)	1991	1993	1993	1993	1988	1990	1988	1990	1993	1993	1989	1993
MIN	7.73	20.3	11.1	45.4	124	122	279	38.8	10.5	11.0	3.40	6.00
(WY)	1993	1990	1990	1990	1991	1991	1991	1992	1988	1988	1991	1988

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	514		1464		516	
HIGHEST ANNUAL MEAN					1464	1993
LOWEST ANNUAL MEAN					155	1992
HIGHEST DAILY MEAN	20500	Nov 21	39600	Jul 7	39600	Jul 7 1993
LOWEST DAILY MEAN	5.5	Oct 19	5.5	Oct 19	1.3	Aug 26-27, 29 1991
INSTANTANEOUS PEAK FLOW	--		63700	Jul 7	63700	Jul 7 1993
INSTANTANEOUS PEAK STAGE	--		27.81	Jul 7	27.81	Jul 7 1993
INSTANTANEOUS LOW FLOW	--		5.3	Oct 18, 19	1.2	Aug 28 1991
ANNUAL SEVEN-DAY MINIMUM	6.1	Oct 17	6.1	Oct 17	1.4	Aug 23 1991
ANNUAL RUNOFF (INCHES)	12.88		36.61		12.91	
10 PERCENT EXCEEDS	594		3030		674	
50 PERCENT EXCEEDS	43		245		62	
90 PERCENT EXCEEDS	7.9		14		8.1	

LAMINE RIVER BASIN

06908000 BLACKWATER RIVER AT BLUE LICK, MO

LOCATION.--Lat 38°59'32", long 93°11'48", in SW ¼ SW ¼ SW ¼ 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: Jan. 5, 6 and April 1, 2. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	357	571	365	591	402	2720	3080	3650	4020	2250	216
2	12	738	444	259	531	2500	1700	2650	1800	6240	1020	105
3	11	264	335	440	471	6960	901	2500	814	7590	594	571
4	9.9	163	270	4500	434	7670	1130	5270	471	10100	371	301
5	9.4	106	235	4440	407	8490	1300	6020	791	13100	242	151
6	9.2	56	198	3040	382	8330	826	6610	3000	12900	190	94
7	8.5	30	194	1080	359	5450	603	6220	6300	13000	177	80
8	8.2	21	194	711	339	1500	576	4940	4130	12700	169	71
9	8.1	17	681	526	315	910	658	5230	1080	16600	146	65
10	7.3	91	4050	389	296	704	548	6160	530	18700	131	59
11	7.5	893	3890	586	316	536	430	6120	313	15500	639	55
12	10	4320	1650	600	1910	426	352	3270	221	11400	7300	47
13	10	5600	737	774	1670	384	3440	1110	181	7040	6370	315
14	9.4	4480	5000	1250	821	341	5910	752	150	5090	3760	4070
15	9.5	1190	8090	909	534	329	6940	516	123	8520	1190	3990
16	9.4	395	11900	669	401	354	8310	382	102	8610	174	1010
17	8.0	245	15600	606	345	358	8650	472	86	10600	126	310
18	7.1	198	14600	592	363	307	6920	1710	81	11800	100	185
19	6.4	2510	11300	448	375	287	2250	942	802	10100	80	1980
20	7.9	6660	7750	598	367	368	3220	432	1250	5670	54	5790
21	9.2	7880	1990	2400	516	417	1870	314	326	1110	46	5490
22	7.3	8470	921	4030	1130	1400	907	256	181	3520	42	7740
23	6.2	9830	747	4840	854	5220	653	226	129	5180	40	10800
24	5.1	9960	585	5540	506	4720	594	206	138	6310	39	12200
25	4.7	9830	449	4810	480	2570	2430	182	1170	8030	34	16600
26	4.9	9020	368	2480	488	1070	1780	154	422	7780	32	17800
27	4.9	7790	327	1860	568	759	727	131	171	3850	28	18300
28	5.1	5990	341	2320	530	604	508	113	116	1410	29	17000
29	5.3	1770	322	2100	---	538	750	98	87	1420	31	13200
30	6.2	793	405	1010	---	542	2710	906	68	1420	80	9650
31	13	---	523	622	---	2120	---	3620	---	1230	841	---
MEAN	8.22	3322	3054	1768	582	2147	2344	2277	956	8082	849	4941
MAX	14	9960	15600	5540	1910	8490	8650	6610	6300	18700	7300	18300
MIN	4.7	17	194	259	296	287	352	98	68	1110	28	47
IN.	.01	3.31	3.14	1.82	.54	2.21	2.34	2.34	.95	8.32	.87	4.92

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

MEAN	559	600	454	468	669	1052	1376	1095	1211	830	284	614
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	772		2540		770	
HIGHEST ANNUAL MEAN					2540	1993
LOWEST ANNUAL MEAN					95.8	1957
HIGHEST DAILY MEAN	15600	Dec 17	18700	Jul 10	48400	Nov 18 1928
LOWEST DAILY MEAN	4.7	Oct 25	4.7	Oct 25	.00	Jul 17-31 1980
INSTANTANEOUS PEAK FLOW	--		19100	Jul 9	54000	Nov 18 1928
INSTANTANEOUS PEAK STAGE	--		33.07	Jul 9	41.53	Oct 3 1986
INSTANTANEOUS LOW FLOW	--		4.5	Oct 24	.00	Jul 17-31 1980
ANNUAL SEVEN-DAY MINIMUM	5.2	Oct 23	5.2	Oct 23	.00	Jul 17 1980
ANNUAL RUNOFF (INCHES)	9.38		30.79		9.34	
10 PERCENT EXCEEDS	1790		8050		2270	
50 PERCENT EXCEEDS	58		603		84	
90 PERCENT EXCEEDS	11		31		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 mi^2, 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 ft^3/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 ft^3/s, computed by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47200	37900	64000	58100	54400	46200	173000	118000	116000	180000	603000	11700C
2	47300	41000	59600	54300	53900	50100	206000	104000	113000	232000	479000	126000
3	46300	43900	56200	50000	57400	88500	220000	109000	111000	256000	387000	142000
4	45400	41400	53700	64700	60600	164000	201000	159000	112000	275000	340000	149000
5	44700	46100	52100	95600	63700	185000	201000	165000	119000	282000	311000	148000
6	44500	50600	50700	81900	69100	185000	198000	146000	141000	273000	289000	141000
7	44100	47000	49400	61100	75600	194000	165000	132000	189000	283000	269000	134000
8	43500	42000	48600	50100	75500	179000	143000	171000	206000	303000	249000	129000
9	43700	38800	48800	45700	73100	160000	165000	188000	185000	312000	230000	123000
10	45300	37300	54500	44600	73500	145000	171000	209000	169000	301000	212000	119000
11	48300	37300	63300	44600	73500	152000	158000	251000	157000	318000	197000	113000
12	70200	48600	60200	44200	77100	169000	139000	273000	133000	375000	204000	108000
13	77400	68600	56800	43800	94400	169000	149000	277000	115000	400000	211000	106000
14	73100	68200	84200	45200	105000	160000	205000	270000	110000	458000	214000	138000
15	72100	49200	193000	46500	94600	144000	229000	255000	115000	439000	206000	172000
16	69100	41400	238000	45300	85000	121000	216000	223000	129000	405000	190000	165000
17	66200	38900	237000	42500	78000	102000	192000	185000	131000	383000	171000	140000
18	63400	37500	212000	40800	73000	94300	167000	159000	117000	353000	154000	121000
19	60900	39900	184000	40200	69500	94500	149000	147000	119000	328000	142000	111000
20	58100	66800	162000	40300	67400	97300	149000	135000	130000	315000	134000	133000
21	55200	150000	131000	42500	63600	96100	153000	128000	134000	304000	131000	157000
22	53200	191000	97000	49600	59600	91800	144000	125000	141000	305000	135000	170000
23	51300	195000	82400	54900	56200	108000	134000	125000	128000	314000	143000	201000
24	48800	190000	75700	64300	52600	117000	134000	126000	118000	321000	144000	221000
25	45800	158000	71100	65000	50600	112000	132000	127000	122000	340000	139000	242000
26	43800	139000	67200	57700	50000	105000	124000	135000	122000	393000	135000	263000
27	42200	126000	64100	52500	49800	95700	113000	116000	132000	487000	131000	277000
28	40700	105000	60600	53000	48300	94100	106000	109000	135000	606000	126000	280000
29	39100	84300	56500	58600	---	95800	104000	108000	134000	706000	119000	273000
30	37600	71100	55000	62200	---	100000	117000	113000	138000	721000	113000	259000
31	37300	---	55900	58600	---	122000	---	119000	---	662000	115000	---
MEAN	51800	77730	91760	53500	68040	123800	161900	161500	134000	375200	213600	165900
MAX	77400	195000	238000	95600	105000	194000	229000	277000	206000	721000	603000	280000
MIN	37300	37300	48600	40200	48300	46200	104000	104000	110000	180000	113000	106000
IN.	.12	.17	.21	.12	.14	.28	.36	.37	.30	.86	.49	.37

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

MEAN	52870	48760	33680	28920	41350	66110	88030	80520	99270	83930	55680	56770
MAX	187800	124500	106200	90150	106300	183900	229200	169200	283700	375200	213600	165900
(WY)	1974	1929	1983	1973	1982	1973	1927	1927	1947	1993	1993	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	64490		140500		61340	
HIGHEST ANNUAL MEAN					140500	1993
LOWEST ANNUAL MEAN					23730	1934
HIGHEST DAILY MEAN	238000	Dec 16	721000	Jul 30	721000	Jul 30 1993
LOWEST DAILY MEAN	25700	Feb 8	37300	Oct 31	1800	Jan 10 1940
INSTANTANEOUS PEAK FLOW	--		755000	Jul 29	755000	Jul 29 1993
INSTANTANEOUS PEAK STAGE	--		37.10	Jul 29	37.10	Jul 29 1993
INSTANTANEOUS LOW FLOW	--		36800	Nov 11	1800	Jan 10 1940
ANNUAL SEVEN-DAY MINIMUM	26100	Feb 7	39400	Oct 27	2140	Jan 7 1940
ANNUAL RUNOFF (INCHES)	1.75		3.80		1.66	
10 PERCENT EXCEEDS	107000		274000		119000	
50 PERCENT EXCEEDS	52500		119000		47000	
90 PERCENT EXCEEDS	31100		45600		20000	

OSAGE RIVER BASIN

06918070 OSAGE RIVER ABOVE SCHELL CITY, MO

LOCATION.--Lat 38°03'20", long 94°08'44", in SE ¼ SW ¼ NW ¼ 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 mi^2, 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. 15-29 and July 30 to Sept. 30. Water-discharge records poor except for discharges greater that 400 ft^3/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 ft^3/s, Oct. 5, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 49,000 ft^3/s, Nov. 26, minimum daily discharge 172 ft^3/s, Oct. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	445	3270	16200	3300	4590	5220	5630	11400	20200	5310	6000	4400
2	341	6230	12800	3330	3740	8530	8370	8290	17000	7830	3000	4400
3	287	5420	8110	3930	3470	15400	8310	9340	11800	10300	2000	4200
4	251	3620	5300	6050	3590	19900	6010	14200	9040	8490	1500	4600
5	240	2440	4030	11000	3760	21700	5430	16400	8220	3820	1500	3500
6	206	2070	3790	13000	3900	21900	7010	12900	8960	8500	2500	2500
7	206	1590	3580	9820	4150	19500	6480	9020	6280	24200	3000	2000
8	172	1310	3340	7340	3740	12600	5520	13600	3880	32000	3500	1700
9	258	1160	5520	6140	3160	8540	6870	19000	2990	38300	3200	1500
10	536	1090	12000	4920	2920	6330	8780	23200	2920	39200	3100	1400
11	783	3200	13100	4140	2870	5420	7930	26200	3610	36400	3500	1300
12	539	13800	12800	4140	4390	5070	6070	29600	2910	31400	4000	1300
13	406	18000	13100	6580	6820	4680	6500	32700	2560	26400	4000	1500
14	350	18400	23000	8940	7650	4230	12000	30500	2460	16300	3900	2000
15	320	17500	29400	7830	5740	3670	15000	27500	2100	14900	3900	2500
16	400	16700	39800	5800	4290	3410	16000	23600	2070	12300	3900	2200
17	360	14200	46700	4900	3730	3280	14000	18600	1990	8000	3800	1900
18	320	10200	47000	4700	3400	2750	11000	16200	2240	7000	3800	1600
19	290	12400	40500	4300	3400	2220	9000	15000	3230	6000	5500	1400
20	260	20000	35400	4500	3740	2030	8000	13700	2890	8700	6400	5000
21	240	25100	28100	8380	5500	2250	7000	13200	2240	12300	7000	7500
22	220	29600	15300	11600	8280	2810	6200	12100	1760	20800	7400	6500
23	210	35600	11400	14000	9230	6990	5660	10300	1380	27700	7500	6200
24	205	41000	11500	16100	8310	8320	5280	9280	1200	35200	7000	20000
25	200	44800	10900	17300	6090	7210	4680	8970	4210	43000	6500	40000
26	195	49000	8390	15900	4600	4840	4790	8300	4550	44700	6200	47000
27	190	48800	6330	11700	4300	3320	4000	7640	2790	42100	5900	48000
28	185	45100	5290	8850	4370	2720	3090	7200	1820	40600	5600	48200
29	180	37500	5370	7930	---	2540	6470	6890	1280	34900	5200	44000
30	207	23800	5010	8080	---	2660	11500	12700	1210	25000	4700	40500
31	295	---	3690	6700	---	4220	---	18700	---	15000	4500	---
MEAN	300	18430	15700	8103	4776	7234	7753	15680	4660	22150	4500	11960
MAX	783	49000	47000	17300	9230	21900	16000	32700	20200	44700	7500	48200
MIN	172	1090	3340	3300	2870	2030	3090	6890	1200	3820	1500	1300

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

MAX	47040	18430	15700	8103	8960	18920	16190	17700	19800	22150	6925	11960
(WY)	1987	1993	1993	1993	1987	1987	1983	1990	1981	1993	1989	1993
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, Missouri.

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.

REMARKS.--Sediment records fair.

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 CONCENTRATONS: Maximum daily mean, 2,760 mg/L Apr. 17, 1992; minimum daily mean, 8 mg/L, Aug. 4 and 5, 1993.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 91,700 tons, May 25, 1991; minimum daily, 1.7 tons, several days in 1992.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean 1,700 mg/L, Apr. 15; minimum daily mean, 8 mg/L, Aug. 4 and 5.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 83,200 tons, Sept. 25; minimum daily, 30 tons, Oct. 30 and Aug. 5.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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-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												
19...	0930	13700	281	7.4	10.0	73	8.7	81	6000	K17000	110	36
JAN												
12...	1730	4160	412	7.8	0.5	22	13.8	95	180	280	190	61
MAR												
10...	0930	6440	386	8.0	6.0	41	12.0	95	160	K39000	180	58
MAY												
05...	0830	7740	297	7.8	15.0	140	7.6	75	2300	K32000	140	47
JUL												
27...	1330	45300	159	7.7	27.5	68	3.7	46	160	960	67	22
SEP												
28...	1540	48200	145	7.4	16.5	67	7.3	74	K230	K75	60	19

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												
19...	5.9	6.7	4.9	96	39	6.7	0.10	8.6	192	162	0.26	7100
JAN												
12...	10	13	3.3	150	65	9.2	0.20	7.9	259	263	0.35	2910
MAR												
10...	8.4	11	2.5	B170	52	8.1	0.10	7.3	246	253	0.33	4280
MAY												
05...	6.0	6.7	2.8	B117	31	5.1	0.20	7.6	191	180	0.26	3990
JUL												
27...	2.9	2.8	3.3	B67	B7.7	B1.8	0.20	9.9	102	93	0.14	12500
SEP												
28...	3.1	3.2	3.6	50	16	2.3	0.20	8.2	110	88	0.15	14300

B--Based on cation/anion balance, this value is considered suspect.

OSAGE RIVER BASIN

06918070 OSAGE RIVER ABOVE SCHELL CITY, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	BARIUM, DISSOLVED (UG/L AS BA) (01005)
NOV 19...	0.010	0.500	0.070	0.040	1.0	0.340	0.120	0.090	--	--	100	54
JAN 12...	0.010	0.700	0.070	0.070	0.62	0.070	0.040	0.040	--	--	--	--
MAR 10...	0.010	0.810	0.050	0.040	0.73	0.130	0.050	0.030	155	80	20	75
MAY 05...	0.020	0.570	0.070	0.050	1.0	0.140	0.060	0.050	616	95	70	60
JUL 27...	0.020	0.280	--	0.090	0.90	0.260	0.090	0.080	--	--	80	51
SEP 28...	0.010	0.280	--	0.070	0.50	0.150	0.070	0.090	--	--	--	--

DATE	COBALT, DISSOLVED (UG/L AS CO) (01035)	IRON, DISSOLVED (UG/L AS FE) (01046)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	SIMAZINE, WATER, DISS, REC (UG/L) (04035)
NOV 19...	<3	110	<4	39	<10	2	<1	<1.0	180	<6	<0.05
MAR 10...	<3	12	<4	36	<10	2	<1	<1.0	290	<6	--
MAY 05...	<3	64	<4	1	<10	2	<1	<1.0	220	<6	--
JUL 27...	<3	68	<4	14	<10	<1	<1	<1.0	100	<6	--

DATE	PROMETRYN, WATER, DISS, REC (UG/L) (04036)	PROMETON, WATER, DISS, REC (UG/L) (04037)	DEISOPROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L) (04040)	CYANAZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROPAZINE WATER DISS REC (UG/L) (38535)	METOLACHLOR WATER DISSOLV (UG/L) (39415)	ATRAZINE, WATER, DISS, REC (UG/L) (39632)	ALACHLOR, WATER, DISS, REC, (UG/L) (46342)	METRIBUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV 19...	<0.05	<0.05	0.06	0.11	<0.20	<0.05	<0.05	<0.05	0.19	<0.05	<0.05

OSAGE RIVER BASIN

06918070 OSAGE RIVER ABOVE SCHELL CITY, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	445	151	175	3270	775	9910	16200	28	1230
2	341	134	124	6230	1010	17000	12800	29	992
3	287	120	91	5420	175	2650	8110	34	728
4	251	107	72	3620	131	1250	5300	53	742
5	240	95	61	2440	116	765	4030	100	1080
6	206	85	47	2070	90	507	3790	117	1190
7	206	75	42	1590	44	189	3580	120	1160
8	172	67	31	1310	40	140	3340	91	816
9	258	72	51	1160	43	134	5520	211	3870
10	536	169	263	1090	44	129	12000	433	14000
11	783	159	337	3200	333	4330	13100	312	11000
12	539	126	183	13800	798	30500	12800	207	7110
13	406	102	112	18000	661	32200	13100	293	11000
14	350	96	91	18400	444	22100	23000	777	48300
15	320	92	80	17500	212	10000	29400	484	38200
16	400	88	95	16700	126	5690	39800	274	29300
17	360	85	83	14200	100	3850	46700	299	37800
18	320	80	69	10200	113	3070	47000	235	29700
19	290	78	61	12400	347	12400	40500	236	25700
20	260	74	52	20000	472	25600	35400	227	21700
21	240	72	47	25100	371	25100	28100	176	13200
22	220	67	40	29600	228	18100	15300	171	7050
23	210	65	37	35600	115	11000	11400	204	6300
24	205	62	34	41000	68	7590	11500	208	6500
25	200	60	32	44800	59	7110	10900	198	5790
26	195	62	33	49000	50	6610	8390	214	4810
27	190	67	34	48800	43	5660	6330	221	3760
28	185	69	34	45100	40	4910	5290	207	2950
29	180	72	35	37500	27	2690	5370	180	2610
30	207	55	30	23800	26	1650	5010	183	2460
31	295	41	33	---	---	---	3690	197	1950
		JANUARY			FEBRUARY			MARCH	
1	3300	209	1850	4590	180	2210	5220	129	1840
2	3330	193	1730	3740	167	1680	8530	408	10200
3	3930	218	2330	3470	130	1220	15400	1300	55600
4	6050	338	5770	3590	112	1080	19900	1220	65800
5	11000	694	20800	3760	100	1010	21700	820	48000
6	13000	583	20300	3900	100	1060	21900	505	29800
7	9820	352	9410	4150	102	1140	19500	317	16700
8	7340	274	5400	3740	101	1020	12600	279	9380
9	6140	233	3860	3160	77	660	8540	239	5560
10	4920	200	2650	2920	84	661	6330	105	1800
11	4140	178	1990	2870	90	699	5420	107	1560
12	4140	209	2360	4390	200	2490	5070	110	1510
13	6580	404	7420	6820	334	6270	4680	68	862
14	8940	375	9080	7650	437	9000	4230	87	986
15	7830	282	5960	5740	326	5090	3670	123	1220
16	5800	222	3480	4290	206	2390	3410	96	883
17	4900	224	2960	3730	170	1710	3280	44	388
18	4700	260	3300	3400	160	1470	2750	39	284
19	4300	282	3270	3400	145	1330	2220	54	319
20	4500	305	3710	3740	178	1800	2030	42	233
21	8380	470	10800	5500	232	3610	2250	28	169
22	11600	427	13400	8280	539	12200	2810	91	752
23	14000	437	16600	9230	378	9400	6990	369	7390
24	16100	429	18700	8310	180	4070	8320	742	16700
25	17300	343	16000	6090	141	2310	7210	329	6440
26	15900	280	12000	4250	190	2180	4840	200	2640
27	11700	199	6310	4010	170	1840	3320	124	1120
28	8850	158	3760	4370	156	1850	2720	81	595
29	7930	159	3410	---	---	---	2540	77	525
30	8080	166	3620	---	---	---	2660	84	613
31	6700	150	2710	---	---	---	4220	286	3440

06918070 OSAGE RIVER ABOVE SCHELL CITY, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	5630	517	8000	11400	635	19600	20200	456	24900
2	8370	1120	25700	8290	395	8820	17000	383	17700
3	8310	1160	26000	9340	544	14300	11800	336	10800
4	6010	665	10900	14200	612	23600	9040	296	7250
5	5430	488	7230	16400	539	23900	8220	672	15100
6	7010	1030	19700	12900	337	11800	8960	844	20400
7	6480	605	10700	9020	305	7460	6280	561	9730
8	5520	501	7460	13600	394	14800	3880	428	4500
9	6870	527	9910	19000	445	23000	2990	357	2880
10	8780	823	19600	23200	407	25500	2920	334	2640
11	7930	478	10300	26200	287	20300	3610	498	4840
12	6070	363	5930	29600	231	18400	2910	509	4010
13	6500	500	8780	32700	170	15000	2560	420	2910
14	12000	1500	56700	30500	148	12200	2460	348	2320
15	15000	1700	68800	27500	170	12600	2100	369	2090
16	16000	900	38900	23600	146	9270	2070	345	1930
17	14000	620	23400	18600	168	8340	1990	288	1550
18	11000	500	14800	16200	222	9690	2240	325	1970
19	9000	420	10200	15000	234	9500	3230	525	4570
20	8000	350	7560	13700	228	8420	2890	562	4390
21	7000	290	5480	13200	222	7910	2240	430	2620
22	6200	220	3680	12100	220	7180	1760	293	1400
23	5660	188	2860	10300	252	6940	1380	283	1050
24	5280	223	3170	9280	242	6060	1200	297	969
25	4680	237	2990	8970	227	5500	4210	566	6630
26	4790	240	3100	8300	241	5400	4550	593	7300
27	4000	243	2610	7640	268	5510	2790	569	4290
28	3090	279	2340	7200	334	6490	1820	490	2430
29	6470	898	16900	6890	428	7980	1280	330	1150
30	11500	1050	32700	12700	603	21100	1210	241	784
31	---	---	---	18700	588	29600	---	---	---
		JULY			AUGUST			SEPTEMBER	
1	5310	752	13400	6000	25	405	4400	170	2020
2	7830	799	16700	3000	17	138	4400	180	2140
3	10300	596	16500	2000	14	76	4200	190	2150
4	8490	536	12300	1500	8	32	4600	200	2480
5	3820	578	6030	1500	8	30	3500	210	1980
6	8500	675	21100	2500	9	61	2500	215	1450
7	24200	875	56100	3000	12	97	2000	195	1050
8	32000	396	33900	3500	12	113	1700	160	734
9	38300	266	27300	3200	15	130	1500	190	770
10	39200	186	19800	3100	12	100	1400	280	1060
11	36400	150	14700	3500	17	161	1300	310	1090
12	31400	170	14400	4000	26	281	1300	375	1320
13	26400	136	9770	4000	26	281	1500	750	3040
14	16300	92	4090	3900	28	295	2000	670	3620
15	14900	94	3780	3900	38	400	2500	400	2700
16	12300	115	3820	3900	36	379	2200	450	2670
17	8000	100	2160	3800	34	349	1900	390	2000
18	7000	70	1320	3800	55	564	1600	270	1170
19	6000	70	1130	5500	62	921	1400	180	680
20	8700	160	3760	6400	75	1300	5000	600	8100
21	12300	362	12300	7000	105	1980	7500	720	14600
22	20800	260	14200	7400	170	3400	6500	670	11800
23	27700	175	13000	7500	170	3440	6200	980	16400
24	35200	123	11600	7000	180	3400	20000	1200	64800
25	43000	85	9870	6500	205	3600	40000	770	83200
26	44700	66	7840	6200	240	4020	47000	430	54600
27	42100	62	7160	5900	190	3030	48000	200	25900
28	40600	51	5590	5600	160	2420	48200	160	20800
29	34900	43	4050	5200	220	2810	44000	140	16600
30	25000	32	2160	4700	120	1520	40500	125	13700
31	15000	24	972	4500	150	1820	---	---	---

OSAGE RIVER BASIN

06918440 SAC RIVER NEAR DADEVILLE, MO

LOCATION.--Lat 37°26'35", long 93°41'05", in NE ¼ NE ¼ NW ¼ 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 mi^2.

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.--Estimated daily discharges: Sept. 26-30. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	130	102	570	397	331	633	426	282	186	535	172	74
2	123	112	518	355	314	877	420	269	178	480	153	75
3	119	115	471	333	301	877	402	275	176	416	145	83
4	115	142	435	892	288	790	400	263	398	372	139	82
5	110	136	396	777	275	726	523	245	592	339	157	76
6	108	124	373	673	266	653	553	232	366	767	234	74
7	104	117	351	610	257	598	539	221	313	1080	188	71
8	113	111	328	546	249	548	515	212	358	771	162	151
9	116	105	477	529	240	503	475	250	624	572	149	106
10	117	102	725	510	232	463	439	258	1340	474	144	92
11	120	207	655	468	230	423	405	259	864	413	140	82
12	113	1120	603	473	228	394	375	259	802	376	133	77
13	109	868	566	513	218	368	353	305	601	344	127	119
14	111	614	1860	495	209	348	370	278	506	316	122	1630
15	110	490	3850	474	212	333	567	256	443	300	117	1400
16	108	415	4370	443	213	344	653	240	390	277	112	696
17	105	360	2260	402	196	328	594	236	354	257	109	516
18	107	387	1810	362	189	309	568	440	349	240	105	420
19	104	470	1580	327	186	366	529	410	378	536	102	374
20	99	1460	1420	491	188	650	487	369	610	687	98	572
21	96	2310	1290	757	292	658	440	332	876	368	97	426
22	95	4080	1180	701	433	642	403	305	615	316	94	353
23	93	3030	1090	645	451	650	380	308	553	284	92	312
24	91	1710	977	587	434	597	381	285	1090	255	88	3470
25	87	1380	897	526	448	548	481	257	1750	235	87	23300
26	87	1120	799	484	422	504	390	238	2230	219	84	5930
27	89	928	722	450	403	467	351	222	1000	205	79	2000
28	87	806	646	422	434	437	328	210	817	192	78	1500
29	90	709	584	388	---	412	312	200	669	181	77	1200
30	99	631	524	360	---	406	296	203	565	175	75	1100
31	95	---	466	346	---	438	---	206	---	167	74	---
MEAN	105	809	1058	508	291	525	445	269	666	392	120	1545
MAX	130	4080	4370	892	451	877	653	440	2230	1080	234	23300
MIN	87	102	328	327	186	309	296	200	176	167	74	71
IN.	.47	3.51	4.75	2.28	1.18	2.36	1.93	1.21	2.89	1.76	.54	6.71

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

MEAN	127	292	336	247	293	452	386	302	212	119	65.2	125
MAX	780	1139	1058	743	918	1170	1232	1746	714	392	205	1545
(WY)	1987	1986	1993	1991	1985	1975	1973	1990	1974	1993	1968	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	285		560		246	
HIGHEST ANNUAL MEAN					560	1993
LOWEST ANNUAL MEAN					50.2	1977
HIGHEST DAILY MEAN	4370	Dec 16	23300	Sep 25	23300	Sep 25 1993
LOWEST DAILY MEAN	46	Jun 8	71	Sep 7	4.5	Sep 14 1980
INSTANTANEOUS PEAK FLOW	--		36100	Sep 25	36100	Sep 25 1993
INSTANTANEOUS PEAK STAGE	--		27.56	Sep 25	27.56	Sep 25 1993
INSTANTANEOUS LOW FLOW	--		71	Sep 7, 8	4.0	Sep 16 1980
ANNUAL SEVEN-DAY MINIMUM	53	Jun 2	76	Aug 27	5.3	Sep 11 1980
ANNUAL RUNOFF (INCHES)	15.11		29.58		13.03	
10 PERCENT EXCEEDS	606		894		521	
50 PERCENT EXCEEDS	117		368		114	
90 PERCENT EXCEEDS	69		102		24	

OSAGE RIVER BASIN

06918460 TURNBACK CREEK ABOVE GREENFIELD, MO

LOCATION.--Lat 37°24'09", long 93°48'06", on line between secs.21 and 28, T.31 N., R.26 W., Dade County, Hydrologic Unit 10290106, on 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 mi^2.

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

REVISED RECORDS.--WDR MO-84-1 1968, 1970, 1972-74, 1976, 1978-79, 1983, 1986 (p).

GAGE.--Water-stage recorder. Datum of gage is 870.34 ft above sea level (levels by Missouri State Highways and Transportation Commission).

REMARKS.--Estimated daily discharges: May 12-18, July 4, July 19 to Aug. 3, and Sept. 26-30. Records good except for estimated daily discharges, 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.

REVISIONS.--The maximum discharge for the water year 1987 has been revised to 30,500 ft^3/s, Oct. 1, 1986, gage height, 24.5 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	134	76	570	384	358	753	615	354	268	617	180	97
2	128	92	525	359	341	852	582	337	257	543	170	101
3	121	111	484	351	328	823	547	333	249	477	160	110
4	113	171	452	354	314	752	548	318	742	425	154	105
5	108	160	420	717	303	697	758	299	590	387	210	97
6	102	148	393	589	294	628	708	286	442	728	483	94
7	100	138	374	504	284	583	673	275	377	759	289	93
8	109	129	352	475	274	544	628	264	470	681	243	103
9	98	121	372	469	265	508	581	382	779	506	217	100
10	93	114	815	499	258	476	542	409	1210	434	198	94
11	89	296	682	465	257	442	501	422	858	389	185	89
12	85	1320	616	506	258	416	466	380	917	396	170	86
13	82	863	565	580	248	392	441	350	682	350	159	126
14	81	673	1240	562	238	373	472	320	581	324	151	1220
15	79	558	2590	550	241	357	742	310	515	311	143	712
16	75	485	5360	531	244	377	724	300	450	286	135	459
17	72	430	2460	501	227	356	659	300	417	267	128	363
18	70	536	1670	468	223	334	639	700	495	253	122	304
19	68	612	1370	439	223	453	596	615	628	500	118	272
20	67	2800	1180	630	221	679	555	539	1220	600	113	367
21	69	3080	1030	783	525	634	511	475	1130	350	110	296
22	66	6800	926	710	606	688	475	430	798	320	105	257
23	64	3130	843	654	561	780	451	432	865	290	101	236
24	63	1560	763	600	521	703	429	408	1300	270	98	8240
25	61	1230	676	545	517	639	600	365	4470	250	96	23700
26	61	1010	614	508	496	586	500	333	2180	230	95	4350
27	63	869	546	476	480	542	451	310	1070	215	104	1800
28	60	773	499	449	534	506	416	291	882	205	102	1400
29	62	692	458	417	---	476	393	279	736	195	99	1100
30	65	622	430	390	---	537	373	308	636	185	97	1010
31	63	---	405	373	---	648	---	307	---	180	96	---
MEAN	82.9	987	957	511	344	566	553	369	874	385	156	1579
MAX	134	6800	5360	783	606	852	758	700	4470	759	483	23700
MIN	60	76	352	351	221	334	373	264	249	180	95	86
IN.	.38	4.37	4.38	2.34	1.42	2.59	2.45	1.69	3.87	1.76	.71	6.99

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

MEAN	139	314	327	256	321	480	426	336	254	156	95.9	150
MAX	921	1385	982	765	1020	1377	1291	1797	874	636	354	1579
(WY)	1987	1986	1988	1973	1985	1973	1973	1990	1993	1992	1982	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	336		612		271	
HIGHEST ANNUAL MEAN					612	1993
LOWEST ANNUAL MEAN					84.1	1981
HIGHEST DAILY MEAN	6800	Nov 22	23700	Sep 25	23700	Sep 25 1993
LOWEST DAILY MEAN	48	Sep 7	60	Oct 28	9.4	Oct 12 1980
INSTANTANEOUS PEAK FLOW	--		42700	Sep 25	42700	Sep 25 1993
INSTANTANEOUS PEAK STAGE	--		26.34	Sep 25	26.34	Sep 25 1993
INSTANTANEOUS LOW FLOW	--		59	Oct 28, 29	9.4	Oct 12-13 1980
ANNUAL SEVEN-DAY MINIMUM	53	Sep 1	62	Oct 23	10	Oct 8 1980
ANNUAL RUNOFF (INCHES)	18.15		32.95		14.60	
10 PERCENT EXCEEDS	696		864		571	
50 PERCENT EXCEEDS	132		417		130	
90 PERCENT EXCEEDS	68		98		32	

OSAGE RIVER BASIN

06918740 LITTLE SAC RIVER NEAR MORRISVILLE, MO

LOCATION.--Lat 37°28'58", long 93°29'07", SW ¼ SW ¼ 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 mi^2.

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	31	379	213	224	822	379	215	125	244	43	20
2	53	51	341	207	212	1180	373	206	116	228	46	20
3	47	76	312	208	200	932	325	244	117	192	37	27
4	42	115	286	1960	191	778	341	260	362	161	32	73
5	38	97	264	1080	185	723	665	217	579	136	87	44
6	35	78	249	719	178	576	540	195	325	599	187	29
7	32	67	235	557	172	502	509	180	241	380	108	26
8	28	58	222	467	165	440	520	171	229	291	78	59
9	25	51	544	423	159	389	439	196	708	206	62	145
10	26	46	893	412	154	345	392	230	3050	162	55	86
11	24	383	560	372	156	308	351	384	1180	179	61	60
12	23	2250	451	415	161	281	317	314	1340	305	57	52
13	22	978	392	538	149	260	315	265	597	154	46	102
14	20	549	1770	426	141	243	361	228	421	132	40	3710
15	19	390	5150	387	145	233	1550	200	331	122	36	1940
16	18	338	3140	357	161	273	1250	179	271	108	33	868
17	17	289	1570	326	142	293	860	181	232	92	30	548
18	17	412	1120	298	141	261	716	806	225	83	28	413
19	17	532	880	273	140	774	592	438	269	80	27	336
20	16	2850	688	860	138	1150	496	305	517	103	24	683
21	16	2600	563	894	569	852	421	248	917	124	23	470
22	16	5240	476	627	513	741	371	215	505	131	22	354
23	16	2170	414	514	393	724	336	215	385	87	21	289
24	16	1340	355	444	325	570	317	208	473	69	21	10500
25	15	1090	325	384	361	494	493	181	425	60	20	18600
26	15	855	298	345	367	428	370	160	425	54	20	5680
27	16	672	277	315	341	383	304	142	313	47	18	1990
28	16	563	261	292	415	347	265	128	253	43	19	1450
29	19	479	251	267	---	324	244	117	316	40	17	1170
30	25	417	237	244	---	347	228	122	203	38	17	983
31	25	---	230	234	---	364	---	145	---	35	16	---
MEAN	24.9	836	746	486	236	527	488	235	515	151	42.9	1691
MAX	59	5240	5150	1960	569	1180	1550	806	3050	599	187	18600
MIN	15	31	222	207	138	233	228	117	116	35	16	20
IN.	.12	3.93	3.63	2.36	1.04	2.56	2.30	1.15	2.43	.74	.21	7.96

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

MEAN	126	329	325	241	283	488	396	285	195	80.4	36.8	220
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	244		496		244	
HIGHEST ANNUAL MEAN					516	1973
LOWEST ANNUAL MEAN					58.6	1977
HIGHEST DAILY MEAN	5240	Nov 22	18600	Sep 25	18600	Sep 25 1993
LOWEST DAILY MEAN	11	Sep 6	15	Oct 25-26	.60	Sep 15 1980
INSTANTANEOUS PEAK FLOW	--		29100	Sep 25	29100	Sep 25 1993
INSTANTANEOUS PEAK STAGE	--		23.33	Sep 25	23.33	Sep 25 1993
INSTANTANEOUS LOW FLOW	--		15	Oct 21, 23-29, Aug 31	0.3	Sep 15 1980
ANNUAL SEVEN-DAY MINIMUM	15	Sep 1	16	Oct 20	1.6	Aug 27 1980
ANNUAL RUNOFF (INCHES)	14.02		28.42		13.98	
10 PERCENT EXCEEDS	531		873		531	
50 PERCENT EXCEEDS	80		261		84	
90 PERCENT EXCEEDS	25		26		12	

OSAGE RIVER BASIN

06918990 STOCKTON LAKE NEAR STOCKTON, MO

LOCATION.--Lat 37°41'38", long 93°45'55", SW ¼ SE ¼ SW ¼ 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 mi^2.

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, 1,380,000 ac-ft, Sept. 28, elevation, 884.52 ft; minimum, 772,000 ac-ft, Nov. 4, elevation, 862.68 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
OBSERVATION AT 24:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	865.73	892.83	872.60	875.69	870.75	869.41	870.23	871.73	869.71	871.70	873.01	872.28
2	865.49	862.69	872.71	875.45	870.64	869.64	870.17	871.61	869.66	871.70	873.04	872.30
3	865.44	862.71	872.80	875.26	870.47	869.81	870.15	871.50	869.62	871.53	873.04	872.33
4	865.41	862.68	872.88	875.42	870.31	869.84	870.21	871.39	869.26	871.39	873.02	872.32
5	865.24	862.70	872.99	875.42	870.19	869.95	870.26	871.21	869.46	871.24	873.12	872.30
6	865.08	862.72	873.04	875.38	870.03	870.02	870.24	870.98	869.44	871.49	873.12	872.29
7	865.05	862.77	873.11	875.34	869.87	870.12	870.32	870.81	869.33	871.73	873.10	872.28
8	864.99	862.80	873.19	875.30	869.72	870.15	870.38	870.70	869.50	871.85	873.08	872.28
9	864.98	862.81	873.46	875.28	869.63	870.16	870.48	870.63	869.60	872.08	873.06	872.26
10	865.02	862.87	873.56	875.23	869.58	870.14	870.59	870.54	869.90	872.18	873.08	872.28
11	865.03	863.20	873.64	875.11	869.56	870.10	870.70	870.45	870.07	872.25	873.11	872.28
12	864.84	863.82	873.79	874.93	869.52	869.99	870.64	870.30	870.21	872.22	873.06	872.20
13	864.68	864.08	873.94	874.76	869.50	869.98	870.75	870.20	870.30	872.26	873.02	872.53
14	864.62	864.26	875.05	874.56	869.49	869.98	870.85	870.04	870.30	872.36	872.96	873.25
15	864.40	864.41	876.73	874.36	869.47	869.89	870.89	869.89	870.19	872.39	872.91	873.51
16	864.26	864.53	877.62	874.15	869.32	869.83	870.98	869.76	870.00	872.42	872.86	873.50
17	864.15	864.62	878.20	873.92	869.13	869.66	871.22	869.69	870.07	872.51	872.81	873.37
18	864.06	864.95	878.28	873.70	868.96	869.52	871.40	870.18	869.99	872.52	872.74	873.20
19	864.08	865.23	878.24	873.43	868.85	869.46	871.60	870.38	870.14	872.65	872.68	873.15
20	864.06	866.60	878.16	873.45	868.92	869.58	871.69	870.40	870.41	872.73	872.61	873.13
21	864.06	867.59	878.04	873.37	869.00	869.75	871.79	870.28	870.42	872.76	872.55	873.03
22	864.06	870.22	877.92	873.23	868.96	869.80	871.86	870.20	870.43	872.79	872.45	872.91
23	863.92	870.71	877.60	873.03	868.93	869.81	871.86	870.16	870.69	872.83	872.40	873.19
24	863.92	871.16	877.55	872.85	868.90	869.85	872.15	870.01	870.83	872.92	872.39	876.80
25	863.92	871.54	877.33	872.63	868.89	869.96	872.17	869.88	871.47	872.93	872.31	882.45
26	863.73	871.81	877.12	872.39	869.01	870.04	872.13	869.82	871.65	872.93	872.32	883.75
27	863.48	872.04	876.88	872.16	869.13	870.17	872.15	869.76	872.01	872.94	872.32	884.25
28	863.38	872.22	876.67	871.87	869.28	870.31	872.02	869.69	871.97	872.96	872.31	884.52
29	863.20	872.37	876.45	871.60	---	870.30	871.95	869.78	871.66	872.97	872.31	884.50
30	862.99	872.49	876.18	871.32	---	870.39	871.85	869.81	871.50	872.97	872.28	884.48
31	862.89	---	875.95	871.01	---	870.30	---	869.76	---	873.05	872.30	---
MAX	865.73	892.83	878.28	875.69	870.75	870.39	872.17	871.73	872.01	873.05	873.12	884.52
MIN	862.89	862.68	872.60	871.01	868.85	869.41	870.15	869.69	869.26	871.24	872.28	872.20
(-)	777000	1017000	1114000	977000	932000	958000	1000000	944000	990000	1032000	1012000	1381000
(=)	-72000	+240000	+97000	-137000	-45000	+26000	+42000	-56000	+46000	+42000	-20000	+369000

CAL YR 1992. . . . .+291000
WTR YR 1993. . . . .+532000

(-) 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 ¼ 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 mi^2, 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2940	1180	378	4720	5120	1600	3620	2450	1660	2390	117	77
2	3280	1780	194	4830	2510	1720	2860	2970	1740	2830	103	81
3	991	849	175	4840	3420	1360	2380	3070	1270	3850	99	89
4	449	451	163	4830	2850	2560	1550	2530	1730	3200	98	81
5	1920	267	148	3160	2510	2360	1990	3570	1370	2720	104	79
6	2200	97	143	3000	2530	1740	2950	3380	1520	1220	429	77
7	1330	87	139	2910	2460	906	1620	2800	2680	1020	639	77
8	653	83	132	2710	2760	1560	1280	2940	2900	439	438	651
9	92	78	574	2420	1820	1810	1360	3260	2150	318	569	610
10	75	77	1490	2530	1280	1800	278	2670	2450	260	228	87
11	71	437	2050	3100	1220	1970	266	3570	2010	227	95	78
12	1950	1420	378	4870	1710	2240	1780	3660	1580	266	481	75
13	2230	954	555	5050	1160	2130	788	3420	2000	246	673	240
14	1350	447	3820	4980	146	1000	1760	2970	2070	217	1040	1770
15	1770	233	3480	4880	1320	2930	3420	2980	255	199	926	540
16	1550	197	2710	4980	2210	1950	2160	2860	2220	175	553	1140
17	1220	173	762	4830	2830	3050	962	3310	1880	161	763	2630
18	938	274	2030	4810	3090	3390	417	3260	2380	149	1080	3620
19	77	530	4750	4990	2870	3430	388	691	2060	146	1400	3030
20	82	2000	5070	5210	505	2350	1110	1210	2280	149	948	3180
21	74	2910	4820	5070	273	322	1040	3120	2370	222	714	3340
22	81	4910	4150	4960	2080	2690	922	3070	1860	149	987	2450
23	1560	2170	4940	5030	2680	3550	262	3190	1350	140	650	2420
24	270	607	4890	4990	2900	2360	244	3520	1970	130	501	6760
25	82	544	4890	4860	2270	1080	311	2890	1000	122	713	12800
26	1660	480	4880	4910	335	1270	2660	1820	2260	117	177	4510
27	2860	351	4540	4950	200	327	2810	1840	1560	113	80	1430
28	1530	299	4910	5050	196	306	2850	1680	2910	108	89	662
29	2970	261	4820	4990	---	1470	2740	1460	2620	105	80	2610
30	2690	616	5030	4980	---	1780	2660	1930	2880	104	79	3280
31	1870	---	4970	4950	---	3290	---	1580	---	102	78	---
MEAN	1317	825	2645	4464	1973	1945	1648	2699	1966	697	482	1949
MAX	3280	4910	5070	5210	5120	3550	3620	3660	2910	3850	1400	12800
MIN	71	77	132	2420	146	306	244	691	255	102	78	75
IN.	1.18	.71	2.36	3.98	1.59	1.74	1.42	2.41	1.70	.62	.43	1.68

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

MEAN	554	647	1210	1375	1220	1598	1928	1647	1371	1057	850	949
MAX	1360	1933	3983	4464	2763	4230	4613	3263	4863	3226	2488	1949
(WY)	1990	1986	1986	1993	1988	1975	1974	1983	1990	1990	1992	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1102		1887		1200	
HIGHEST ANNUAL MEAN					1887	1993
LOWEST ANNUAL MEAN					256	1977
HIGHEST DAILY MEAN	5070	Dec 20	12800	Sep 25	12800	Sep 25 1993
LOWEST DAILY MEAN	60	May 31	71	Oct 11	25	Mar 25 1977
INSTANTANEOUS PEAK FLOW	--		13300	Sep 25	14800	Oct 1 1986
INSTANTANEOUS PEAK STAGE	--		23.71	Sep 25	24.91	Feb 23 1985
INSTANTANEOUS LOW FLOW	--		46	Oct 19	24	Mar 25 1977
ANNUAL SEVEN-DAY MINIMUM	63	May 28	80	Sep 1	33	Oct 20 1973
ANNUAL RUNOFF (INCHES)	11.61		19.83		12.62	
10 PERCENT EXCEEDS	3190		4810		3200	
50 PERCENT EXCEEDS	559		1680		589	
90 PERCENT EXCEEDS	82		107		67	

OSAGE RIVER BASIN

06919500 CEDAR CREEK NEAR PLEASANT VIEW, MO

LOCATION.--Lat 37°50'03", long 93°52'31", in NE ¼ 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 mi^2, 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.--Estimated daily discharges: June 25 to July 5 and Sept. 27-28. Records good except for periods of estimated daily discharges, which are poor. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	43	439	215	207	982	580	231	476	2500	32	4.7
2	69	33	383	195	197	1720	599	201	358	3000	31	5.1
3	57	63	331	228	186	1620	498	215	420	1200	37	37
4	48	78	289	1160	183	1210	358	517	310	500	28	19
5	41	142	254	1570	185	904	744	374	251	300	26	13
6	34	154	228	785	190	720	1020	264	203	1200	32	11
7	30	105	212	542	203	592	656	203	171	3510	46	7.6
8	26	82	197	452	187	477	485	171	148	1350	46	19
9	23	72	488	395	168	387	393	830	222	711	43	33
10	21	69	2500	373	155	323	323	1850	196	434	45	27
11	18	1190	1390	347	154	271	269	1440	195	288	35	15
12	17	6110	730	523	220	233	226	874	225	213	29	10
13	17	5710	551	1660	318	208	199	600	291	170	25	108
14	16	1290	6100	1190	263	190	484	457	148	143	21	3850
15	14	707	10100	666	207	177	1890	324	105	263	19	1900
16	11	519	9290	549	196	179	1770	251	79	237	16	663
17	10	406	5250	546	192	190	961	215	69	155	15	330
18	9.1	387	1530	523	187	188	696	3270	102	112	13	216
19	9.2	2030	1060	419	184	192	597	5660	426	114	12	195
20	8.4	3180	840	1350	178	466	515	1590	1140	219	11	662
21	7.5	5750	697	2890	961	688	400	839	762	255	10	368
22	7.7	7520	587	1530	1510	638	315	604	312	1040	9.8	235
23	6.3	9840	493	979	775	2430	269	717	184	463	9.0	225
24	5.6	5550	402	748	493	1390	240	1980	1500	208	8.5	7500
25	9.5	1900	343	568	401	861	500	1010	2000	118	7.4	20900
26	8.2	1800	302	452	380	653	863	577	700	81	6.6	15100
27	6.6	1050	267	384	370	508	458	387	400	68	6.1	6000
28	5.9	767	246	336	427	411	292	286	250	54	5.7	1500
29	8.1	620	233	293	---	345	326	591	160	45	5.2	650
30	10	513	231	250	---	307	274	1210	140	39	5.0	400
31	17	---	234	220	---	541	---	822	---	34	5.0	---
MEAN	21.3	1923	1490	721	331	645	573	921	398	614	20.7	2033
MAX	88	9840	10100	2890	1510	2430	1890	5660	2000	3510	46	20900
MIN	5.6	33	197	195	154	177	199	171	69	34	5.0	4.7
IN.	.06	5.11	4.09	1.98	.82	1.77	1.52	2.53	1.06	1.68	.06	5.40

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

MEAN	180	338	304	265	394	584	514	455	353	253	86.2	197
MAX	3055	1923	1490	1063	2307	2275	2458	2969	1753	2229	641	2033
(WY)	1987	1993	1993	1949	1985	1973	1973	1961	1981	1958	1950	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	501		807		326	
HIGHEST ANNUAL MEAN					807	1993
LOWEST ANNUAL MEAN					16.0	1954
HIGHEST DAILY MEAN	10100	Dec 15	20900	Sep 25	26200	Jul 17 1958
LOWEST DAILY MEAN	5.6	Oct 24	4.7	Sep 1	.00	Many Years
INSTANTANEOUS PEAK FLOW	--		22700	Sep 25	37000	Jul 17 1958
INSTANTANEOUS PEAK STAGE	--		25.44	Sep 25	27.35	Jul 17 1958
INSTANTANEOUS LOW FLOW	--		4.5	Sep 2	.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	7.1	Oct 22	5.3	Aug 27	.00	Many Years
ANNUAL RUNOFF (INCHES)	16.24		26.09		10.54	
10 PERCENT EXCEEDS	1100		1600		667	
50 PERCENT EXCEEDS	77		289		71	
90 PERCENT EXCEEDS	18		15		1.0	

OSAGE RIVER BASIN

06919900 SAC RIVER NEAR CAPLINGER MILLS, MO

LOCATION.--Lat 37°52'12", long 93°48'11", in NW ¼ NE ¼ SW ¼ 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 mi^2.

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: July 14 to Aug. 25 and Sept. 27-30. Records good except for estimated daily discharges, which are poor. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3390	1630	1510	5170	5530	2510	4230	2920	2480	5340	180	107
2	3100	2230	810	5290	3870	4040	4000	3180	1930	8190	175	111
3	1980	1610	701	5280	3740	3200	3690	3520	2560	6570	170	343
4	821	401	631	6500	3370	4190	2190	3910	2280	4240	170	153
5	1430	881	559	5410	3270	4220	2740	3530	1890	3760	200	123
6	2650	318	512	4210	3200	2460	3890	3960	1940	3860	600	113
7	2030	250	486	3890	3080	2020	2630	3470	3170	6130	700	109
8	953	210	457	3730	3370	2190	2080	3390	3180	2760	550	164
9	276	191	976	3310	3010	2400	2460	4050	3030	1390	650	1310
10	133	185	4040	3260	1970	2330	832	5410	2410	896	350	170
11	122	1230	4340	3830	1890	2450	667	4990	2880	659	250	123
12	1340	7990	2090	5480	2380	2750	1510	3890	2030	534	700	110
13	2100	7890	1050	6810	2400	2690	1630	4160	2180	581	1000	161
14	2320	3190	9990	6460	795	954	1460	3810	2510	500	1200	7270
15	1650	1320	16900	5800	1570	3090	5220	3490	921	600	1000	4020
16	1750	982	17000	5720	2690	2960	5400	3450	3100	500	800	1250
17	1380	786	9450	5680	2940	2400	2360	3880	2380	350	1000	3970
18	1120	777	3370	5510	3420	3760	1490	7380	2390	325	1300	3690
19	366	2790	6160	5650	3380	4000	1150	8050	3040	300	1500	3400
20	107	5100	6150	6590	1570	3720	1710	3100	3130	400	1200	4720
21	109	10300	5890	8460	1370	1290	1820	4150	3260	1000	900	3440
22	101	12500	5320	7060	3330	2630	1550	3940	2790	1500	1100	3290
23	686	17700	5500	6220	3610	6280	838	4290	1900	1200	800	3450
24	1310	9320	5590	5910	3350	4760	653	5630	3430	700	600	11800
25	116	3760	5510	5670	3180	2600	1080	4510	2810	500	400	42600
26	399	3200	5460	5600	1680	2040	2790	2460	3050	350	900	35500
27	3210	2010	5330	5560	732	1070	3550	2890	2370	250	155	15000
28	2150	1470	5380	5600	886	824	3310	2150	3110	225	125	5000
29	2320	1210	5280	5530	---	1590	3460	2720	3010	200	130	3000
30	3290	1040	5370	5510	---	2000	3540	4150	3100	190	111	4000
31	2170	---	5540	5410	---	3540	---	3170	---	185	140	---
MEAN	1448	3416	4753	5487	2699	2805	2464	3987	2609	1748	615	5283
MAX	3390	17700	17000	8460	5530	6280	5400	8050	3430	8190	1500	42600
MIN	101	185	457	3260	732	824	653	2150	921	185	111	107
IN.	.92	2.11	3.03	3.50	1.55	1.79	1.52	2.54	1.61	1.11	.39	3.26

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

MEAN	1216	1270	1788	1655	1817	2401	2515	2222	1782	1291	938	1220
MAX	11070	4069	5838	5487	5202	5630	5394	5628	5232	3551	2850	5283
(WY)	1987	1986	1986	1993	1985	1985	1985	1990	1990	1992	1992	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1819		3109		1675	
HIGHEST ANNUAL MEAN					3109	1993
LOWEST ANNUAL MEAN					399	1977
HIGHEST DAILY MEAN	17700	Nov 23	42600	Sep 25	51200	Oct 2 1986
LOWEST DAILY MEAN	96	Jun 30	101	Oct 22	44	Oct 11 1980
INSTANTANEOUS PEAK FLOW	--		51200	Sep 25	60000	Oct 2 1986
INSTANTANEOUS PEAK STAGE	--		29.93	Sep 25	30.00	Oct 2 1986
INSTANTANEOUS LOW FLOW	--		98	Oct 26	44	Oct 11 1980
ANNUAL SEVEN-DAY MINIMUM	102	May 30	126	Aug 27	47	Oct 7 1980
ANNUAL RUNOFF (INCHES)	13.68		23.32		12.57	
10 PERCENT EXCEEDS	4230		5660		4000	
50 PERCENT EXCEEDS	1020		2510		986	
90 PERCENT EXCEEDS	146		250		91	

OSAGE RIVER BASIN

06921070 POMME DE TERRE RIVER NEAR POLK, MO

LOCATION.--Lat 37°40'56", long 93°22'12", in NE ¼ NW ¼ NW ¼ 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 mi^2.

WATER-DISCHARGE RECORDS

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. 4-5, 17-30, and Mar. 2-3, 20-22. Records fair except for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	29	195	191	215	867	361	207	141	119	93	13
2	28	41	185	181	198	1000	325	191	212	202	202	17
3	25	81	175	205	184	850	270	205	229	229	99	20
4	22	138	170	3430	171	818	253	458	254	175	67	17
5	21	77	165	1270	162	799	550	352	611	104	155	26
6	19	53	162	793	152	616	536	254	287	100	357	31
7	18	44	145	660	145	514	471	210	206	178	183	24
8	17	40	135	579	139	440	458	283	370	139	114	25
9	15	35	326	542	135	378	377	246	477	109	85	28
10	14	32	609	555	127	331	317	334	2210	83	71	51
11	13	445	312	507	128	284	271	643	699	79	63	44
12	13	2520	214	634	136	253	229	414	707	1450	60	31
13	12	861	165	906	134	227	210	334	414	243	59	42
14	11	465	1030	593	123	208	363	297	300	215	52	5910
15	11	308	5010	525	123	198	2650	230	243	157	45	1570
16	11	229	3410	488	134	248	1440	195	188	135	35	605
17	11	183	1000	439	123	326	832	183	153	111	28	378
18	10	338	700	386	108	269	703	1520	193	95	25	263
19	11	628	580	350	110	475	593	630	193	86	23	499
20	9.7	4440	520	1460	118	600	525	418	445	83	21	2210
21	10	2680	480	1140	573	500	427	305	732	111	19	745
22	9.7	9260	440	732	626	600	364	243	343	483	19	455
23	9.8	1960	400	592	416	712	325	239	222	125	17	346
24	10	979	360	512	323	540	302	229	418	91	17	20400
25	11	779	320	446	330	447	659	184	413	74	16	24300
26	11	587	300	384	343	383	410	146	263	64	16	7990
27	11	445	280	345	317	331	314	122	188	56	15	2040
28	11	362	260	314	492	297	262	107	147	50	14	1040
29	15	296	240	274	---	267	246	101	122	43	14	744
30	23	230	220	237	---	245	221	103	102	39	14	582
31	22	---	205	224	---	379	---	113	---	37	14	---
MEAN	15.0	952	604	642	224	465	509	306	383	170	64.9	2348
MAX	31	9260	5010	3430	626	1000	2650	1520	2210	1450	357	24300
MIN	9.7	29	135	181	108	198	210	101	102	37	14	13
IN.	.06	3.85	2.52	2.68	.85	1.94	2.06	1.28	1.55	.71	.27	9.49

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

MEAN	156	363	381	273	336	563	493	331	218	79.6	42.2	184
MAX	1094	1408	1488	822	1496	1673	1491	1341	1043	326	154	2348
(WY)	1987	1986	1983	1991	1985	1973	1983	1990	1981	1976	1985	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	228		554		284	
HIGHEST ANNUAL MEAN					554	1993
LOWEST ANNUAL MEAN					124	1980
HIGHEST DAILY MEAN	9260	Nov 22	24300	Sep 25	24300	Sep 25 1993
LOWEST DAILY MEAN	9.7	Oct 20, 22	9.7	Oct 20, 22	.30	Aug 10-15 1980
INSTANTANEOUS PEAK FLOW	--		34300	Sep 24	34300	Sep 24 1993
INSTANTANEOUS PEAK STAGE	--		27.10	Sep 24	27.10	Sep 24 1993
INSTANTANEOUS LOW FLOW	--		9.4	Oct 20, 22-23	.30	Aug 10-15 1980
ANNUAL SEVEN-DAY MINIMUM	10	Oct 18	10	Oct 18	.34	Aug 9 1980
ANNUAL RUNOFF (INCHES)	1.27		27.27		13.99	
10 PERCENT EXCEEDS	405		785		568	
50 PERCENT EXCEEDS	94		229		89	
90 PERCENT EXCEEDS	16		19		11	

OSAGE RIVER BASIN

06921070 POMME DE TERRE RIVER NEAR POLK, MO--Continued
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1983 to February 1986, November 1992 to current year.

REMARKS.--Reestablished ambient water-quality monitoring network station.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
17...	1300	183	11.0	405	7.9	11.1	100	13	310	150	B148
JAN											
12...	1100	536	3.0	352	8.0	13.2	98	<10	K350	350	165
MAR											
10...	1325	331	9.0	348	8.7	13.7	117	<10	21	K1500	173
MAY											
05...	1300	337	18.0	335	7.5	8.5	89	23	K660	K1300	161
JUL											
27...	1030	56	27.5	395	8.2	5.6	70	19	670	140	212
SEP											
28...	1130	1040	15.0	302	7.8	9.1	90	16	K1500	490	145

B--Based on the cation/anion balance, this value is considered suspect.
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, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV											
17...	1.40	0.070	0.020	0.20	0.080	0.050	200	43	22	5.0	3.8
JAN											
12...	1.20	<0.010	0.010	0.23	0.050	0.040	180	40	20	5.0	2.3
MAR											
10...	0.300	<0.010	<0.010	0.27	0.030	0.020	170	37	20	4.7	2.1
MAY											
05...	0.270	0.010	0.030	0.48	0.110	0.050	170	36	19	4.8	2.9
JUL											
27...	--	--	--	0.70	0.160	--	--	--	--	--	--
SEP											
28...	1.10	0.010	0.040	0.55	0.120	0.100	--	--	--	--	--

OSAGE RIVER BASIN

06921070 POMME DE TERRE RIVER NEAR POLK, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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-PENDED (MG/L) (00530)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	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)
NOV 17...	12	12	<0.10	222	<1	--	--	<1	<1.0	<1
JAN 12...	11	12	<0.10	196	20	80	40	3	2.2	<1
MAR 10...	10	11	<0.10	199	8	70	30	<1	<1.0	<1
MAY 05...	8.2	10	0.10	189	25	250	10	<1	<1.0	1
JUL 27...	--	--	--	229	19	350	20	--	--	--
SEP 28...	--	--	--	174	18	370	50	--	--	--

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)
NOV 17...	13	1	<1	20	18	--	<10	3	<0.05	<0.05
JAN 12...	16	--	--	15	11	0.10	<10	3	<0.05	<0.05
MAR 10...	8	<1	<1	30	16	0.20	<10	<3	--	--
MAY 05...	27	1	<1	70	17	0.10	10	6	--	--

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV 17...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN 12...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

OSAGE RIVER BASIN

06921200 LINDLEY CREEK NEAR POLK, MO

LOCATION.--Lat 37°45'02", long 93°15'58", in NE ¼ SE ¼ 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 mi^2.

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 fair except for period Oct. 8-30, 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 September 1914 reached a stage of about 25.2 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	13	113	62	67	399	221	57	70	57	189	3.5
2	2.5	22	98	62	61	427	173	51	102	63	95	36
3	2.3	60	81	83	56	299	134	80	100	222	31	53
4	2.1	125	72	739	53	283	133	89	82	84	18	6.5
5	2.0	44	62	268	49	276	213	65	63	38	24	5.6
6	1.9	25	60	197	47	197	150	51	46	48	162	5.2
7	1.7	19	58	172	44	161	175	46	39	104	55	5.0
8	1.5	17	53	148	42	137	180	40	276	70	30	80
9	1.4	15	299	141	39	117	141	37	184	50	20	37
10	1.4	12	398	140	38	101	117	53	217	30	17	13
11	1.2	228	214	132	40	82	93	55	132	150	21	7.8
12	1.2	995	166	241	43	72	75	43	99	903	40	6.0
13	1.1	300	133	360	39	66	70	40	69	274	22	31
14	1.0	174	727	190	35	59	239	32	51	259	15	5220
15	1.0	119	4340	170	36	57	1280	27	39	243	11	464
16	1.0	84	977	175	42	108	398	25	30	140	8.5	248
17	1.0	65	357	161	38	89	249	46	23	90	6.9	178
18	1.0	139	265	137	34	67	213	3240	89	61	5.9	131
19	.95	319	221	114	34	182	225	305	64	47	5.4	1600
20	.95	3370	202	704	39	243	196	211	57	47	5.1	3300
21	.95	976	174	397	266	162	146	164	50	102	4.9	319
22	.95	5330	151	271	164	239	121	136	28	56	4.6	224
23	.95	524	132	212	119	284	105	157	20	39	4.4	313
24	.95	312	106	174	94	188	94	142	17	27	4.2	10400
25	.95	334	100	145	102	152	212	101	271	20	4.0	9560
26	1.6	270	82	128	98	131	116	77	114	16	3.9	794
27	1.9	208	75	116	86	114	88	62	57	13	3.7	452
28	1.7	179	71	105	160	101	70	50	37	11	3.7	216
29	3.5	153	72	82	---	89	71	63	25	8.8	3.7	160
30	22	131	73	69	---	230	64	118	18	7.7	3.7	138
31	18	---	71	70	---	265	---	127	---	6.8	3.5	---
MEAN	2.69	485	323	199	70.2	173	192	187	82.3	106	26.6	1134
MAX	22	5330	4340	739	266	427	1280	3240	276	903	189	10400
MIN	.95	12	53	62	34	57	64	25	17	6.8	3.5	3.5
IN.	.03	4.84	3.32	2.05	.65	1.79	1.91	1.92	.82	1.09	.27	11.30

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

MEAN	80.7	103	127	96.0	127	199	167	141	77.4	35.7	14.7	62.4
MAX	812	566	526	358	764	855	650	843	421	534	100	1134
(WY)	1987	1986	1983	1973	1985	1973	1983	1961	1985	1958	1958	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	97.2		247		102	
HIGHEST ANNUAL MEAN					247	1993
LOWEST ANNUAL MEAN					25.9	1964
HIGHEST DAILY MEAN	5330	Nov 22	10400	Sep 24	12000	Oct 1 1986
LOWEST DAILY MEAN	.50	Sep 8	.95	Oct 19-25	.00	Most Years
INSTANTANEOUS PEAK FLOW	--		19400	Sep 24	31900	Oct 1 1986
INSTANTANEOUS PEAK STAGE	--		20.49	Sep 24	23.60	May 5 1961
INSTANTANEOUS LOW FLOW	--		.95	Oct 19-25	.00	Most Years
ANNUAL SEVEN-DAY MINIMUM	.53	Sep 3	.95	Oct 19	.00	Most Years
ANNUAL RUNOFF (INCHES)	11.81		29.99		12.38	
10 PERCENT EXCEEDS	152		299		181	
50 PERCENT EXCEEDS	18		77		25	
90 PERCENT EXCEEDS	.81		4.0		.42	

OSAGE RIVER BASIN

06921325 POMME DE TERRE LAKE NEAR HERMITAGE, MO

LOCATION.--Lat 37°54'06", long 93°19'05", in NE ¼ 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 mi^2.

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, 506,000 ac-ft, Sept. 27, 1993, elevation, 864.58 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, 506,000 ac-ft, Sept. 27, elevation 864.58 ft; minimum, 234,000 ac-ft, Oct. 28-29, elevation, 838.58 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	839.07	838.67	848.74	846.82	839.52	841.60	842.19	841.60	842.36	841.24	844.60	841.84
2	839.06	838.72	848.43	846.32	839.59	842.11	842.21	841.44	842.10	841.42	844.60	841.73
3	839.05	838.72	848.08	845.90	839.66	842.63	842.14	841.31	841.77	842.10	844.60	841.73
4	839.04	838.78	847.72	845.62	839.71	842.85	842.06	841.17	841.58	842.28	844.61	841.65
5	839.02	838.82	847.37	845.22	839.77	842.90	842.05	841.07	841.53	842.33	844.58	841.52
6	839.01	838.83	847.01	846.02	839.81	842.86	842.06	841.04	841.52	842.36	844.52	841.40
7	838.99	838.84	846.66	845.69	839.85	842.75	842.06	841.05	841.44	843.15	844.47	841.28
8	839.00	838.86	846.28	845.33	839.90	842.61	842.03	841.08	841.38	843.32	844.39	841.28
9	838.95	838.86	845.94	844.92	839.94	842.43	841.98	841.11	841.49	843.39	844.29	841.20
10	838.92	838.84	845.93	844.55	839.97	842.21	841.91	841.16	841.56	843.43	844.20	841.09
11	838.90	838.95	845.80	844.16	840.02	841.97	841.79	841.24	841.97	843.44	844.12	840.98
12	838.88	839.63	845.52	843.76	840.08	841.70	841.64	841.35	841.95	843.76	844.03	840.86
13	838.86	840.63	845.22	843.54	840.11	841.64	841.53	841.40	841.88	844.06	843.93	840.75
14	838.83	840.57	845.43	843.25	840.14	841.62	841.38	841.44	841.73	844.16	843.84	841.82
15	838.81	840.34	846.95	842.88	840.16	841.58	841.83	841.45	841.54	844.32	843.74	844.64
16	838.79	840.08	850.70	842.48	840.26	841.58	843.20	841.47	841.34	844.40	843.63	844.91
17	838.77	839.78	851.33	842.06	840.29	841.57	843.40	841.46	841.12	844.43	843.52	844.90
18	838.75	839.58	851.35	841.63	840.32	841.57	843.40	842.60	841.07	844.44	843.42	844.67
19	838.72	839.70	851.18	841.18	840.34	841.59	843.30	844.02	841.09	844.44	843.30	844.38
20	838.70	840.10	850.99	840.77	840.34	841.76	843.41	844.22	841.13	844.46	843.18	845.90
21	838.68	843.54	850.74	841.17	840.44	842.03	843.17	844.28	841.17	844.53	843.07	846.63
22	838.66	845.14	850.46	841.07	840.76	842.08	842.88	844.28	841.22	844.65	842.95	846.51
23	838.65	849.22	850.18	840.78	840.94	842.42	842.54	844.29	841.17	844.69	842.82	846.30
24	838.64	849.65	849.88	840.41	841.07	842.51	842.28	844.36	841.19	844.70	842.71	847.45
25	838.62	849.94	849.54	840.03	841.23	842.50	842.19	844.17	841.27	844.70	842.59	857.39
26	838.60	849.92	849.16	839.60	841.32	842.45	842.13	843.89	841.36	844.69	842.47	863.74
27	838.60	849.84	848.81	839.39	841.36	842.40	842.05	843.60	841.32	844.67	842.35	864.58
28	838.58	849.59	848.48	839.33	841.42	842.31	841.99	843.30	841.24	844.65	842.29	864.37
29	838.58	849.31	848.12	839.31	---	842.20	841.89	843.00	841.16	844.63	842.17	864.00
30	838.64	849.04	847.75	839.33	---	842.06	841.74	842.83	841.17	844.60	842.06	863.57
31	838.63	---	847.30	839.44	---	842.09	---	842.63	---	844.57	841.96	---
MAX	839.07	849.94	851.35	846.82	841.42	842.90	843.41	844.36	842.36	844.70	844.61	864.58
MIN	838.58	740.63	845.22	839.31	839.52	841.57	841.38	841.04	841.07	841.24	841.96	840.75
(-)	234000	326000	309000	241000	257000	262000	259000	267000	255000	284000	261000	492000
(=)	-4000	+92000	-17000	-68000	+16000	+5000	-3000	+8000	-12000	+29000	-23000	+231000

CAL YR 1992. . . . . +59000
WTR YR 1993. . . . .+254000

(-) 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 ¼ NW ¼ 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 mi^2.

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

GAGE.-- Water-stage recorder. Datum of gage is 749.33 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Several observations of water temperature and specific conductance were made during the year. Flow regulated by Pomme de Terre Lake (station 06921325) 0.5 mi upstream. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	45	1970	2440	79	236	902	1010	1500	446	88	405
2	45	45	1960	2430	79	309	974	1020	1490	470	88	406
3	45	45	1960	2420	79	538	974	1020	1260	278	88	405
4	45	45	1950	2430	79	1070	975	1020	672	83	88	404
5	45	45	1950	2420	79	1460	975	742	462	83	347	403
6	45	45	1940	2420	79	1460	975	360	460	94	786	403
7	45	44	1940	2410	79	1450	975	246	458	89	404	402
8	46	44	1920	2400	79	1450	975	248	457	85	408	403
9	45	44	1920	2400	79	1450	975	251	455	85	410	401
10	45	44	1920	2390	79	1450	974	254	453	85	412	401
11	45	47	1960	2390	80	1450	975	255	676	85	412	400
12	45	215	1990	2380	80	1040	974	257	982	86	412	399
13	45	1120	1970	2380	80	493	974	259	978	86	412	403
14	45	1600	1050	2380	80	492	982	260	976	87	412	419
15	45	1580	1080	2370	80	492	999	261	973	87	412	407
16	45	1570	1060	2360	81	493	1220	264	970	87	414	616
17	45	1300	1570	2350	81	493	1500	266	652	87	415	1200
18	45	780	2070	2350	82	492	1500	278	434	87	415	1540
19	45	524	2070	2340	81	494	1500	346	433	87	414	1560
20	44	553	2060	2340	80	495	1810	477	432	87	414	1560
21	44	536	2060	2340	84	495	1970	475	431	88	414	1550
22	44	582	2050	2340	82	694	1960	475	431	88	415	1550
23	45	549	2050	2330	81	978	1770	476	431	88	413	1050
24	45	546	2050	2330	81	974	1490	1010	429	88	412	667
25	45	1130	2040	2320	137	974	1490	1550	435	88	412	671
26	45	1590	2040	1870	235	974	1230	1540	431	88	411	1400
27	45	1760	2030	975	235	974	668	1530	430	88	214	3220
28	45	2000	2020	510	235	973	1000	1520	430	88	381	3570
29	45	1980	2020	330	---	973	1010	1520	224	88	407	3550
30	45	1980	2270	80	---	974	1010	1520	220	88	407	3540
31	45	---	2450	79	---	976	---	1510	---	88	406	---
MEAN	44.9	746	1916	2042	98.7	880	1190	717	635	117	372	1110
MAX	46	2000	2450	2440	235	1460	1970	1550	1500	470	786	3570
MIN	44	44	1050	79	79	236	668	246	220	83	88	399
IN.	.08	1.35	3.59	3.83	.17	1.65	2.16	1.34	1.15	.22	.70	2.01

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

MEAN	241	510	716	544	590	871	877	842	513	310	105	138
MAX	1131	2872	2886	2042	2100	3487	2948	4799	2157	1635	480	1110
(WY)	1987	1987	1986	1993	1975	1985	1984	1961	1985	1981	1978	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	430		827		521	
HIGHEST ANNUAL MEAN					1163	1973
LOWEST ANNUAL MEAN					67.8	1963
HIGHEST DAILY MEAN	2450	Dec 31	3570	Sep 28	9000	May 9 1961
LOWEST DAILY MEAN	44	Sep 3	44	Oct 20-22	.00	Several Years
INSTANTANEOUS PEAK FLOW	--		3630	Sep 27	9000	May 9 1961
INSTANTANEOUS PEAK STAGE	--		9.51	Sep 27	15.02	May 9 1961
INSTANTANEOUS LOW FLOW	--		44	Oct 20-22	.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	44	Nov 4	44	Nov 4	.00	At Times
ANNUAL RUNOFF (INCHES)	9.52		18.27		11.52	
10 PERCENT EXCEEDS	1530		2050		1900	
50 PERCENT EXCEEDS	119		460		103	
90 PERCENT EXCEEDS	45		45		43	

OSAGE RIVER BASIN

06921760 SOUTH GRAND RIVER NEAR CLINTON, MO

LOCATION.--Lat 38°22'16", long 93°51'23", in NW ¼ SW ¼ SE ¼ sec. 1, T.41 N., R.27 W., 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 mi^2.

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: Oct. 4-20, Mar. 13-16, and July 10 to Sept. 30. Discharge is calculated using fall computations due to backwater from Harry S. Truman Reservoir. Water-discharge records poor. U.S. Army Corps of Engineers satellite telemeter at base and auxiliary gage.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 45,500 ft^3/s, July 8; minimum daily, 30 ft^3/s, Oct. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	54	1750	533	1220	524	2430	4720	5150	1400	2500	500
2	65	330	1070	561	1020	2020	3090	2440	2360	5700	1500	350
3	59	562	777	720	896	6080	2360	2850	1580	15800	1200	700
4	56	382	626	3800	802	9620	1530	7320	1370	17800	900	400
5	52	294	509	8100	727	6440	1320	7460	2040	8480	600	340
6	50	233	480	7200	663	4140	1220	4730	1800	8630	400	280
7	49	182	458	4380	607	2470	1050	3550	2320	42600	350	240
8	48	164	503	3080	556	1640	909	10200	3150	45500	320	200
9	47	143	1290	2340	512	1230	968	9120	2000	34200	300	180
10	46	137	4390	1810	475	1000	1010	9400	1270	12000	300	170
11	81	317	5520	1560	475	822	877	7110	890	8000	2000	160
12	83	1240	3450	1440	858	686	731	4620	683	6000	6000	150
13	70	3070	2330	1530	1390	580	3380	2670	547	5000	3000	3000
14	55	2880	10500	2480	1260	520	9780	1940	429	8000	1500	4000
15	50	1480	33400	2620	974	480	7950	1660	332	20000	1000	2000
16	46	867	26900	1840	753	450	5900	1320	271	15000	600	1400
17	42	599	13300	1380	629	431	3930	1030	221	10000	400	1000
18	40	466	8010	1160	520	415	2360	915	193	10000	340	900
19	38	1140	5450	1050	464	401	1710	950	641	8000	280	6000
20	36	4780	4350	913	465	414	1550	964	1390	5000	250	7000
21	36	10800	3350	1940	559	441	1450	903	1100	2000	230	5000
22	36	9770	2440	3930	782	714	1170	851	653	4000	210	7000
23	35	12100	1820	5110	878	1700	952	783	403	8000	190	8000
24	36	15600	1060	5710	729	2650	806	679	548	9000	170	12000
25	39	10800	851	5500	677	1840	939	623	1540	7000	160	18000
26	37	12500	759	3490	606	1220	1250	555	1940	4000	140	14000
27	30	10900	684	2390	488	906	1000	505	1050	2000	135	8000
28	33	8090	572	2890	465	756	776	433	564	1700	130	4000
29	37	6600	541	3400	---	665	2810	390	357	1500	130	2500
30	40	4440	480	2720	---	626	6340	1860	255	1300	600	1500
31	47	---	497	1690	---	1090	---	6450	---	1200	1000	---
MEAN	48.1	4031	4455	2815	730	1709	2385	3194	1235	10610	866	3632
MAX	83	15600	33400	8100	1390	9620	9780	10200	5150	45500	6000	18000
MIN	30	54	458	533	464	401	731	390	193	1200	130	150

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

MAX	272	4031	4455	2815	1249	4613	3798	5959	2998	10610	1455	3632
(WY)	1990	1993	1993	1993	1990	1990	1988	1990	1990	1993	1989	1993
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.

REMARKS.--Sediment records fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 5,910 mg/L, Apr. 20, 1991; minimum daily mean, 4 mg/L, Aug. 18, 1993.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 82,800 tons, July 7, 1993; minimum daily, 0 tons, several days.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,020 mg/L, June 25; minimum daily mean, 4 mg/L Aug. 18.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 82,800 tons, July 7; minimum daily, 1.5 tons, Oct. 10.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	72	130	25	54	99	15	1750	26	120
2	65	100	18	330	407	502	1070	38	107
3	59	80	13	562	730	1110	777	55	114
4	56	55	8.3	382	482	508	626	71	120
5	52	45	6.3	294	203	161	509	69	94
6	50	34	4.6	233	177	111	480	66	85
7	49	26	3.4	182	184	90	458	63	78
8	48	18	2.3	164	213	94	503	68	97
9	47	14	1.8	143	178	69	1290	140	537
10	46	12	1.5	137	191	71	4390	267	3240
11	81	20	4.4	317	241	230	5520	185	2760
12	83	350	76	1240	489	1820	3450	122	1130
13	70	310	59	3070	655	5280	2330	155	1000
14	55	300	45	2880	299	2350	10500	348	10100
15	50	290	39	1480	182	740	33400	273	24700
16	46	280	35	867	102	243	26900	175	12900
17	42	270	31	599	65	104	13300	109	3930
18	40	260	28	466	89	111	8010	67	1470
19	38	250	26	1140	304	1390	5450	48	704
20	36	224	22	4780	799	9920	4350	63	741
21	36	185	18	10800	232	6550	3350	72	642
22	36	153	15	9770	116	3050	2440	80	521
23	35	126	12	12100	160	5470	1820	82	384
24	36	104	10	15600	191	8220	1060	69	197
25	39	86	9.0	10800	96	2780	851	56	128
26	37	71	7.2	12500	103	3510	759	45	93
27	30	64	5.3	10900	85	2520	684	37	68
28	33	154	14	8090	69	1500	572	32	50
29	37	136	13	6600	54	957	541	28	41
30	40	112	12	4440	34	421	480	24	31
31	47	98	12	---	---	---	497	20	27

06921760 SOUTH GRAND RIVER NEAR CLINTON, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	533	21	30	1220	86	282	524	58	88
2	561	22	33	1020	72	197	2020	417	2690
3	720	42	98	896	58	140	6080	465	7650
4	3800	286	3430	802	48	104	9620	304	8050
5	8100	285	6220	727	49	96	6440	190	3290
6	7200	198	3870	663	50	90	4140	190	2100
7	4380	147	1730	607	61	100	2470	177	1180
8	3080	118	978	556	54	81	1640	139	613
9	2340	95	599	512	48	66	1230	159	527
10	1810	77	375	475	56	72	1000	180	486
11	1560	62	260	475	64	82	822	161	357
12	1440	50	194	858	90	213	686	103	192
13	1530	49	205	1390	92	346	580	80	125
14	2480	79	547	1260	92	311	520	68	95
15	2620	105	744	974	94	244	480	52	67
16	1840	66	330	753	100	202	450	46	54
17	1380	56	207	629	103	174	431	48	55
18	1160	44	137	520	76	100	415	45	51
19	1050	35	98	464	83	104	401	40	43
20	913	37	92	465	99	125	414	39	43
21	1940	55	331	559	95	144	441	46	55
22	3930	130	1380	782	86	182	714	91	227
23	5110	112	1540	878	75	179	1700	320	1530
24	5710	107	1650	729	67	131	2650	309	2210
25	5500	94	1390	677	60	109	1840	243	1200
26	3490	78	725	606	53	87	1220	208	684
27	2390	76	488	488	47	62	906	194	472
28	2890	83	652	465	42	52	756	186	379
29	3400	107	987	---	---	---	665	181	325
30	2720	89	651	---	---	---	626	188	318
31	1690	91	411	---	---	---	1090	203	619
		APRIL			MAY			JUNE	
1	2430	236	1570	4720	204	2590	5150	258	3570
2	3090	252	2110	2440	195	1270	2360	215	1370
3	2360	213	1350	2850	207	1670	1580	160	679
4	1530	178	733	7320	295	6030	1370	138	511
5	1320	145	515	7460	326	6630	2040	203	1140
6	1220	123	406	4730	195	2480	1800	330	1590
7	1050	139	392	3550	200	1950	2320	367	2340
8	909	137	336	10200	250	7090	3150	358	3050
9	968	151	398	9120	296	7210	2000	268	1450
10	1010	166	452	9400	291	7400	1270	202	694
11	877	147	347	7110	281	5350	890	170	407
12	731	152	300	4620	250	3120	683	157	287
13	3380	288	3000	2670	199	1430	547	155	229
14	9780	476	12700	1940	183	961	429	153	177
15	7950	294	6350	1660	143	642	332	148	132
16	5900	210	3330	1320	110	393	271	142	104
17	3930	189	1990	1030	75	211	221	144	86
18	2360	167	1060	915	50	124	193	170	89
19	1710	146	671	950	72	183	641	315	678
20	1550	158	660	964	92	240	1390	729	2760
21	1450	177	691	903	74	181	1100	481	1430
22	1170	169	528	851	74	170	653	353	623
23	952	168	430	783	75	158	403	262	286
24	806	159	345	679	76	140	548	387	670
25	939	171	445	623	78	130	1540	1020	4240
26	1250	228	768	555	77	115	1940	657	3490
27	1000	208	562	505	72	99	1050	402	1140
28	776	255	532	433	71	83	564	304	464
29	2810	435	3270	390	69	73	357	223	215
30	6340	287	4900	1860	165	994	255	150	103
31	---	---	---	6450	340	6030	---	---	---

OSAGE RIVER BASIN

06921760 SOUTH GRAND RIVER NEAR CLINTON, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	1400	349	1950	2500	16	108	500	10	13
2	5700	923	14100	1500	16	65	350	5	5.2
3	15800	555	23600	1200	9	29	700	11	13
4	17800	445	21800	900	7	16	400	12	13
5	8480	281	6400	600	8	13	340	10	9.2
6	8630	387	10600	400	10	10	280	8	6.2
7	42600	712	82800	350	9	8.3	240	8	5.0
8	45500	503	61900	320	9	7.4	200	7	3.8
9	34200	309	28900	300	8	6.8	180	8	3.9
10	12000	240	7780	300	6	4.9	170	10	4.4
11	8000	230	4970	2000	6	34	160	9	3.9
12	6000	270	4370	6000	7	122	150	10	4.2
13	5000	210	2840	3000	10	81	3000	24	194
14	8000	250	5400	1500	10	40	4000	37	400
15	20000	270	14600	1000	5	13	2000	30	162
16	15000	250	10100	600	7	11	1400	24	91
17	10000	110	2970	400	6	6.5	1000	19	51
18	10000	85	2300	340	4	3.9	900	23	56
19	8000	85	1840	280	8	6.0	6000	53	859
20	5000	58	783	250	6	4.3	7000	140	2650
21	2000	48	259	230	8	5.0	5000	240	3240
22	4000	34	367	210	10	5.7	7000	220	4160
23	8000	34	734	190	13	6.7	8000	190	4100
24	9000	60	1460	170	16	7.3	12000	190	6160
25	7000	70	1320	160	22	9.5	18000	210	10200
26	4000	42	454	140	15	5.7	14000	220	8320
27	2000	34	184	135	7	2.6	8000	170	3670
28	1700	25	115	130	20	7.0	4000	140	1510
29	1500	18	73	130	15	5.3	2500	100	675
30	1300	17	60	600	4	6.8	1500	80	324
31	1200	16	52	1000	14	38	---	---	---

OSAGE RIVER BASIN

06922440 HARRY S. TRUMAN RESERVOIR AT WARSAW, MO

LOCATION.-- Lat 38°15'30", long 93°23'40", in NW ¼ NE ¼ 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 mi^2.

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, 4,350,000 ac-ft, Aug. 2, elevation, 735.20 ft; minimum, 1,170,000 ac-ft, Oct. 26-27, elevation, 705.44 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
OBSERVATION AT 24:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	706.08	706.24	720.57	717.95	710.01	707.12	705.93	707.24	714.11	708.20	735.14	724.80
2	705.95	706.49	720.13	717.22	709.55	707.60	706.05	707.37	714.14	709.80	735.20	724.71
3	706.04	706.79	719.60	716.91	709.04	707.99	706.38	707.10	713.94	711.48	735.17	724.58
4	706.06	706.85	718.91	716.95	708.51	708.36	706.53	707.10	713.63	712.79	734.99	724.38
5	705.98	706.89	718.05	716.84	707.93	708.80	706.42	707.21	713.15	713.76	734.82	724.18
6	706.00	706.92	717.10	716.87	707.74	709.00	706.43	707.40	712.70	716.15	734.58	723.93
7	706.01	706.99	716.63	716.87	707.52	709.17	706.44	707.48	712.79	718.99	734.26	723.70
8	706.01	707.07	716.00	716.56	707.23	709.25	706.32	707.52	712.93	720.76	733.95	723.51
9	705.99	707.01	715.72	716.29	707.21	709.23	706.27	708.50	712.69	722.10	733.60	723.23
10	706.00	707.01	715.56	715.87	707.19	708.93	706.50	709.90	712.21	722.99	733.21	722.69
11	706.03	707.67	715.40	715.41	707.26	708.50	706.65	711.12	711.20	723.81	732.86	722.08
12	705.94	708.68	715.13	715.11	707.19	708.02	706.66	712.16	710.37	724.69	732.47	721.41
13	705.98	709.13	714.91	714.72	707.20	707.65	707.20	713.13	709.22	725.39	732.09	721.31
14	706.06	709.61	716.25	714.47	707.26	707.22	707.89	714.17	708.57	726.09	731.70	722.08
15	705.90	709.85	718.98	714.15	707.28	706.71	709.57	715.17	707.99	727.19	731.31	722.43
16	705.95	709.90	721.34	713.81	707.14	706.39	710.39	715.82	707.23	727.83	730.86	722.50
17	705.94	709.71	722.36	713.32	706.79	706.37	710.82	716.08	706.80	728.10	730.30	722.21
18	705.97	709.57	722.61	712.84	706.58	706.46	711.00	716.48	706.80	728.21	729.78	721.74
19	705.62	709.81	722.80	712.30	706.55	706.56	711.01	716.79	706.90	728.31	729.23	721.71
20	705.58	711.22	722.96	712.11	706.86	706.87	710.67	716.87	707.28	728.52	728.68	721.68
21	705.53	712.72	723.10	712.00	707.47	707.09	710.18	716.78	707.05	728.78	728.15	721.40
22	705.53	715.62	723.16	712.02	707.51	707.23	709.60	716.60	706.90	729.89	727.62	721.06
23	705.53	717.42	723.05	712.13	707.40	707.49	709.00	716.47	706.93	730.88	727.10	721.44
24	705.59	718.87	722.80	712.15	707.37	707.73	708.40	716.30	707.00	731.49	726.61	723.50
25	705.60	719.64	722.47	712.22	707.41	707.67	708.20	716.03	707.79	731.99	726.28	726.20
26	705.44	720.13	722.00	712.22	707.29	707.51	707.80	715.70	707.87	732.49	725.90	728.16
27	705.44	720.49	721.43	712.05	707.00	707.30	707.49	715.29	707.69	733.00	725.60	729.45
28	705.54	720.64	720.80	711.75	707.00	707.09	706.99	714.80	707.29	733.53	725.45	730.22
29	705.62	720.77	720.19	711.43	---	706.59	706.90	714.40	706.97	734.03	725.29	730.81
30	705.77	720.71	719.50	711.04	---	706.35	706.90	714.23	706.79	734.50	725.20	731.27
31	705.90	---	718.80	710.60	---	706.24	---	714.23	---	734.88	724.99	---
MAX	706.08	720.77	723.16	717.95	710.01	709.25	711.01	716.87	714.14	734.88	735.20	731.27
MIN	705.44	706.24	714.91	710.60	706.55	706.24	705.93	707.10	706.79	708.20	724.99	721.06
(-)	1200000	2350000	2160000	1490000	1260000	1220000	1250000	1760000	1250000	4290000	2830000	3690000
(=)	-19000	+1150000	-190000	-670000	-230000	-40000	+30000	+510000	-510000	+3040000	-1460000	+860000

CAL YR 1992. . . . . +910000
WTR YR 1993. . . . .+14510000

(-) 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 mi^2 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 ft^3/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 ft^3/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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8620	0	52100	52100	30900	8730	20400	15800	31100	2540	500	15000
2	6360	0	52300	50800	25100	8900	13900	17800	24400	250	2470	15000
3	838	1580	52500	32400	24600	17600	9410	24900	28700	500	9990	15000
4	0	3990	52900	33500	24600	23600	8440	24100	30800	500	12100	15000
5	2600	1680	53400	33900	24400	23500	13900	25400	31700	500	14200	15000
6	1980	875	32000	27100	15400	23400	14500	24700	31800	500	24500	15100
7	479	0	34300	23000	15300	22700	12600	24500	10800	500	30100	15100
8	3540	0	35600	30400	15700	22700	13800	20000	8620	333	29300	15100
9	0	3300	36000	30600	9440	23000	11000	10600	19100	500	31000	17600
10	0	3380	35400	30800	8730	22700	6080	125	32000	500	34000	29700
11	0	4360	36100	30800	4370	23000	6670	250	32700	500	34000	34100
12	0	14500	36600	31700	10000	23000	8690	250	33600	500	34000	34200
13	0	21100	36900	30800	9370	18900	5090	250	34400	500	34000	34300
14	0	15100	32900	31500	10700	18300	6510	250	31300	500	34200	11400
15	5120	15700	15400	34000	10900	21400	1040	250	24100	500	34200	3750
16	0	17600	0	33600	12000	17100	11900	14400	26000	500	38100	13500
17	2220	23700	23900	33700	16000	7570	15200	28600	19000	500	42200	27100
18	0	23900	45600	34100	15500	6060	18300	28500	4000	500	42200	34200
19	10500	19800	49500	34400	7260	5270	23800	28700	7810	500	42400	34200
20	1120	16400	49500	34000	0	0	29600	28700	104	500	42400	34300
21	1180	0	51000	33500	0	0	30000	28800	15000	500	42400	34300
22	505	0	52100	31400	12100	9590	28800	29000	8600	500	42500	34400
23	0	1400	52200	28400	18200	15800	28700	28800	5120	500	42300	11800
24	0	10900	52200	28400	15400	12800	27000	27400	150	500	39400	500
25	0	28000	52200	28500	14400	18400	22700	29200	1400	500	29900	500
26	5070	34800	52400	29600	13600	16100	22100	29500	11200	500	29900	500
27	1180	39400	52600	31200	13600	14100	20300	29900	13700	500	26300	500
28	0	45400	52800	31100	7200	13500	23500	30400	15500	500	15000	4880
29	1320	45500	51100	31500	---	19400	17300	30900	14400	500	14900	10700
30	0	49900	51100	30900	---	15600	20000	31000	14200	500	14500	22300
31	0	---	51000	30400	---	14000	---	30900	---	500	14900	---
MEAN	1698	14740	43020	32520	13740	15700	16370	20770	18710	552	28320	18300
MAX	10500	49900	53400	52100	30900	23600	30000	31000	34400	2540	42500	34400
MIN	0	0	0	23000	0	0	1040	125	104	250	500	500

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

MEAN	8595	11200	16290	10880	10440	15960	17330	15730	12820	6362	6262	4206
MAX	52090	42250	43020	32520	20050	44920	32720	35940	31450	17550	28320	18300
(WY)	1987	1987	1993	1993	1982	1985	1984	1983	1983	1982	1993	1993
MIN	614	853	1558	3933	3671	1648	2432	4855	585	551	367	196
(WY)	1988	1991	1991	1989	1991	1991	1991	1989	1988	1991	1991	1991

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	9351		18760		11340	
HIGHEST ANNUAL MEAN					18760	1993
LOWEST ANNUAL MEAN					2516	1991
HIGHEST DAILY MEAN	53400	Dec 5	53400	Dec 5	71100	Oct 20 1986
LOWEST DAILY MEAN	0	Many Days	0	Many Days	0	Most Years

OSAGE RIVER BASIN

06923150 DOUSINBURY CREEK ON HIGHWAY JJ NEAR WALL STREET, MO

LOCATION.--Lat 37°35'38", long 92°58'00", SW ¼ SW ¼ NE ¼ sec. 12, T.33 N., R.19 W., Dallas County, Hydrologic Unit 10290110, on downstream end of center pier of bridge on State Highway JJ, 1 mi upstream from Niangua River, and 1.5 mi southwest of Wall Street.

DRAINAGE AREA.--39.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1993 to current year.

GAGE.--Water stage recorder. Datum of gage is 1,014.05 ft above sea level.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6780 ft^3/s, Sept. 25, 1993, gage height 10.14 ft; minimum, 0.40 ft^3/s, Aug. 30, 1993.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	16	20	11	3.0	2.1
2	---	---	---	---	---	---	---	15	26	13	2.8	1.5
3	---	---	---	---	---	---	---	37	23	23	2.6	5.8
4	---	---	---	---	---	---	---	78	31	13	2.3	4.0
5	---	---	---	---	---	---	---	33	26	10	2.8	2.5
6	---	---	---	---	---	---	---	24	20	10	5.3	2.0
7	---	---	---	---	---	---	---	31	17	11	3.5	1.8
8	---	---	---	---	---	---	23	31	32	11	3.0	27
9	---	---	---	---	---	---	20	27	92	9.1	2.4	9.8
10	---	---	---	---	---	---	19	52	337	8.3	15	5.6
11	---	---	---	---	---	---	17	42	67	7.7	8.2	4.0
12	---	---	---	---	---	---	15	31	381	7.5	5.0	3.1
13	---	---	---	---	---	---	15	50	65	7.5	3.8	3.5
14	---	---	---	---	---	---	58	33	40	7.6	3.2	578
15	---	---	---	---	---	---	210	26	30	7.8	3.0	83
16	---	---	---	---	---	---	86	23	25	6.6	2.6	34
17	---	---	---	---	---	---	54	22	28	5.8	2.2	23
18	---	---	---	---	---	---	43	182	27	5.5	1.8	18
19	---	---	---	---	---	---	38	66	29	5.1	1.6	1220
20	---	---	---	---	---	---	33	42	49	5.5	1.2	901
21	---	---	---	---	---	---	28	32	32	5.2	1.0	51
22	---	---	---	---	---	---	25	27	25	5.0	.94	15
23	---	---	---	---	---	---	23	25	23	4.5	.81	33
24	---	---	---	---	---	---	22	23	19	4.3	.62	3330
25	---	---	---	---	---	---	30	19	20	3.6	.62	2340
26	---	---	---	---	---	---	23	17	17	3.3	.56	208
27	---	---	---	---	---	---	20	15	15	3.2	.52	106
28	---	---	---	---	---	---	19	14	13	3.0	.50	62
29	---	---	---	---	---	---	18	24	12	2.6	.50	41
30	---	---	---	---	---	---	17	31	11	2.5	.54	33
31	---	---	---	---	---	---	---	34	---	2.4	1.8	---
MEAN	---	---	---	---	---	---	---	36.2	51.7	7.28	2.70	305
MAX	---	---	---	---	---	---	---	182	381	23	15	3330
MIN	---	---	---	---	---	---	---	14	11	2.4	.50	1.5

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

MEAN	---	---	---	---	---	---	---	36.2	51.7	7.28	2.70	305
MAX	---	---	---	---	---	---	---	36.2	51.7	7.28	2.70	305
(WY)	---	---	---	---	---	---	---	1993	1993	1993	1993	1993
MIN	---	---	---	---	---	---	---	36.2	51.7	7.28	2.70	305
(WY)	---	---	---	---	---	---	---	1993	1993	1993	1993	1993

OSAGE RIVER BASIN

06923150 DOUSINBURY CREEK ON HIGHWAY JJ NEAR WALL STREET, MO--Continued
(National-water quality assessment station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)
APR											
21...	1430	28	13.0	276	8.5	12.8	121	110	K16	164	2
MAY											
20...	1000	44	13.0	272	8.2	10.7	101	K750	310	151	0
JUN											
14...	1410	38	21.5	253	8.0	10.1	114	460	230	148	0
JUL											
07...	1530	11	25.0	319	8.1	7.8	95	K6800	3300	208	0
AUG											
25...	1100	0.62	27.0	353	7.8	7.3	92	2300	1400	219	0
SEP											
14...	1330	720	14.0	130	7.6	8.7	85	30000	K120000	71	0

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

DATE	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	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, DIS-SOLVED (MG/L AS P) (00671)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
APR											
21...	138	0.520	<0.010	0.010	<0.20	<0.20	0.040	0.020	0.010	130	27
MAY											
20...	124	0.370	<0.010	0.020	<0.20	<0.20	0.020	0.030	<0.010	130	27
JUN											
14...	121	0.520	<0.010	0.030	<0.20	0.20	0.050	0.060	0.030	120	26
JUL											
07...	171	0.320	<0.010	0.040	0.20	<0.20	0.050	0.030	0.030	170	34
AUG											
25...	179	0.110	<0.010	0.050	0.30	0.40	0.040	0.030	0.030	180	36
SEP											
14...	58	0.530	<0.010	0.060	0.70	0.60	0.180	0.160	0.130	61	13

OSAGE RIVER BASIN

06923150 DOUSINBURY CREEK ON HIGHWAY JJ NEAR WALL STREET, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SEDIMENT, SUSPENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
APR										
21...	15	2.4	1.3	6.1	6.0	<0.10	5.1	141	24	31
MAY										
20...	16	2.3	1.4	5.7	4.4	0.10	6.8	154	9	0
JUN										
14...	14	2.4	2.1	4.8	4.9	<0.10	9.1	139	17	74
JUL										
07...	20	2.9	2.2	4.6	6.0	0.10	8.1	172	37	96
AUG										
25...	22	3.2	2.8	4.6	7.5	<0.10	11	192	26	--
SEP										
14...	7.0	1.3	3.5	3.7	3.1	0.10	7.7	73	90	--

DATE	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)	LITHIUM DISSOLVED (UG/L AS LI) (01130)
APR										
21...	<1	43	<0.5	<1.0	<5	<3	<10	8	<10	<4
MAY										
20...	--	--	--	--	--	--	--	18	--	--
JUN										
14...	<1	60	<0.5	<1.0	<5	<3	<10	14	<10	<4
JUL										
07...	--	--	--	--	--	--	--	10	--	--
AUG										
25...	<1	89	<0.5	<1.0	<5	<3	<10	7	<10	<4
SEP										
14...	<1	31	<0.5	<1.0	<5	<3	<10	120	10	<4

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
APR										
21...	7	<10	<10	<1	<1.0	35	<6	10	1.6	0.2
MAY										
20...	12	--	--	--	--	--	--	--	2.0	0.1
JUN										
14...	18	<10	<10	<1	<1.0	40	<6	12	2.0	0.2
JUL										
07...	16	--	--	--	--	--	--	--	1.6	0.2
AUG										
25...	58	<10	<10	<1	<1.0	53	<6	<3	1.6	0.3
SEP										
14...	9	<10	<10	<1	<1.0	16	<6	30	9.8	1.0

OSAGE RIVER BASIN

06923250 NIANGUA RIVER AT WINDYVILLE, MO

LOCATION.--Lat 37°41'03", long 92°55'27", in NW ¼ SE ¼ NE ¼, 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.--Estimated daily discharges: Aug. 20 to Sept. 13 and Sept. 18-27. Water-discharge records good except for periods of estimated daiy discharge, which are fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	36	278	196	235	531	266	245	294	171	55	150
2	30	42	256	190	222	1210	280	233	252	202	53	210
3	28	54	235	191	211	1030	264	356	273	366	68	100
4	26	93	216	2830	199	767	247	920	256	332	85	80
5	24	63	197	1790	191	707	357	568	425	209	69	70
6	23	48	184	844	183	578	477	393	305	198	60	60
7	22	43	176	629	176	487	410	328	244	221	58	50
8	19	41	167	518	169	423	376	524	273	210	101	300
9	18	39	223	452	165	367	341	399	654	186	105	200
10	19	38	562	431	160	328	306	544	2320	156	91	150
11	20	194	443	383	159	292	279	697	981	135	76	120
12	19	1680	342	384	160	268	256	513	2210	373	67	90
13	19	880	293	608	157	249	242	460	951	218	103	1000
14	19	439	274	473	149	235	268	454	570	198	122	5000
15	18	299	2950	404	146	222	1800	351	438	399	97	1610
16	18	229	4320	374	154	239	1770	305	356	248	73	1210
17	18	189	1210	340	152	268	921	282	301	168	47	1000
18	19	169	805	304	152	248	697	2730	432	136	37	700
19	18	232	621	280	146	298	583	1120	303	117	32	3500
20	19	1520	510	786	140	1030	526	649	517	105	28	4000
21	19	2500	435	1140	306	675	441	491	691	106	25	1500
22	19	5640	383	705	566	550	381	401	411	128	23	800
23	20	3000	339	552	392	589	343	361	302	98	22	2500
24	21	1020	295	485	316	483	317	333	321	90	20	17000
25	21	758	272	430	305	413	438	290	470	82	18	31000
26	21	600	253	371	297	362	447	256	351	77	16	4500
27	22	480	236	337	272	327	337	232	270	72	15	2500
28	22	407	223	310	287	300	294	213	225	68	14	1320
29	28	353	216	282	---	281	274	235	195	64	13	1090
30	40	309	210	257	---	266	259	493	174	59	40	929
31	36	---	203	244	---	261	---	408	---	57	100	---
MEAN	22.5	713	559	565	220	461	473	509	525	169	55.9	2758
MAX	40	5640	4320	2830	566	1210	1800	2730	2320	399	122	31000
MIN	18	36	167	190	140	222	242	213	174	57	13	50

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

MEAN	34.5	563	536	370	306	349	328	313	378	118	52.8	948
MAX	46.5	713	559	565	389	461	473	509	525	169	78.2	2758
(WY)	1992	1993	1993	1993	1992	1993	1993	1993	1993	1993	1992	1993
MIN	22.5	412	514	175	220	237	184	117	230	65.8	24.3	42.5
(WY)	1993	1992	1992	1992	1993	1992	1992	1992	1992	1992	1991	1992

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	233		583		395	
HIGHEST ANNUAL MEAN					583	1993
LOWEST ANNUAL MEAN					206	1992
HIGHEST DAILY MEAN	5640	Nov 22	31000	Sep 25	31000	Sep 25 1993
LOWEST DAILY MEAN	18	Oct 9, 15-17, 19	13	Aug 29	13	Aug 29 1993
INSTANTANEOUS PEAK FLOW	--		44700	Sep 24	44700	Sep 24 1993
INSTANTANEOUS PEAK STAGE	--		24.36	Sep 24	24.36	Sep 24 1993
INSTANTANEOUS LOW FLOW	--		17**	Oct 8, 9	17	Oct 8, 9 1992
ANNUAL SEVEN-DAY MINIMUM	18	Oct 13	17	Aug 23	17	Aug 23 1993
10 PERCENT EXCEEDS	408		989		620	
50 PERCENT EXCEEDS	130		270		160	
90 PERCENT EXCEEDS	29		28		28	

**May have been less during period of estimated record Aug. 20-29.

OSAGE RIVER BASIN

06923250 NIANGUA RIVER AT WINDYVILLE, MO--Continued
(National water-quality assessment station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1991 to current year. National water-quality assessment station since April 1993.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)
OCT												
13...	1230	20	13.0	405	8.1	9.1	87	38	28	<0.050	<0.050	<0.010
NOV												
05...	1300	62	6.0	381	7.9	10.4	83	120	350	0.073	0.100	<0.010
12...	1330	2220	10.5	222	8.0	9.5	84	2700	K6000	0.320	0.310	0.020
12...	1500	2400	11.5	216	8.0	9.3	85	2200	4900	0.330	--	0.020
13...	0800	974	9.5	198	7.7	9.2	79	K18000	K24000	0.490	--	0.030
DEC												
03...	1200	234	4.0	312	7.9	12.5	95	44	27	1.20	1.20	0.020
JAN												
26...	1610	364	4.5	277	8.1	13.5	103	44	K12	0.730	0.700	<0.010
FEB												
10...	0800	143	6.5	337	8.1	12.3	99	K10	K8	0.300	0.290	<0.010
MAR												
11...	1100	289	7.0	302	8.4	11.7	95	K14	1500	0.270	0.280	<0.010
APR												
14...	1130	223	13.0	338	--	8.8	84	K30	K16	0.110	0.110	<0.010
21...	1130	441	10.0	314	7.8	11.0	97	270	44	--	0.540	--
MAY												
13...	1100	842	15.0	301	7.7	8.8	87	210	52	0.330	0.340	<0.010
20...	1230	638	14.0	290	8.0	9.4	91	2300	680	--	0.390	--
JUN												
14...	1115	565	22.0	276	8.2	8.2	93	560	250	--	0.580	--
17...	0930	301	22.0	319	7.9	7.8	89	210	110	0.660	0.670	0.010
JUL												
08...	1000	201	24.0	344	7.9	6.5	78	K1900	580	--	0.450	--
08...	1345	183	23.0	350	7.7	7.0	82	K1200	210	0.320	0.290	0.010
AUG												
17...	1135	23	30.0	361	7.9	6.9	91	110	--	0.260	0.260	0.010
25...	1530	20	27.0	399	8.0	4.9	61	42	K30	--	0.190	--
SEP												
14...	1600	6480	18.0	119	7.8	6.3	66	28000	75000	--	0.290	--
15...	0900	2150	16.5	181	7.2	7.7	78	K9600	3800	0.580	0.580	0.020

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

OSAGE RIVER BASIN

06923250 NIANGUA RIVER AT WINDYVILLE, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	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)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT											
13...	<0.010	0.030	0.020	<0.20	<0.20	0.040	0.040	0.030	0.020	--	--
NOV											
05...	0.010	0.030	0.030	0.30	0.40	0.050	0.040	0.040	0.030	--	--
12...	0.020	0.040	0.050	1.2	0.30	0.460	0.150	0.140	0.140	--	--
12...	--	0.040	--	1.6	0.30	0.560	--	0.130	0.140	--	--
13...	--	0.040	--	0.80	0.40	0.290	--	0.150	0.150	--	--
DEC											
03...	0.010	0.020	0.010	<0.20	<0.20	0.050	0.030	0.020	0.020	--	--
JAN											
26...	<0.010	0.020	0.020	0.29	0.24	0.030	0.030	0.030	0.020	--	--
FEB											
10...	<0.010	0.020	0.020	0.26	<0.20	0.020	0.030	0.010	0.010	--	--
MAR											
11...	<0.010	<0.010	0.010	0.26	0.27	0.020	<0.020	0.010	0.010	--	--
APR											
14...	<0.010	0.020	0.020	0.54	0.36	0.830	<0.020	0.030	0.030	--	--
21...	<0.010	--	0.020	<0.20	0.20	0.040	0.030	--	0.020	150	30
MAY											
13...	<0.010	<0.010	<0.010	0.38	0.34	0.040	0.030	0.030	0.020	--	--
20...	<0.010	--	0.040	0.40	0.30	0.050	0.040	--	0.020	140	29
JUN											
14...	<0.010	--	0.050	0.40	0.30	0.100	0.040	--	0.040	140	30
17...	0.010	0.030	0.040	0.56	0.46	0.060	0.040	0.030	0.020	--	--
JUL											
08...	<0.010	--	0.040	0.30	<0.20	0.090	0.070	--	0.070	180	36
08...	<0.010	0.060	0.050	0.20	<0.20	0.060	0.050	0.070	0.050	--	--
AUG											
17...	0.010	0.050	0.050	0.47	0.23	0.080	0.050	0.060	0.060	--	--
25...	<0.010	--	0.040	0.30	<0.20	0.050	0.030	--	0.060	210	42
SEP											
14...	0.010	--	0.050	0.60	0.50	0.230	0.180	--	0.160	54	12
15...	0.010	0.040	0.030	1.0	0.85	0.250	0.170	0.200	0.160	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	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)
APR											
21...	17	3.9	1.7	189	0	155	7.3	7.5	<0.10	5.5	157
MAY											
20...	17	3.4	2.0	168	0	138	6.5	5.9	0.10	8.4	162
JUN											
14...	16	3.4	2.4	150	0	123	5.6	5.6	<0.10	9.9	154
JUL											
08...	21	3.9	2.6	200	0	164	5.5	6.3	0.10	9.2	188
AUG											
25...	25	4.2	2.2	254	0	208	5.7	7.8	<0.10	12	215
SEP											
14...	5.9	1.3	3.7	66	0	54	3.3	2.3	0.20	6.4	81

OSAGE RIVER BASIN

06923250 NIANGUA RIVER AT WINDYVILLE, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	SEDIMENT, SUSPENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
APR											
21...	20	25	<1	50	<0.5	<1.0	<5	<3	<10	11	<10
MAY											
20...	45	88	--	--	--	--	--	--	--	53	--
JUN											
14...	86	96	<1	65	<0.5	<1.0	<5	<3	<10	33	<10
JUL											
08...	60	99	--	--	--	--	--	--	--	9	--
AUG											
25...	39	--	<1	83	<0.5	<1.0	<5	<3	<10	<3	<10
SEP											
14...	343	--	<1	31	<0.5	<1.0	<5	<3	<10	130	<10

DATE	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
APR											
21...	<4	15	<10	<10	<1	<1.0	37	<6	<3	1.8	1.7
MAY											
20...	--	16	--	--	--	--	--	--	--	3.9	0.3
JUN											
14...	<4	10	<10	<10	<1	1.0	41	<6	44	3.4	1.2
JUL											
08...	--	15	--	--	--	--	--	--	--	2.5	0.5
AUG											
25...	<4	39	<10	<10	<1	<1.0	56	<6	<3	1.6	0.2
SEP											
14...	<4	6	<10	<10	<1	<1.0	15	<6	12	8.5	>2.5

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, 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: Nov. 17 to Dec. 2 and Dec. 4 to Jan. 5. Water-discharge records good, except for estimated daily discharges, which are poor. Occasional runoff from drainage area of 42.4 mi^2 included in records.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	112	215	190	194	206	203	222	224	204	155	131
2	103	116	210	190	189	292	198	215	220	202	154	130
3	103	113	203	550	185	325	192	210	226	235	153	173
4	102	119	200	520	179	323	189	209	220	225	153	166
5	101	116	195	490	174	315	206	206	216	210	153	151
6	100	113	190	467	173	300	218	202	209	200	159	145
7	101	111	185	430	171	283	220	203	203	198	156	143
8	103	111	185	388	169	268	220	219	223	213	154	169
9	102	109	210	354	164	255	217	216	353	203	151	185
10	101	109	240	321	163	242	212	228	424	191	152	162
11	100	134	230	297	163	227	207	238	430	183	155	152
12	99	219	215	282	163	218	198	237	400	178	154	149
13	99	217	200	288	161	211	193	246	375	175	150	145
14	99	179	500	274	159	206	196	249	348	182	148	322
15	100	160	480	259	158	199	311	239	322	263	146	403
16	99	145	440	246	158	199	413	230	303	227	145	326
17	99	140	400	233	156	195	367	220	287	202	143	277
18	99	150	370	219	155	190	338	559	277	188	143	242
19	99	220	350	208	155	196	324	436	267	178	142	237
20	100	550	330	233	156	238	318	359	275	173	139	739
21	99	450	315	297	193	241	296	321	280	175	137	479
22	98	380	300	289	227	241	280	295	265	172	137	395
23	97	320	285	278	216	238	272	278	253	170	137	348
24	99	270	270	265	206	233	265	260	245	168	142	2030
25	100	260	255	250	203	227	264	239	246	165	136	2190
26	100	250	240	238	195	220	254	227	248	161	133	970
27	100	240	225	231	188	214	240	219	235	159	131	830
28	100	230	215	223	187	210	235	209	224	158	130	704
29	101	225	205	212	---	205	231	203	217	156	129	629
30	105	220	200	202	---	201	225	228	212	154	129	570
31	105	---	195	199	---	204	---	235	---	155	132	---
MEAN	101	203	266	294	177	236	250	253	274	188	144	456
MAX	105	550	500	550	227	325	413	559	430	263	159	2190
MIN	97	109	185	190	155	190	189	202	203	154	129	130
IN.	1.16	2.26	3.07	3.39	1.85	2.72	2.79	2.92	3.06	2.17	1.67	5.09

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

MEAN	133	156	171	167	186	231	252	241	191	145	127	127
MAX	578	508	436	337	447	712	504	488	704	262	193	456
(WY)	1987	1973	1983	1991	1985	1973	1973	1929	1935	1935	1940	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	170		237		177	
HIGHEST ANNUAL MEAN					296	1985
LOWEST ANNUAL MEAN					93.4	1936
HIGHEST DAILY MEAN	550	Nov 20	2190	Sep 25	6350	Oct 1 1986
LOWEST DAILY MEAN	97	Oct 23	97	Oct 23	55	Nov 13 1934
INSTANTANEOUS PEAK FLOW	--		5000	Sep 25	14400	Oct 1 1986
INSTANTANEOUS PEAK STAGE	--		7.00	Sep 25	11.1	Oct 1 1986
INSTANTANEOUS LOW FLOW	--		97	Oct 22-24	55	Nov 13 1934
ANNUAL SEVEN-DAY MINIMUM	99	Oct 17	99	Oct 17	58	Nov 11 1934
ANNUAL RUNOFF (INCHES)	23.11		32.16		24.06	
10 PERCENT EXCEEDS	230		351		289	
50 PERCENT EXCEEDS	160		209		136	
90 PERCENT EXCEEDS	109		113		90	

OSAGE RIVER BASIN

06923500 BENNETT SPRING AT BENNETT SPRINGS, MO--Continued
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

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

REMARKS.--Niangua River Basin project since July 1991 and ambient water-quality monitoring network station since November 1992.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT									
13...	1100	100	13.0	393	7.3	7.5	71	22	K16
NOV									
05...	1010	117	13.0	380	7.4	7.6	72	21	K12
DEC									
03...	1400	203	13.0	268	7.0	8.5	80	180	100
JAN									
27...	0815	222	12.0	263	7.5	8.3	76	27	32
FEB									
10...	0940	163	12.5	283	7.5	8.6	80	K8	21
MAR									
11...	1330	226	12.0	309	7.2	8.6	79	26	23
APR									
14...	1230	192	12.0	331	--	8.6	80	110	88
MAY									
11...	1510	238	12.0	316	6.9	8.0	74	39	31
JUN									
17...	1030	291	13.0	304	7.1	8.1	76	300	370
JUL									
08...	0830	214	13.0	333	6.9	7.3	69	92	130
AUG									
11...	1345	155	14.5	345	7.5	8.6	83	K20	K20
SEP									
14...	1000	315	14.0	405	6.9	7.0	68	150	88

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

DATE	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
OCT								
13...	--	1.10	<0.010	0.020	<0.20	0.020	0.020	0.020
NOV								
05...	--	1.10	<0.010	0.020	<0.20	0.020	<0.010	0.030
DEC								
03...	135	1.50	0.030	0.020	<0.20	0.030	0.030	0.020
JAN								
27...	--	1.40	<0.010	0.010	<0.20	0.030	0.020	0.020
FEB								
10...	--	1.60	<0.010	0.010	<0.20	0.030	0.020	0.020
MAR								
11...	--	1.40	<0.010	0.010	<0.20	0.030	0.020	0.020
APR								
14...	--	0.350	<0.010	0.010	<0.20	0.090	0.040	0.040
MAY								
11...	--	1.30	<0.010	<0.010	<0.20	0.020	0.020	0.020
JUL								
08...	--	1.30	<0.010	0.020	<0.20	0.020	0.020	0.020
AUG								
11...	--	1.30	<0.010	0.020	0.22	0.030	0.020	0.020
SEP								
14...	147	0.830	0.010	0.020	0.32	0.030	0.040	0.020

OSAGE RIVER BASIN

06923700 NIANGUA RIVER BELOW BENNETT SPRINGS, MO
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

LOCATION.--Lat 37°44'17", long 92°51'37, in SE 1/4 sec.25, T.35 N., R.18 W., Dallas County, Hydrologic Unit 10290110, at bridge on Highway 64, 1,200 ft downstream inflow of Bennett Springs Branch.

PERIOD OF RECORD.--October 1982 to September 1988, 1991 to current year.

REMARKS.--Ambient water-quality monitoring network station since November 1983.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
05...	0930	175	9.0	393	7.7	10.4	89	--	43	96	--
17...	0930	364	11.0	354	7.6	10.1	91	11	K180	120	180
JAN											
12...	0930	709	5.0	289	7.7	12.4	97	<10	150	240	144
27...	1030	480	5.5	265	7.8	12.6	98	--	26	K18	--
MAR											
11...	1200	560	8.0	307	8.0	12.2	101	<10	K13	K1600	155
MAY											
05...	1445	1000	16.5	263	7.5	8.7	88	24	K3000	1300	126
11...	1600	1100	16.0	306	7.6	9.3	94	--	240	1500	--
JUL											
08...	0715	400	18.0	327	7.6	7.5	79	--	130	190	--
SEP											
14...	1100	7000	19.5	116	6.9	5.9	64	60	K39000	13000	--

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, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	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)
NOV											
05...	0.550	--	0.040	<0.20	0.060	--	--	--	--	--	--
17...	0.910	0.060	0.020	<0.20	0.050	0.020	--	180	37	22	3.3
JAN											
12...	0.990	<0.010	0.020	0.20	0.040	0.030	--	--	--	--	--
27...	0.910	<0.010	0.020	0.25	0.030	0.020	0.020	--	--	--	--
MAR											
11...	0.730	<0.010	0.010	0.20	0.030	0.020	--	150	30	18	3.8
MAY											
05...	0.420	0.010	0.040	0.53	0.080	0.060	--	130	27	15	3.1
11...	0.570	0.010	0.020	0.27	0.050	0.040	0.020	--	--	--	--
JUL											
08...	0.790	<0.010	0.030	0.30	0.050	0.050	0.040	--	--	--	--
SEP											
14...	--	--	--	0.60	0.170	--	--	--	--	--	--

OSAGE RIVER BASIN

06923700 NIANGUA RIVER BELOW BENNETT SPRINGS, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	COPPER, DISSOLVED (UG/L AS CU) (01040)
NOV 17...	2.0	6.9	6.7	<0.10	190	<1	--	--	<1	<1.0	<1
MAR 11...	1.6	<0.10	8.1	<0.10	175	18	90	40	<1	<1.0	<1
MAY 05...	2.3	5.7	5.5	<0.10	146	27	430	110	<1	<1.0	<1
SEP 14...	--	--	--	--	74	396	4400	850	--	--	--

DATE	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	SIMAZINE, WATER, DISS, REC (UG/L) (04035)	PROMETRYN, WATER, DISS, REC (UG/L) (04036)
NOV 17...	16	1	<1	40	9	--	<10	9	<0.05	<0.05
JAN 12...	--	--	--	--	--	--	--	--	<0.05	<0.05
MAR 11...	6	1	<1	20	6	0.20	<10	3	--	--
MAY 05...	76	2	<1	60	10	0.10	<10	9	--	--

DATE	PROMETON, WATER, DISS, REC (UG/L) (04037)	DEISOPROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L) (04040)	CYANAZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROPAZINE WATER DISS REC (UG/L) (38535)	METOLACHLOR WATER DISSOLV (UG/L) (39415)	ATRAZINE, WATER, DISS, REC (UG/L) (39632)	ALACHLOR, WATER, DISS, REC, (UG/L) (46342)	METRIBUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV 17...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN 12...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

OSAGE RIVER BASIN

06925500 LAKE OF THE OZARKS NEAR BAGNELL, MO

LOCATION.--Lat 38°12'19", long 92°37'21", in SE ¼ 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 mi^2.

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 drawdown) 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, 1,291,000 ac-ft, Sept. 25, elevation, 661.36 ft; minimum, 874,000 ac-ft, Feb. 27, elevation, 653.56 ft.

MONTH END ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Date	Elevation (ft)	Contents (ac-ft)	Change in contents (ac-ft)
Sept. 30	657.83	1,095,000	-----
Oct. 31	657.58	1,081,000	- 14,000
Nov. 30	659.98	1,217,000	+136,000
Dec. 31	659.63	1,197,000	- 20,000
CAL YR 1992	------	-----	+ 40,000
Jan. 31	659.43	1,186,000	- 11,000
Feb. 28	653.72	882,000	-304,000
Mar. 31	655.60	977,000	+ 95,000
Apr. 30	657.02	1,051,000	+ 74,000
May 31	658.88	1,154,000	+103,000
June 30	659.27	1,176,000	+ 22,000
July 31	657.89	1,098,000	- 78,000
Aug. 31	659.58	1,194,000	+ 96,000
Sept. 30	658.23	1,118,000	- 76,000
WTR YR 1993	-----	-----	+ 23,000

OSAGE RIVER BASIN

06926000 OSAGE RIVER NEAR BAGNELL, MO

LOCATION.--Lat 38°11'29", long 92°36'26", in NW ¼ NE ¼ SE ¼ 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 mi^2, 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.--No estimated daily discharges. 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 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6290	660	51600	47800	32800	1890	23100	14300	31200	22500	767	17200
2	9700	1830	51800	47700	31800	11800	18500	7780	31400	25300	712	23900
3	2190	2150	51500	39300	31800	18300	13400	15700	31300	29100	4580	18800
4	1400	2500	50200	34000	31800	22800	1640	21400	31300	3410	10600	19000
5	2150	2690	49900	33800	29800	30800	18400	30800	24600	780	13100	19300
6	1530	3740	47000	33600	20000	30900	18700	30900	27800	17000	21000	18000
7	2390	3620	36700	33600	12000	29600	19500	31400	24000	45900	26900	17800
8	882	2040	33900	33600	20000	29400	20600	31400	13900	25100	27700	19200
9	2490	4000	33800	33600	25500	27100	20500	31100	25800	5240	30100	23400
10	1040	3320	33900	33500	24600	25500	2340	4790	24900	11100	34200	29800
11	1100	2690	33800	33500	20000	26800	802	763	27400	6340	34200	33100
12	966	14100	33800	33500	22500	21400	13200	5840	29900	6440	34200	32000
13	965	28800	33800	33500	8740	14600	19700	6960	30300	10900	34200	31000
14	891	21700	33700	33500	1280	10300	16600	6230	29400	2510	33100	36900
15	745	18500	42200	33500	11100	14400	5620	1050	25700	7500	33900	34300
16	842	19200	41900	33500	16500	18400	17800	990	19700	15000	33800	31300
17	944	20600	34200	33500	26800	16800	30600	15300	17200	1650	33800	31600
18	709	20700	38600	33500	28600	19200	30700	30000	19400	8900	33800	33400
19	5450	21300	47400	33500	24700	11600	30500	30100	10900	12300	36300	33600
20	5280	26500	47800	33700	6460	3590	30400	29100	2040	8380	40500	32800
21	2120	33200	49300	33800	1800	3010	27200	31200	6600	8600	40600	33700
22	777	35700	52100	33800	12900	11800	27000	30200	15400	9080	40600	33700
23	763	40100	52200	33800	15800	4320	25600	31300	6360	5300	40500	34000
24	1370	26700	52000	33600	24400	8460	20400	30200	1760	788	33300	40300
25	1050	26100	52100	33600	24300	10700	8280	30200	20900	1030	27100	58100
26	3260	26000	52000	33600	24000	19200	16000	30700	20700	1360	25600	69000
27	1810	31500	52000	33600	26200	15300	26800	26100	15500	1310	25200	57500
28	3490	41200	52000	33600	6100	12800	27800	28700	13300	798	19600	37400
29	3960	44800	52200	33500	---	17000	20600	31300	20800	668	12600	32500
30	1240	47700	52100	33500	---	22200	18000	31400	17500	697	19000	30400
31	1200	---	50900	33500	---	21200	---	31300	---	819	19900	---
MEAN	2226	19120	45050	34700	20080	17130	19010	21890	20570	9542	26500	32100
MAX	9700	47700	52200	47800	32800	30900	30700	31400	31400	45900	40600	69000
MIN	709	660	33700	33500	1280	1890	802	763	1760	668	712	17200
IN.	.18	1.52	3.71	2.86	1.49	1.41	1.52	1.80	1.64	.79	2.18	2.56

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

MEAN	6398	8147	7761	8291	9822	13630	16880	15710	14750	8870	5487	6012
MAX	59310	45280	45050	34700	34720	57300	81050	92260	78160	96780	38810	54540
(WY)	1942	1987	1993	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	10810		22340		10090	
HIGHEST ANNUAL MEAN					24640	1927
LOWEST ANNUAL MEAN					1046	1954
HIGHEST DAILY MEAN	52200	Dec 23	69000	Sep 26	212000	May 19 1943
LOWEST DAILY MEAN	425	Mar 2	660	Nov 1	235	Apr 23 1971
INSTANTANEOUS PEAK FLOW	--		69600	Sep 26	220000	May 19 1943
INSTANTANEOUS PEAK STAGE	--		26.66	Sep 26	48.8	May 19 1943
INSTANTANEOUS LOW FLOW	--		450	Apr 11	183	Sep 9 1969
ANNUAL SEVEN-DAY MINIMUM	506	May 25	824	Jul 27	320	Mar 3 1931
ANNUAL RUNOFF (INCHES)	10.51		21.67		9.79	
10 PERCENT EXCEEDS	33300		39600		29000	
50 PERCENT EXCEEDS	4030		24000		4020	
90 PERCENT EXCEEDS	583		1650		513	

OSAGE RIVER BASIN

06926500 OSAGE RIVER NEAR ST. THOMAS, MO

LOCATION.--Lat 38°20'20", long 92°13'34", in SE ¼ SW ¼ 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.--Estimated daily discharges: July 10 to Aug. 16. Records good, except for estimated daily discharges, which are poor. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3790	1300	51600	50900	35100	3460	24500	17300	33200	23200	1000	14100
2	7490	1160	52800	49900	33500	6530	20000	10600	33200	31800	1000	24500
3	7600	1990	52900	46800	33300	20000	19100	11300	33200	39300	4000	21700
4	2050	2570	52300	40300	33100	29000	12100	19700	33200	24400	10000	19200
5	1720	2820	51300	38900	32100	35200	8240	31400	31400	10800	14000	19800
6	2040	3240	51100	36700	24400	35500	22800	33100	25800	16600	21000	18700
7	1650	3610	42600	36000	16400	34200	21100	33900	31800	69500	25000	18600
8	2200	3410	36500	35700	16300	30500	22200	35000	17200	59100	30000	18000
9	1180	2110	35700	35600	26300	29300	23100	34600	28900	32000	34000	22200
10	2330	4260	36500	35600	27600	28600	15900	22300	28700	20000	36000	29400
11	1150	3800	36100	35400	23300	28600	2130	5100	30400	12000	38000	32500
12	1140	9390	35700	35400	21800	27200	4810	6450	32300	10000	38000	33100
13	1050	29900	35600	35800	19400	18000	24400	13400	32400	15000	38000	32400
14	1050	25900	35500	35700	4940	12200	31600	13200	31800	8000	38000	52000
15	1010	20500	42900	35500	5300	11400	21500	10600	31000	8000	38000	47900
16	922	22500	57000	35500	12500	18000	20200	5680	20500	20000	38000	37100
17	931	21200	43800	35500	27000	18800	34800	6630	21800	15000	37900	34200
18	1020	21600	40500	35500	30100	19900	35000	32900	19200	12000	36800	35400
19	1200	23100	48800	35400	27500	15400	34000	33700	18400	11000	36600	35800
20	5600	27500	51000	36200	17800	9910	33800	33200	8200	15000	41300	38100
21	4310	42700	50900	37900	4740	3210	32200	32400	2260	10000	42500	36900
22	1850	45500	53100	36900	7480	6160	29800	32600	11600	10000	42500	36700
23	978	56600	53600	36400	15200	10100	29100	33100	14700	10000	42500	46100
24	904	37100	53600	36100	22700	4620	25200	32600	5560	6000	40300	54300
25	1370	30800	53500	35800	27500	8530	19500	32100	25100	1200	30800	73900
26	1130	29500	53500	35600	26800	15800	8950	32500	25300	1400	27200	81300
27	3650	29700	53400	35500	26100	21100	26700	29000	20600	1500	27400	76500
28	1830	41200	53300	35500	20900	13800	31000	29800	16700	1500	24600	59300
29	3430	45400	53300	35400	---	14100	23200	32500	18500	1200	12200	47300
30	3490	47900	53200	35300	---	24800	22600	33400	22500	1000	17200	43500
31	1490	---	53200	35300	---	23500	---	33400	---	1000	23800	---
MEAN	2308	21280	47570	37350	22110	18630	22650	24630	23510	16050	28630	38020
MAX	7600	56600	57000	50900	35100	35500	35000	35000	33200	69500	42500	81300
MIN	904	1160	35500	35300	4740	3210	2130	5100	2260	1000	1000	14100
IN.	.18	1.64	3.78	2.97	1.59	1.48	1.74	1.96	1.81	1.28	2.28	2.93

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

MEAN	7012	8532	8491	8648	10470	14510	16840	16030	15240	10020	5246	6353
MAX	68630	45630	47570	37350	36660	60660	71820	92370	82990	103400	28630	57610
(WY)	1987	1987	1993	1993	1975	1973	1973	1943	1935	1951	1993	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	11350		25240		10610	
HIGHEST ANNUAL MEAN					25240	1993
LOWEST ANNUAL MEAN					1237	1954
HIGHEST DAILY MEAN	57000	Dec 16	81300	Sep 26	215000	May 20 1943
LOWEST DAILY MEAN	718	Feb 4	904	Oct 24	373	Jul 12 1959
INSTANTANEOUS PEAK FLOW	--		82100	Sep 26	216000	May 20 1943
INSTANTANEOUS PEAK STAGE	--		25.55	Sep 26	43.8	May 20 1943
INSTANTANEOUS LOW FLOW	--		822	Oct 16, 17	346	Jul 12 1959
ANNUAL SEVEN-DAY MINIMUM	861	May 26	1020	Oct 12	426	Jul 8 1959
ANNUAL RUNOFF (INCHES)	10.65		23.64		9.94	
10 PERCENT EXCEEDS	35600		45700		30000	
50 PERCENT EXCEEDS	4960		26300		4420	
90 PERCENT EXCEEDS	1050		2240		713	

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 ¼ NW ¼ 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 mi^2, approximately.

PERIOD OF RECORD.--Water years 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 and July 25 and Aug. 11, 1980; minimum daily, 0.0°C, Jan. 21, 1978.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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-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												
17...	1100	2130	303	7.7	13.0	4.0	8.7	81	K36	44	130	36
JAN												
05...	1500	38100	206	7.1	3.0	30	12.4	90	--	370	90	27
MAR												
24...	0700	4600	277	7.9	3.5	8.3	12.3	91	50	430	130	36
MAY												
18...	0800	31200	291	7.6	14.0	8.0	8.5	81	K340	K950	130	37
JUL												
21...	0830	30400	251	7.9	24.0	2.3	4.1	47	64	1300	130	37
SEP												
30...	1100	44800	222	7.5	20.5	14	6.2	67	560	420	100	28

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												
17...	8.9	6.5	3.6	114	26	6.4	0.10	2.9	--	160	0.22	8090
JAN												
05...	5.4	4.6	3.4	76	22	4.8	0.10	7.0	135	123	0.18	13400
MAR												
24...	9.8	5.3	2.8	117	25	6.5	<0.10	5.2	170	163	0.23	1960
MAY												
18...	9.6	6.1	2.4	110	28	6.5	0.10	3.3	167	161	0.23	22700
JUL												
21...	9.1	5.2	2.7	98	21	4.7	0.10	6.3	159	146	0.22	11800
SEP												
30...	7.2	3.9	3.4	91	15	3.3	0.20	7.2	128	124	0.17	15100

OSAGE RIVER BASIN

06926510 OSAGE RIVER BELOW ST. THOMAS, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	BARIUM, DISSOLVED (UG/L AS BA) (01005)
NOV												
17...	<0.010	0.290	0.010	0.010	0.30	0.050	0.020	0.020	--	--	10	68
JAN												
05...	0.030	0.380	--	0.110	0.50	0.110	0.060	0.060	--	--	190	53
MAR												
24...	<0.010	0.420	0.020	0.010	0.38	0.050	0.040	0.010	63	44	90	55
MAY												
18...	0.010	0.330	--	0.060	0.40	0.080	0.040	0.020	36	89	30	59
JUL												
21...	0.020	0.180	--	0.070	0.60	0.070	0.040	0.030	11	--	20	68
SEP												
30...	<0.010	0.260	--	0.040	0.30	0.060	0.030	0.050	64	92	--	--

DATE	COBALT, DISSOLVED (UG/L AS CO) (01035)	IRON, DISSOLVED (UG/L AS FE) (01046)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	SIMAZINE, WATER, DISS, REC (UG/L) (04035)
NOV											
17...	<3	6	<4	5	<10	<1	<1	<1.0	130	<6	<0.05
JAN											
05...	<3	110	<4	10	<10	2	<1	<1.0	100	<6	--
MAR											
24...	<3	55	<4	3	<10	1	<1	<1.0	110	<6	--
MAY											
18...	<3	14	<4	9	<10	1	<1	<1.0	120	<6	--
JUL											
21...	<3	66	<4	45	<10	1	<1	<1.0	120	<6	--

DATE	PROMETRYN, WATER, DISS, REC (UG/L) (04036)	PROMETON, WATER, DISS, REC (UG/L) (04037)	DEISOPROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L) (04040)	CYANAZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROPAZINE WATER DISS REC (UG/L) (38535)	METOLACHLOR WATER DISSOLV (UG/L) (39415)	ATRAZINE, WATER, DISS, REC (UG/L) (39632)	ALACHLOR, WATER, DISS, REC, (UG/L) (46342)	METRIBUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV											
17...	<0.05	<0.05	<0.05	0.10	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

GASCONADE RIVER BASIN

06929315 PADDY CREEK ABOVE SLABTOWN SPRING, MO

LOCATION.--Lat 37°33'29", long 92°02'55", in SE ¼ NE ¼ NE ¼ sec. 20, T.33 N., R.10 W., Texas County, Hydrologic Unit 10290202, on the right bank 75 ft upstream from a concrete ford on a county road, 1 mi upstream from Big Piney River, and 12 mi west of Licking.

DRAINAGE AREA.--34.2 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 22, 1993 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 poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 5,090 ft^3/s, Sept. 25, 1993, gage height, 7.80 ft; minimum, 0.22 ft^3/s, Sept. 19, 1993.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	1.2	.99	.64
2	---	---	---	---	---	---	---	---	---	1.2	.91	.65
3	---	---	---	---	---	---	---	---	---	1.6	.77	.68
4	---	---	---	---	---	---	---	---	---	1.3	.77	.66
5	---	---	---	---	---	---	---	---	---	1.1	1.1	.65
6	---	---	---	---	---	---	---	---	---	1.8	1.1	.65
7	---	---	---	---	---	---	---	---	---	2.9	.94	.81
8	---	---	---	---	---	---	---	---	---	4.1	.80	6.5
9	---	---	---	---	---	---	---	---	---	3.2	.68	4.6
10	---	---	---	---	---	---	---	---	---	2.3	3.2	3.0
11	---	---	---	---	---	---	---	---	---	1.7	3.2	2.2
12	---	---	---	---	---	---	---	---	---	1.4	2.3	1.6
13	---	---	---	---	---	---	---	---	---	1.3	1.8	7.2
14	---	---	---	---	---	---	---	---	---	1.3	1.4	178
15	---	---	---	---	---	---	---	---	---	1.3	1.1	74
16	---	---	---	---	---	---	---	---	---	1.2	.90	10
17	---	---	---	---	---	---	---	---	---	.92	.69	2.5
18	---	---	---	---	---	---	---	---	---	.76	.67	.68
19	---	---	---	---	---	---	---	---	---	.68	.67	2.7
20	---	---	---	---	---	---	---	---	---	.69	.66	42
21	---	---	---	---	---	---	---	---	---	.78	.65	9.0
22	---	---	---	---	---	---	---	---	54	.78	.64	2.5
23	---	---	---	---	---	---	---	---	19	.68	.64	1.4
24	---	---	---	---	---	---	---	---	8.8	.66	.65	1140
25	---	---	---	---	---	---	---	---	9.8	.65	.65	1640
26	---	---	---	---	---	---	---	---	6.1	.63	.64	441
27	---	---	---	---	---	---	---	---	3.8	.64	.64	272
28	---	---	---	---	---	---	---	---	2.4	.65	.63	161
29	---	---	---	---	---	---	---	---	1.7	.71	.60	97
30	---	---	---	---	---	---	---	---	1.3	.68	.59	53
31	---	---	---	---	---	---	---	---	---	1.1	.64	---
MEAN	---	---	---	---	---	---	---	---	---	1.29	1.02	139
MAX	---	---	---	---	---	---	---	---	---	4.1	3.2	1640
MIN	---	---	---	---	---	---	---	---	---	.63	.59	.64

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

MEAN	---	---	---	---	---	---	---	---	---	1.29	1.02	139
MAX	---	---	---	---	---	---	---	---	---	1.29	1.02	139
(WY)	---	---	---	---	---	---	---	---	---	1993	1993	1993
MIN	---	---	---	---	---	---	---	---	---	1.29	1.02	139
(WY)	---	---	---	---	---	---	---	---	---	1993	1993	1993

GASCONADE RIVER BASIN

06929315 PADDY CREEK ABOVE SLABTOWN SPRING, MO--Continued
(National water-quality assessment station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)
APR											
19...	1430	37	13.0	155	7.7	9.6	93	K10	K19	93	0
MAY											
11...	1100	17	15.5	224	7.7	9.0	90	K29	98	134	0
JUN											
02...	1030	5.8	17.0	251	8.0	9.9	103	43	66	160	0
JUL											
08...	1500	4.0	24.0	255	7.9	12.3	146	K18	K29	166	0
AUG											
17...	1030	0.68	24.5	301	7.9	6.4	77	K20	120	190	0
SEP											
24...	1550	3400	17.5	55	7.1	9.0	94	4500	4900	33	0

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

DATE	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	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, DIS-SOLVED (MG/L AS P) (00671)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
APR											
19...	76	<0.050	<0.010	<0.010	<0.20	<0.20	0.030	<0.010	<0.010	72	15
MAY											
11...	110	<0.050	<0.010	0.020	<0.20	<0.20	<0.010	<0.010	<0.010	120	25
JUN											
02...	131	0.120	<0.010	0.020	<0.20	<0.20	<0.010	<0.010	<0.010	130	27
JUL											
08...	136	<0.050	<0.010	0.020	0.20	<0.20	0.010	<0.010	<0.010	140	29
AUG											
17...	156	0.130	<0.010	0.030	<0.20	<0.20	<0.010	<0.010	<0.010	160	33
SEP											
24...	27	<0.050	<0.010	0.070	0.80	0.40	0.100	<0.010	0.030	27	6.4

06929315 PADDY CREEK ABOVE SLABTOWN SPRING, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SEDIMENT, SUSPENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
APR										
19...	8.3	1.1	0.90	5.3	2.1	<0.10	6.6	87	22	38
MAY										
11...	13	1.5	1.0	3.7	1.6	<0.10	8.1	124	35	99
JUN										
02...	15	1.2	0.90	3.1	2.2	<0.10	8.0	135	2	75
JUL										
08...	16	1.3	1.0	3.1	1.2	<0.10	9.5	137	45	99
AUG										
17...	18	1.4	1.0	2.4	2.6	<0.10	10	171	7	--
SEP										
24...	2.6	1.2	5.4	2.9	0.70	<0.10	7.2	50	106	86

DATE	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)	LITHIUM DISSOLVED (UG/L AS LI) (01130)
APR										
19...	<1	24	<0.5	<1.0	<5	<3	<10	19	<10	<4
MAY										
11...	--	--	--	--	--	--	--	7	--	--
JUN										
02...	<1	37	<0.5	1.0	<5	<3	<10	9	<10	<4
JUL										
08...	--	--	--	--	--	--	--	6	--	--
AUG										
17...	<1	50	<0.5	<1.0	<5	<3	<10	8	<10	<4
SEP										
24...	<1	20	<0.5	<1.0	<5	<3	<10	155	<10	<4

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
APR										
19...	1	<10	<10	<1	<1.0	18	<6	6	1.6	0.3
MAY										
11...	4	--	--	--	--	--	--	--	1.1	<0.1
JUN										
02...	6	<10	<10	<1	<1.0	30	<6	<3	1.1	0.1
JUL										
08...	9	--	--	--	--	--	--	--	1.0	0.1
AUG										
17...	18	<10	<10	<1	<1.0	37	<6	6	0.8	0.1
SEP										
24...	7	<10	<10	<1	<1.0	13	<6	12	12	2.8

GASCONADE RIVER BASIN

06930000 BIG PINEY RIVER NEAR BIG PINEY, MO

LOCATION.--Lat 37°39'58", long 92°03'02", in NE ¼ SE ¼ 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 mi^2, approximately.

PERIOD OF RECORD.--October 1921 to September 30, 1982, April 4, 1988 to September 1993 (discontinued).

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 ft^3/s, from indirect measurement.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	176	171	469	407	502	558	709	526	339	337	171	159
2	170	173	429	403	485	1010	639	505	327	311	181	166
3	166	230	390	414	467	2580	582	507	326	304	225	197
4	161	230	357	6130	449	2450	547	675	459	284	187	204
5	158	201	331	15700	435	1810	570	799	607	269	173	315
6	154	189	310	3200	426	1420	868	670	628	268	174	252
7	152	185	285	2180	415	1170	1000	595	504	266	174	218
8	152	179	267	1690	407	1010	885	544	442	270	173	280
9	149	175	264	1380	399	884	824	509	402	254	168	306
10	146	175	262	1240	388	790	749	484	534	239	189	323
11	143	195	268	1150	386	711	681	620	731	227	208	284
12	141	1170	265	1030	386	644	623	880	631	219	226	249
13	142	4720	259	977	383	593	577	741	526	212	227	234
14	142	1240	252	915	371	557	1210	670	448	215	222	416
15	142	779	742	837	373	532	6720	597	395	224	206	1150
16	144	589	9590	780	379	528	4880	539	358	225	192	977
17	139	478	3080	726	373	540	2430	492	330	207	179	630
18	136	412	1710	666	358	568	1760	496	310	198	172	480
19	135	363	1270	615	345	577	1420	518	303	193	168	404
20	136	470	1020	617	343	1290	1270	483	473	192	171	576
21	137	3420	859	1120	369	1650	1110	443	1660	193	188	848
22	138	3550	747	1430	524	1250	950	411	786	204	189	693
23	139	4620	666	1140	816	1180	840	392	587	314	173	571
24	137	1780	599	986	728	1140	800	383	473	253	172	2380
25	137	1230	542	876	687	994	745	373	466	209	172	13900
26	137	970	505	778	651	883	685	353	487	191	172	22900
27	139	789	470	717	588	802	624	331	549	180	165	3900
28	141	669	441	672	540	735	577	315	456	172	163	2540
29	150	589	422	620	---	683	545	310	407	167	163	1820
30	156	522	409	560	---	644	529	347	372	165	160	1410
31	157	---	410	520	---	642	---	366	---	165	162	---
MEAN	147	1015	900	1628	463	994	1212	512	511	230	183	1959
MAX	176	4720	9590	15700	816	2580	6720	880	1660	337	227	22900
MIN	135	171	252	403	343	528	529	310	303	165	160	159
IN.	.30	2.02	1.85	3.35	.86	2.05	2.41	1.05	1.02	.47	.38	3.90

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

MEAN	269	461	457	558	637	839	976	898	560	292	243	256
MAX	1261	2127	1940	2554	2237	2565	3637	3324	2892	1969	1947	1959
(WY)	1950	1952	1943	1950	1982	1945	1927	1990	1928	1951	1927	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	500		812		538	
HIGHEST ANNUAL MEAN					1179	1927
LOWEST ANNUAL MEAN					149	1954
HIGHEST DAILY MEAN	9590	Dec 16	22900	Sep 26	22900	Sep 26 1993
LOWEST DAILY MEAN	135	Oct 19	135	Oct 19	69	Sep 17-18 1954
INSTANTANEOUS PEAK FLOW	--		30000	Sep 26	32700	Dec 27 1942
INSTANTANEOUS PEAK STAGE	--		19.66	Sep 26	20.7	Dec 27 1942
INSTANTANEOUS LOW FLOW	--		134	Oct 18-20, 24-27	69	Sep 17-18 1954
ANNUAL SEVEN-DAY MINIMUM	137	Oct 18	137	Oct 18	71	Sep 14 1954
ANNUAL RUNOFF (INCHES)	12.16		19.68		13.04	
10 PERCENT EXCEEDS	858		1260		1050	
50 PERCENT EXCEEDS	297		449		255	
90 PERCENT EXCEEDS	154		166		123	

GASCONADE RIVER BASIN

06930450 BIG PINEY RIVER AT DEVIL'S ELBOW, MO
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

LOCATION.--Lat 37°50'53", long 92°03'44, in SE ¼ NE ¼ sec.18, T.36 N., R.10 W., Pulaski County, Hydrologic Unit 1929020, at bridge on County Highway V at Devil's Elbow.

PERIOD OF RECORD.--July 1977 to October 1989, November 1992 to currrent year.

REMARKS.--Ambient water-quality monitoring network station since July 1977.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
19...	0915	525	11.0	290	7.7	9.8	87	<10	K70	83	B171
JAN											
05...	1300	16000	6.5	108	7.1	11.8	94	61	K7300	K12000	51
MAR											
23...	1400	1690	8.0	238	7.8	11.8	99	11	49	380	117
MAY											
18...	1430	1090	15.0	278	7.4	10.0	99	<10	K430	K2100	143
JUL											
22...	1115	405	24.0	281	7.9	8.3	96	15	62	89	151
SEP											
29...	1150	2500	15.0	220	7.8	10.0	97	15	350	390	112

K--Results based on colony count outside the acceptable range (non-ideal colony count).
B--Based on cation/anion balance, this value is considered suspect.

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV											
19...	1.00	0.070	0.020	<0.20	0.040	<0.010	140	29	16	2.4	1.5
JAN											
05...	0.230	0.020	0.030	2.1	0.200	0.150	52	11	6.0	1.2	2.4
MAR											
23...	0.500	<0.010	0.010	0.22	0.020	0.010	--	--	--	--	--
MAY											
18...	0.260	<0.010	0.020	0.29	0.020	0.020	140	29	17	2.6	1.3
JUL											
22...	0.330	<0.010	0.030	0.26	0.050	0.020	--	--	--	--	--
SEP											
29...	0.680	0.010	0.020	0.49	0.050	0.050	--	--	--	--	--

GASCONADE RIVER BASIN

06930450 BIG PINEY RIVER AT DEVIL'S ELBOW, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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-PENDED (MG/L) (00530)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	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)
NOV 19...	7.1	4.9	<0.10	154	<1	--	--	<1	<1.0	4
JAN 05...	4.2	2.4	<0.10	85	230	3200	150	5	1.0	1
MAR 23...	--	--	--	138	11	160	60	--	--	--
MAY 18...	5.7	4.3	<0.10	147	6	110	30	<1	<1.0	<1
JUL 22...	--	--	--	163	8	160	<10	--	--	--
SEP 29...	--	--	--	128	13	500	180	--	--	--

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)
NOV 19...	13	14	2	50	9	--	<10	9	<0.05	<0.05
JAN 05...	170	190	2	340	8	<0.10	10	5	<0.05	<0.05
MAY 18...	11	2	<1	40	14	0.20	<10	4	<0.05	<0.05

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV 19...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN 05...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAY 18...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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 ¼ 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, and 0.7 mi upstream from gaging station.

DRAINAGE AREA.--2,570 mi^2.

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 1992 TO SEPTEMBER 1993

DATE	TIME	DISCHARGE, 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, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)
NOV												
17...	1415	2160	280	7.9	10.5	9.8	10.0	87	K470	240	150	30
JAN												
05...	1130	28300	130	8.0	6.0	160	11.6	91	6000	9100	61	13
MAR												
23...	0930	6030	258	7.8	6.5	18	11.6	93	860	920	130	26
MAY												
18...	1600	7870	198	7.4	15.0	47	9.2	90	K3800	K4500	95	20
JUN												
10...	1030	3360	286	7.5	20.0	12	7.1	77	520	180	150	30
JUL												
22...	0900	1580	292	8.0	24.0	14	7.4	86	240	300	170	36
SEP												
30...	0930	9140	242	7.8	15.0	19	8.9	87	3400	130	120	25

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

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)
NOV												
17...	17	2.5	3.0	138	7.1	5.5	<0.10	8.6	175	160	0.24	--
JAN												
05...	6.9	1.5	2.0	50	4.7	3.0	<0.10	5.9	82	70	0.11	6270
MAR												
23...	15	3.1	2.0	127	7.0	7.8	<0.10	5.2	147	145	0.20	2390
MAY												
18...	11	1.9	1.8	94	5.2	3.4	<0.10	4.8	124	106	0.17	2610
JUN												
10...	17	2.9	2.2	136	5.5	4.7	0.50	6.8	163	153	0.22	1470
JUL												
22...	19	2.7	1.6	155	5.5	4.2	<0.10	9.9	176	173	0.24	751
SEP												
30...	14	2.2	2.4	112	5.7	3.6	<0.10	11	138	136	0.19	3410

GASCONADE RIVER BASIN

06930800 GASCONADE RIVER ABOVE JEROME, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)
NOV												
17...	<0.010	0.810	0.020	0.020	0.40	0.100	0.070	0.060	--	--	40	45
JAN												
05...	0.030	0.320	--	0.070	0.80	0.170	0.060	0.040	--	--	520	30
MAR												
23...	<0.010	0.630	0.030	0.020	0.38	0.070	<0.020	<0.010	42	68	60	35
MAY												
18...	<0.010	0.190	--	0.040	0.70	0.110	0.040	0.020	642	59	90	36
JUN												
10...	0.010	0.400	--	0.050	0.30	0.040	0.030	0.010	56	53	60	49
JUL												
22...	0.010	0.310	--	0.040	0.40	0.050	0.020	0.020	--	--	<10	63
SEP												
30...	<0.010	0.950	--	0.030	0.20	0.050	0.020	0.040	--	--	--	--

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
NOV											
17...	<3	47	<4	7	<10	<1	<1	<1.0	33	<6	<0.05
JAN											
05...	<3	150	<4	13	<10	<1	<1	<1.0	17	<6	--
MAR											
23...	<3	42	<4	3	<10	<1	<1	<1.0	27	<6	--
MAY											
18...	<3	63	<4	11	<10	<1	<1	<1.0	25	<6	--
JUN											
10...	<3	26	<4	5	<10	1	<1	<1.0	34	<6	--
JUL											
22...	<3	15	<4	43	<10	<1	<1	<1.0	46	<6	--

DATE	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV											
17...	<0.05	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

GASCONADE RIVER BASIN

06932000 LITTLE PINEY CREEK AT NEWBURG, MO

LOCATION.--Lat 37°54'35", long 91°54'12", in SW ¼ SE ¼ 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 mi^2, 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.--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, 16.7 ft, August 20, 1915, from floodmark, present datum; discharge, 30,000 ft^3/s, from rating curve based on discharge measurements made in 1935 and extended above 25,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	74	131	105	134	173	192	196	123	143	92	74
2	63	71	124	102	127	345	188	188	128	134	89	92
3	63	70	116	107	123	566	173	201	123	135	86	451
4	64	68	112	4570	119	616	164	207	128	118	86	146
5	64	67	105	1100	115	497	201	199	129	109	89	110
6	63	66	103	525	112	396	223	189	119	189	93	95
7	63	66	101	401	110	337	209	181	118	383	86	89
8	63	66	98	334	108	292	199	174	125	234	83	279
9	64	67	101	296	106	254	184	163	133	171	83	221
10	63	96	103	256	105	232	171	176	203	144	100	146
11	63	271	97	223	104	211	161	214	199	132	174	115
12	64	283	94	209	113	194	150	198	183	249	307	101
13	64	169	92	223	112	182	149	214	169	149	146	126
14	64	132	91	202	108	169	349	196	149	136	109	1410
15	64	111	1030	191	104	163	1260	182	136	207	98	533
16	65	101	789	183	111	165	661	171	127	234	92	293
17	64	94	377	175	102	154	457	163	120	162	86	218
18	65	102	287	163	96	144	377	1210	115	140	83	178
19	65	108	244	154	94	159	345	388	118	129	81	289
20	68	342	209	289	98	217	312	279	128	135	78	1000
21	67	354	187	354	117	210	275	231	132	163	76	355
22	67	1090	172	286	203	202	251	200	131	156	74	262
23	65	409	157	250	187	208	239	183	123	128	83	543
24	65	297	142	224	171	192	228	169	122	119	87	4820
25	65	244	134	195	169	179	377	152	157	113	75	5570
26	65	206	126	181	174	171	274	141	145	111	72	1490
27	65	182	122	170	162	161	242	131	137	107	71	781
28	67	167	119	162	161	153	224	128	132	104	70	556
29	74	154	119	150	---	147	213	143	240	101	70	446
30	68	141	117	139	---	144	203	149	151	97	71	378
31	70	---	114	137	---	175	---	132	---	94	75	---
MEAN	65.1	189	191	389	127	239	288	221	141	152	95.6	706
MAX	74	1090	1030	4570	203	616	1260	1210	240	383	307	5570
MIN	63	66	91	102	94	144	149	128	115	94	70	74
IN.	.38	1.05	1.10	2.24	.66	1.38	1.61	1.27	.79	.88	.55	3.94

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

MEAN	98.3	124	152	148	175	225	250	258	206	100	81.5	87.9
MAX	913	676	1300	770	678	822	1335	871	1545	525	493	706
(WY)	1950	1986	1983	1950	1985	1945	1945	1957	1935	1951	1946	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	132		233		158	
HIGHEST ANNUAL MEAN					391	1985
LOWEST ANNUAL MEAN					47.0	1954
HIGHEST DAILY MEAN	1090	Nov 22	5570	Sep 25	19600	Dec 3 1982
LOWEST DAILY MEAN	61	Sep 4	63	Oct 2-3, 6-8, 10-11	24	1936, 1954, 1956
INSTANTANEOUS PEAK FLOW	--		9700	Sep 24	32500	Aug 14 1946
INSTANTANEOUS PEAK STAGE	--		11.78	Sep 24	16.6	Jun 17 1985
INSTANTANEOUS LOW FLOW	--		62	Oct 2-3, 6-8, 10-11	24	Several Years
ANNUAL SEVEN-DAY MINIMUM	62	Sep 13	63	Oct 2	24	Aug 22 1936
ANNUAL RUNOFF (INCHES)	9.00		15.85		10.73	
10 PERCENT EXCEEDS	207		351		277	
50 PERCENT EXCEEDS	98		146		84	
90 PERCENT EXCEEDS	64		70		43	

GASCONADE RIVER BASIN

06933500 GASCONADE RIVER AT JEROME, MO

LOCATION.--Lat 37°55'47", long 91°58'38", in NE ¼ NE ¼ SE ¼ 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 mi^2, approximately.

PERIOD OF RECORD.--April 1903 to July 1906 (published as "at Arlington"), 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: Feb. 11-20. 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 ft^3/s. A stage of 28.6 ft was reached on August 20 and 22, 1915, discharge, 114,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	765	639	2910	1970	2580	2920	2920	2730	1900	2920	922	715
2	725	699	2570	1920	2430	3830	3000	2600	1800	2580	924	736
3	694	714	2300	1920	2300	7070	2950	2580	1720	3410	887	1780
4	670	736	2090	11700	2210	11400	2760	2630	1730	3330	909	1190
5	648	763	1890	29100	2110	10700	2750	2730	1840	2520	895	1000
6	624	732	1740	37000	2030	8450	2970	2840	2060	2430	935	1020
7	607	732	1630	26500	1960	6870	4450	2790	2890	4330	907	1010
8	589	737	1520	9870	1890	5750	5020	2560	2560	3320	874	1250
9	579	724	1470	7170	1850	4910	4480	2400	2670	2570	855	1420
10	572	720	1540	5900	1800	4290	4020	2430	3420	2060	928	1470
11	555	1290	1550	5110	1720	3770	3640	2520	7230	1800	1200	1500
12	546	3060	1510	4670	1680	3360	3270	3020	10400	2270	1420	1490
13	541	5620	1470	4460	1620	3020	2990	4160	7220	1850	1310	1410
14	535	7220	1420	4340	1590	2750	3190	3870	5770	2150	1090	3660
15	530	5470	3920	4120	1540	2560	8600	3460	4010	4310	1000	5570
16	535	3460	12000	3790	1510	2500	18200	3190	3230	4490	962	6560
17	525	2630	21800	3510	1490	2400	21100	2880	2710	2790	903	5490
18	522	2200	16100	3220	1460	2320	12600	7240	2410	2110	848	3830
19	517	2240	8320	2940	1430	2430	8390	5900	2220	1760	819	2980
20	518	3370	6080	3510	1410	2770	7150	4230	2200	1550	781	6100
21	522	8730	4940	4730	2000	5210	6090	3500	3750	1480	744	6920
22	522	20200	4180	6050	2350	7400	5510	2980	7250	1510	728	5460
23	522	26300	3640	6500	2880	6040	4820	2660	6830	1360	758	5350
24	522	24400	3200	5500	3950	5310	4300	2430	4390	1310	838	14300
25	522	14000	2910	4710	3920	4770	4690	2210	4350	1230	852	34300
26	525	7340	2660	4180	3540	4230	4250	2040	4880	1140	873	67600
27	530	5720	2490	3750	3220	3790	3830	1920	4660	1070	804	101000
28	530	4690	2360	3420	2980	3460	3440	1830	4140	1020	786	60700
29	562	3900	2230	3140	---	3210	3130	1760	3690	983	758	22600
30	630	3340	2120	2900	---	2980	2890	1900	3810	944	729	8970
31	613	---	2070	2720	---	2910	---	2040	---	923	719	---
MEAN	574	5413	4085	7107	2195	4625	5580	2969	3925	2178	902	12580
MAX	765	26300	21800	37000	3950	11400	21100	7240	10400	4490	1420	101000
MIN	517	639	1420	1920	1410	2320	2750	1760	1720	923	719	715
IN.	.23	2.13	1.66	2.89	.80	1.88	2.19	1.21	1.54	.88	.37	4.94

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

MEAN	1403	2235	2529	2420	2951	3989	4550	4231	3103	1568	1207	1314
MAX	10390	10120	17740	10980	11540	13110	20450	15390	18500	10730	9244	12580
(WY)	1950	1984	1983	1950	1985	1945	1945	1990	1935	1951	1927	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	2230		4334		2611	
HIGHEST ANNUAL MEAN					6491	1985
LOWEST ANNUAL MEAN					544	1954
HIGHEST DAILY MEAN	26300	Nov 23	101000	Sep 27	121000	Dec 5 1982
LOWEST DAILY MEAN	517	Oct 19	517	Oct 19	259	Sep 21 1956
INSTANTANEOUS PEAK FLOW	--		110000	Sep 27	136000	Dec 5 1982
INSTANTANEOUS PEAK STAGE	--		29.60	Sep 27	31.34	Dec 5 1982
INSTANTANEOUS LOW FLOW	--		514	Oct 19-20	254	Sep 21 1956
ANNUAL SEVEN-DAY MINIMUM	521	Oct 18	521	Oct 18	266	Sep 16 1956
ANNUAL RUNOFF (INCHES)	10.69		20.72		12.49	
10 PERCENT EXCEEDS	4260		7220		5480	
50 PERCENT EXCEEDS	1440		2600		1250	
90 PERCENT EXCEEDS	596		725		518	

GASCONADE RIVER BASIN

06934000 GASCONADE RIVER NEAR RICH FOUNTAIN, MO

LOCATION.--Lat 38°23'20", long 91°49'15", in SE ¼ 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.

DRAINAGE AREA.--3,180 mi^2 (by U.S. Army Corps of Engineers).

PERIOD OF RECORD.--October 1921 to September 1959, October 31, 1986 to current year. From 1959 to 1986 annual peaks only.

GAGE.--Water-stage recorder. Datum of gage 553.70 ft above sea level. From Oct. 10, 1921 to Sept. 13, 1932, chain gage on former bridge, 50 ft downstream; Sept. 14, 1932 to Mar. 9, 1934, wire-weight gage on former bridge. Mar. 10, 1934 to Aug. 26, 1956, water-stage recorder on former bridge; Aug. 26, 1956 to May 11, 1966, gage readings were obtained by measuring from a reference point on present bridge; May 11, 1966 to Oct. 31, 1986, Type-A wire-weight gage on present bridge. All gages have been maintained at present 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	823	659	3590	2060	2870	3220	3240	3130	2300	4640	1050	821
2	772	673	3150	1970	2690	4710	3220	2950	2130	3490	1010	951
3	735	744	2800	1950	2530	7450	3270	2840	2030	4390	967	2640
4	708	743	2510	11000	2410	13500	3120	2900	1970	4470	941	2430
5	688	740	2270	21800	2300	15200	3180	3100	1980	3330	985	1380
6	671	770	2080	32000	2180	12000	3180	3170	2160	6270	992	1110
7	653	739	1930	38800	2080	9030	3550	3100	2480	32900	979	1140
8	644	742	1790	27700	2010	7290	5060	2920	4900	10400	935	1120
9	632	755	1770	10200	1930	6070	5050	2660	4400	4470	924	1500
10	627	755	1850	7730	1860	5140	4520	2670	3530	3240	1020	1530
11	614	1140	1880	6350	1830	4460	4050	2880	4600	2590	1990	1590
12	597	4890	1790	5660	1880	3950	3640	2760	10700	3050	11600	1580
13	592	4680	1710	5530	1860	3530	7440	3760	9370	3010	3010	1520
14	584	7130	1650	5160	1790	3210	5150	4340	7400	3160	1590	5760
15	573	7370	6220	4900	1760	2960	8870	3820	5250	12800	1250	9820
16	566	4940	11300	4590	1800	2830	16000	3480	3850	8180	1120	7290
17	558	3430	18600	4240	1740	2730	22900	3190	3250	4520	1020	7330
18	546	2720	24300	3910	1680	2610	22800	7870	2890	3020	959	5390
19	536	2560	16000	3590	1640	2620	12500	9530	2590	2390	908	4270
20	543	4740	8360	4670	1640	2860	9820	5880	2500	2030	876	6420
21	543	12700	6300	6920	2490	3490	7800	4540	2590	1940	846	7490
22	546	19900	5080	6570	2780	7010	6620	3820	5330	1840	924	7330
23	552	27800	4350	7620	2780	7540	5920	3380	8710	1840	1280	19000
24	544	29500	3780	7090	3300	6270	5140	3090	6200	1630	1550	16900
25	538	27400	3360	5860	4100	5560	5310	2790	13000	1570	1050	33200
26	541	13100	3020	5030	3840	4920	5350	2530	5490	1450	1030	41100
27	540	7680	2740	4460	3430	4390	4610	2330	5500	1330	976	68100
28	545	6010	2560	4010	3170	3960	4110	2200	5540	1240	912	101000
29	577	4900	2420	3640	---	3630	3660	2110	4700	1170	880	70800
30	635	4150	2290	3320	---	3360	3350	2160	4550	1110	851	29400
31	663	---	2150	3060	---	3400	---	2200	---	1060	821	---
MEAN	609	6802	4955	8432	2370	5448	6748	3487	4730	4469	1460	15330
MAX	823	29500	24300	38800	4100	15200	22900	9530	13000	32900	11600	101000
MIN	536	659	1650	1950	1640	2610	3120	2110	1970	1060	821	821
IN.	.22	2.39	1.80	3.06	.78	1.98	2.37	1.26	1.66	1.62	.53	5.38

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

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

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	2600		5395		2963	
HIGHEST ANNUAL MEAN					6560	1927
LOWEST ANNUAL MEAN					629	1954
HIGHEST DAILY MEAN	29500	Nov 24	101000	Sep 28	91100	Apr 16 1945
LOWEST DAILY MEAN	536	Oct 19	536	Oct 19	275	Sep 19 1954
INSTANTANEOUS PEAK FLOW	--		106000	Sep 28	134000	Dec 6 1982
INSTANTANEOUS PEAK STAGE	--		31.28**	Sep 28	33.27	Dec 6 1982
INSTANTANEOUS LOW FLOW	--		529	Oct 25-26	275	Sep 19 1954
ANNUAL SEVEN-DAY MINIMUM	543	Oct 19	543	Oct 19	279	Oct 6 1956
ANNUAL RUNOFF (INCHES)	11.13		23.04		12.66	
10 PERCENT EXCEEDS	4980		10300		6340	
50 PERCENT EXCEEDS	1650		3100		1450	
90 PERCENT EXCEEDS	645		751		559	

**Wire-weight gage reading.

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO

LOCATION.--Lat 38°42'36", long 91°26'21", in SW ¼ 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 mi^2, 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: Oct. 26 to Nov. 8 and Nov. 13-15. 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 ft^3/s, computed by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53600	45500	132000	114000	99400	74700	161000	152000	154000	187000	716000	139000
2	55000	44300	125000	114000	95100	69400	196000	148000	151000	235000	655000	138000
3	59000	43500	120000	111000	93100	104000	215000	132000	155000	270000	584000	165000
4	58100	44000	115000	127000	95200	173000	219000	148000	154000	290000	512000	172000
5	53000	46000	112000	157000	97500	226000	201000	194000	156000	292000	457000	170000
6	51100	47500	109000	159000	97800	232000	203000	207000	170000	294000	415000	167000
7	51400	51000	106000	145000	96200	227000	207000	195000	234000	402000	383000	160000
8	51200	54500	96600	133000	94700	221000	185000	205000	238000	418000	365000	154000
9	51300	57200	91700	122000	98500	205000	174000	221000	236000	408000	350000	150000
10	51100	53100	93100	103000	103000	187000	188000	220000	223000	365000	337000	149000
11	53200	54600	99300	95900	103000	174000	182000	268000	209000	343000	328000	151000
12	56700	75200	105000	94000	99700	181000	163000	289000	197000	331000	328000	149000
13	78100	110000	102000	93400	105000	188000	175000	265000	181000	332000	371000	145000
14	90000	120000	98600	92900	114000	181000	219000	278000	164000	347000	318000	204000
15	85200	110000	161000	92800	111000	168000	268000	273000	157000	435000	300000	266000
16	82100	90900	268000	93500	105000	154000	283000	255000	157000	492000	290000	252000
17	78600	80000	285000	91700	104000	139000	266000	231000	163000	416000	275000	228000
18	75100	74800	273000	89100	108000	125000	247000	213000	161000	375000	250000	200000
19	72600	73600	254000	86700	105000	119000	231000	212000	151000	357000	220000	179000
20	69500	83700	234000	87300	100000	115000	221000	195000	150000	347000	197000	234000
21	69900	181000	210000	98200	90700	113000	212000	179000	150000	337000	186000	239000
22	67000	256000	180000	101000	84500	108000	200000	169000	154000	328000	181000	240000
23	62600	295000	154000	105000	81400	118000	187000	164000	170000	322000	184000	324000
24	59000	288000	140000	113000	82600	132000	177000	161000	157000	320000	193000	363000
25	55900	259000	133000	117000	85900	133000	180000	158000	186000	347000	185000	375000
26	53600	227000	129000	111000	86200	130000	173000	157000	202000	376000	173000	419000
27	52500	197000	125000	103000	84800	131000	156000	159000	173000	386000	165000	432000
28	51000	177000	122000	98100	84500	123000	154000	151000	172000	427000	159000	435000
29	50000	162000	120000	96600	---	118000	148000	146000	180000	511000	151000	465000
30	48500	144000	117000	99700	---	122000	143000	147000	175000	636000	138000	442000
31	46500	---	115000	102000	---	134000	---	151000	---	739000	138000	---
MEAN	61050	118200	146000	108000	96640	149200	197800	194900	176000	376300	306600	243500
MAX	90000	295000	285000	159000	114000	232000	283000	289000	238000	739000	716000	465000
MIN	46500	43500	91700	86700	81400	69400	143000	132000	150000	187000	138000	138000
IN.	.13	.25	.32	.24	.19	.33	.42	.43	.37	.83	.67	.52

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

MEAN	63670	63740	48850	43390	57590	89670	115000	108400	120400	99100	64720	66160
MAX	286700	152700	178900	129000	136800	267500	333400	231400	320600	445200	306600	243500
(WY)	1987	1986	1983	1973	1982	1973	1973	1943	1935	1951	1993	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	84210		181800		78400	
HIGHEST ANNUAL MEAN					181800	1993
LOWEST ANNUAL MEAN					29750	1934
HIGHEST DAILY MEAN	295000	Nov 23	739000	Jul 31	739000	Jul 31 1993
LOWEST DAILY MEAN	29200	Feb 11	43500	Nov 3	4200	Jan 10 1940
INSTANTANEOUS PEAK FLOW	--		750000	Jul 31	750000	Jul 31 1993
INSTANTANEOUS PEAK STAGE	--		36.97	Jul 31	36.97	Jul 31 1993
INSTANTANEOUS LOW FLOW	--		42700	Nov 2	4200	Jan 10 1940
ANNUAL SEVEN-DAY MINIMUM	32600	Feb 8	45300	Oct 31	4310	Jan 8 1940
ANNUAL RUNOFF (INCHES)	2.19		4.71		2.03	
10 PERCENT EXCEEDS	155000		339000		156000	
50 PERCENT EXCEEDS	65000		156000		58100	
90 PERCENT EXCEEDS	41000		71500		25800	

**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, April 1986 to September 1986.

INSTRUMENTATION.--Water-quality monitor, June 1984 to September 1984, April 1985 to September 1985, 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 1992 TO SEPTEMBER 1993

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-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												
24...	1100	276000	266	8.1	8.0	320	9.3	77	7200	16000	110	30
JAN												
07...	1145	145000	346	7.6	3.0	170	12.4	90	K1400	1600	120	35
MAY												
20...	0930	203000	434	7.6	16.5	190	7.4	75	K1500	1300	180	50
JUL												
24...	1245	321000	331	7.9	26.5	120	5.0	61	360	550	150	44
AUG												
06...	1030	419000	382	6.9	24.5	140	--	--	K190	K250	150	44
SEP												
18...	0900	202000	407	7.5	19.5	--	8.8	94	--	--	--	--

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												
24...	7.8	8.8	4.6	96	26	7.8	0.20	9.0	204	157	0.28	152000
JAN												
07...	8.8	14	3.9	99	40	14	0.20	9.1	226	191	0.31	92800
MAY												
20...	14	15	5.5	143	59	12	0.30	10	273	261	0.37	151000
JUL												
24...	10	11	5.8	116	36	8.0	0.30	13	219	203	0.30	190000
AUG												
06...	10	12	6.6	112	40	11	0.30	14	238	212	0.32	--

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	BARIUM, DISSOLVED (UG/L AS BA) (01005)
NOV												
24...	0.030	0.960	0.130	0.040	2.2	0.960	0.090	0.080	--	--	430	71
JAN												
07...	0.050	1.00	--	0.170	1.1	0.390	0.180	0.130	--	--	790	76
MAY												
20...	0.040	2.00	--	0.010	0.90	0.280	0.100	0.090	1400	84	20	110
JUL												
24...	0.070	1.20	--	0.030	0.80	0.180	0.060	0.060	--	--	<10	120
AUG												
06...	0.010	1.40	0.040	0.040	0.64	0.140	0.070	0.080	--	--	40	120
SEP												
18...	0.020	1.10	--	0.040	--	--	0.010	0.100	--	--	--	--

DATE	COBALT, DISSOLVED (UG/L AS CO) (01035)	IRON, DISSOLVED (UG/L AS FE) (01046)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	SIMAZINE, WATER, DISS, REC (UG/L) (04035)
NOV											
24...	<3	420	5	41	<10	5	<1	<1.0	140	<6	--
JAN											
07...	<3	160	8	15	<10	3	<1	<1.0	170	<6	--
MAY											
20...	<3	4	10	3	<10	2	2	<1.0	270	<6	--
JUL											
24...	<3	16	8	6	<10	3	<1	<1.0	220	<6	--
AUG											
06...	<3	26	9	2	<10	3	<1	<1.0	230	<6	0.02

DATE	PROMETRYN, WATER, DISS, REC (UG/L) (04036)	PROMETON, WATER, DISS, REC (UG/L) (04037)	DEISOPROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L) (04040)	CYANAZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROPAZINE WATER DISS REC (UG/L) (38535)	METOLACHLOR WATER DISSOLV (UG/L) (39415)	ATRAZINE, WATER, DISS, REC (UG/L) (39632)	ALACHLOR, WATER, DISS, REC, (UG/L) (46342)	METRIBUZIN SENCOR WATER DISSOLV (UG/L) (82630)
AUG											
06...	--	0.02	--	0.12	0.34	--	--	0.55	0.94	0.18	<0.01

MISSOURI RIVER MAIN STEM

06934500 MISSOURI RIVER AT HERMANN, MO--Continued

SPECIFIC CONDUCTANCE, US/CM AT 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	634	600	420	304	415	492	345	405	417	235	394	449
2	600	268	342	347	417	492	380	441	427	243	373	475
3	597	217	278	347	419	493	339	447	431	250	374	474
4	598	327	379	346	420	497	365	505	432	461	409	480
5	594	336	213	249	421	496	366	400	432	285	380	475
6	623	333	249	250	444	492	360	499	431	479	415	475
7	630	296	443	243	449	499	380	449	427	265	375	475
8	628	334	390	303	429	502	327	420	562	255	413	473
9	627	547	240	307	430	506	345	419	449	250	395	474
10	618	341	268	314	429	494	333	427	436	251	420	473
11	618	332	373	398	428	493	381	430	560	252	399	474
12	620	431	189	398	428	492	326	399	567	250	398	257
13	618	318	314	261	446	492	343	421	568	254	398	250
14	615	341	381	290	461	491	375	506	578	258	397	245
15	615	546	280	386	434	486	373	492	578	259	395	244
16	622	546	322	396	428	486	376	409	582	254	397	245
17	626	533	323	391	429	492	422	453	448	348	373	244
18	621	557	206	380	432	493	373	483	432	268	397	243
19	619	360	366	383	430	498	358	448	430	260	377	243
20	621	413	391	384	456	492	375	448	427	260	418	244
21	624	315	363	388	460	493	420	450	566	350	457	244
22	625	299	373	383	459	347	376	444	566	266	464	243
23	628	314	382	377	459	405	425	450	485	350	468	243
24	646	322	331	378	457	339	373	448	552	355	464	243
25	639	315	366	370	430	282	331	455	564	354	464	242
26	637	297	312	395	454	326	420	482	494	373	468	244
27	642	296	303	395	453	457	420	511	483	334	471	267
28	643	294	357	396	458	460	420	450	481	330	469	277
29	645	312	385	394	---	424	419	480	476	330	467	271
30	640	297	314	410	---	295	416	452	476	330	469	272
31	645	---	365	417	---	338	---	451	---	331	469	---
MEAN	624	368	330	354	438	453	375	451	492	301	420	332
MAX	646	600	443	417	461	506	425	511	582	479	471	480
MIN	594	217	189	243	415	282	326	399	417	235	373	242

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	8.0	11.0	5.0	7.0	5.0	11.0	17.0	22.0	26.0	24.0	29.0
2	20.0	8.0	11.0	8.0	7.0	5.0	11.0	17.0	22.0	26.0	24.0	29.0
3	20.0	7.0	11.0	8.0	7.0	5.0	11.0	19.0	22.0	26.0	25.0	29.0
4	20.0	7.0	10.0	7.0	7.0	5.0	11.0	19.0	22.0	26.0	26.0	29.0
5	20.0	6.0	10.0	6.0	7.0	4.0	11.0	19.0	22.0	26.0	26.0	28.0
6	20.0	6.0	10.0	6.0	7.0	5.0	11.0	18.0	22.0	26.0	26.0	29.0
7	20.0	6.0	11.0	6.0	7.0	5.0	11.0	18.0	22.0	26.0	27.0	28.0
8	20.0	6.0	11.0	6.0	7.0	6.0	11.0	19.0	22.0	26.0	27.0	28.0
9	20.0	7.0	11.0	5.0	6.0	6.0	11.0	19.0	22.0	26.0	27.0	28.0
10	20.0	6.0	11.0	5.0	7.0	5.0	11.0	18.0	22.0	26.0	27.0	27.0
11	20.0	6.0	10.0	5.0	6.0	6.0	11.0	19.0	24.0	26.0	28.0	27.0
12	20.0	7.0	11.0	5.0	6.0	6.0	11.0	19.0	25.0	26.0	28.0	27.0
13	20.0	7.0	11.0	5.0	7.0	5.0	11.0	19.0	26.0	26.0	28.0	26.0
14	20.0	8.0	11.0	4.0	7.0	5.0	12.0	18.0	26.0	26.0	29.0	26.0
15	20.0	8.0	10.0	6.0	6.0	6.0	12.0	18.0	26.0	26.0	30.0	24.0
16	20.0	8.0	10.0	6.0	5.0	5.0	13.0	19.0	26.0	26.0	29.0	24.0
17	19.0	9.0	10.0	5.0	5.0	5.0	13.0	19.0	26.0	28.0	30.0	24.0
18	19.0	9.0	10.0	4.0	5.0	5.0	13.0	18.0	26.0	30.0	30.0	23.0
19	19.0	9.0	10.0	3.0	3.0	5.0	13.0	18.0	26.0	29.0	30.0	23.0
20	19.0	9.0	11.0	3.0	4.0	6.0	13.0	20.0	26.0	29.0	30.0	23.0
21	18.0	8.0	10.0	3.0	4.0	6.0	14.0	20.0	26.0	29.0	30.0	23.0
22	17.0	8.0	10.0	3.0	3.0	6.0	14.0	20.0	26.0	29.0	30.0	22.0
23	17.0	8.0	10.0	4.0	3.0	6.0	15.0	20.0	26.0	29.0	29.0	22.0
24	17.0	7.0	11.0	5.0	2.0	6.0	15.0	20.0	26.0	29.0	29.0	22.0
25	17.0	6.0	11.0	6.0	2.0	6.0	15.0	21.0	26.0	29.0	30.0	22.0
26	17.0	6.0	11.0	6.0	2.0	6.0	15.0	21.0	26.0	29.0	30.0	22.0
27	17.0	7.0	10.0	6.0	3.0	8.0	16.0	24.0	27.0	29.0	30.0	21.0
28	17.0	7.0	12.0	7.0	3.0	10.0	16.0	21.0	27.0	29.0	30.0	21.0
29	17.0	7.0	12.0	6.0	---	11.0	16.0	21.0	27.0	29.0	29.0	21.0
30	16.0	7.0	12.0	5.0	---	12.0	16.0	21.0	27.0	29.0	29.0	20.0
31	16.0	---	5.0	5.0	---	13.0	---	21.0	---	29.0	28.0	---
MEAN	18.8	7.3	10.5	5.3	5.2	6.3	12.8	19.4	24.7	27.5	28.2	24.9
MAX	21.0	9.0	12.0	8.0	7.0	13.0	16.0	24.0	27.0	30.0	30.0	29.0
MIN	16.0	6.0	5.0	3.0	2.0	4.0	11.0	17.0	22.0	26.0	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 mi^2, 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.--Estimated daily discharges: Aug. 28 and Sept. 1. 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 ft^3/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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172000	111000	386000	246000	252000	159000	395000	581000	381000	494000	1050000	461000
2	151000	114000	364000	230000	244000	158000	421000	578000	376000	516000	1030000	456000
3	134000	122000	348000	220000	243000	180000	456000	569000	369000	566000	1010000	463000
4	130000	125000	336000	279000	245000	278000	481000	555000	361000	605000	988000	478000
5	128000	135000	326000	360000	246000	409000	493000	559000	360000	632000	969000	487000
6	119000	155000	304000	385000	242000	459000	490000	583000	365000	656000	931000	487000
7	116000	165000	279000	384000	237000	473000	495000	596000	394000	680000	885000	485000
8	109000	172000	258000	367000	229000	483000	497000	592000	438000	727000	836000	480000
9	114000	173000	223000	338000	224000	492000	490000	595000	454000	762000	788000	476000
10	112000	171000	217000	317000	225000	494000	491000	604000	458000	783000	761000	470000
11	109000	178000	217000	282000	226000	484000	505000	607000	451000	804000	737000	467000
12	113000	189000	220000	255000	227000	468000	504000	594000	447000	804000	734000	464000
13	116000	216000	218000	247000	230000	456000	506000	602000	444000	782000	732000	457000
14	135000	256000	219000	238000	238000	445000	540000	608000	436000	794000	731000	459000
15	155000	256000	244000	246000	248000	429000	594000	610000	426000	806000	701000	501000
16	162000	230000	397000	252000	241000	405000	645000	606000	419000	846000	677000	534000
17	169000	203000	484000	252000	217000	373000	667000	592000	415000	927000	655000	547000
18	164000	192000	509000	247000	194000	342000	670000	577000	416000	972000	633000	538000
19	157000	190000	512000	239000	187000	322000	664000	560000	413000	980000	611000	516000
20	153000	197000	500000	227000	185000	312000	655000	546000	408000	971000	587000	501000
21	150000	233000	482000	243000	179000	297000	646000	527000	411000	903000	562000	511000
22	144000	376000	456000	265000	182000	287000	637000	503000	407000	907000	542000	518000
23	138000	453000	420000	255000	175000	297000	629000	482000	407000	902000	531000	553000
24	131000	479000	365000	274000	164000	335000	622000	465000	419000	894000	526000	588000
25	124000	486000	303000	306000	161000	366000	628000	448000	422000	880000	526000	633000
26	118000	478000	263000	311000	159000	378000	631000	433000	455000	887000	520000	667000
27	113000	461000	236000	288000	158000	384000	623000	423000	474000	871000	510000	685000
28	116000	443000	230000	277000	157000	390000	613000	415000	474000	871000	501000	691000
29	111000	428000	232000	268000	---	388000	605000	402000	487000	882000	491000	690000
30	111000	410000	234000	262000	---	384000	593000	392000	493000	949000	482000	692000
31	108000	---	232000	257000	---	386000	---	385000	---	1020000	470000	---
MEAN	131700	259900	323000	278000	211200	371400	562900	535100	422700	808800	700200	531800
MAX	172000	486000	512000	385000	252000	494000	670000	610000	493000	1020000	1050000	692000
MIN	108000	111000	217000	220000	157000	158000	395000	385000	360000	494000	470000	456000
IN.	.22	.42	.53	.46	.32	.61	.90	.89	.68	1.34	1.16	.85

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

MEAN	135900	140000	121600	114300	141300	230400	305400	280300	259600	218000	142300	138300
MAX	575300	359200	452400	307800	301400	521800	692500	584500	600600	808800	700200	531800
(WY)	1987	1986	1983	1973	1974	1973	1973	1973	1947	1993	1993	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	205300		429700		186100	
HIGHEST ANNUAL MEAN					429700	1993
LOWEST ANNUAL MEAN					67700	1934
HIGHEST DAILY MEAN	512000	Dec 19	1050000	Aug 1	1050000	Aug 1 1993
LOWEST DAILY MEAN	91500	Jan 20	108000	Oct 31	27800	Dec 12 1937
INSTANTANEOUS PEAK FLOW	--		1080000	Aug 1	1080000	Aug 1 1993
INSTANTANEOUS PEAK STAGE	--		49.58	Aug 1	49.58	Aug 1 1993
INSTANTANEOUS LOW FLOW	--		105000	Nov 1	18000	Dec 23 1863
ANNUAL SEVEN-DAY MINIMUM	97900	Aug 31	112000	Oct 27	28200	Jan 18 1940
ANNUAL RUNOFF (INCHES)	4.01		8.37		3.63	
10 PERCENT EXCEEDS	347000		731000		363000	
50 PERCENT EXCEEDS	178000		423000		148000	
90 PERCENT EXCEEDS	114000		159000		67600	

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

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
WATER TEMPERATURES: October 1951 to current year.
SEDIMENT RECORDS: April 1948 to current year.

REMARKS.--Sediment discharge for many days computed from turbidity readings. Sediment records fair.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 6,720 mg/L, Feb. 24, 1985; minimum daily mean, 19 mg/L, Jan. 21 and 22, 1967.
SEDIMENT LOADS: Maximum daily, 9,830,000 tons, Feb. 24, 1985; minimum daily, 2,800 tons, Jan. 21, 1967.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,910 mg/L, Apr. 4; minimum daily mean, 58 mg/L, Oct. 31.
SEDIMENT LOADS: Maximum daily, 2,500,000 tons, Apr. 5; minimum daily, 16,900 tons, Oct. 31.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	172000	309	143000	111000	63	18900	386000	676	704000
2	151000	268	109000	114000	90	27700	364000	632	621000
3	134000	262	94800	122000	64	21100	348000	540	507000
4	130000	177	62100	125000	85	28700	336000	438	397000
5	128000	158	54600	135000	79	28800	326000	452	398000
6	119000	304	97700	155000	124	51900	304000	415	341000
7	116000	126	39500	165000	161	71700	279000	426	321000
8	109000	134	39400	172000	172	79900	258000	344	240000
9	114000	107	32900	173000	184	85900	223000	382	230000
10	112000	149	45000	171000	202	93300	217000	283	166000
11	109000	97	28500	178000	223	107000	217000	268	157000
12	113000	114	34800	189000	259	132000	220000	224	133000
13	116000	100	31300	216000	292	170000	218000	250	147000
14	135000	119	43400	256000	299	207000	219000	324	192000
15	155000	168	70300	256000	445	308000	244000	476	314000
16	162000	236	103000	230000	480	298000	397000	793	850000
17	169000	166	75700	203000	338	185000	484000	1780	2330000
18	164000	247	109000	192000	279	145000	509000	1620	2230000
19	157000	320	136000	190000	202	104000	512000	1580	2180000
20	153000	273	113000	197000	191	102000	500000	1220	1650000
21	150000	303	123000	233000	234	147000	482000	978	1270000
22	144000	270	105000	376000	599	608000	456000	885	1090000
23	138000	197	73400	453000	1530	1870000	420000	581	659000
24	131000	159	56200	479000	1260	1630000	365000	594	585000
25	124000	107	35800	486000	1170	1540000	303000	447	366000
26	118000	128	40800	478000	1140	1470000	263000	336	238000
27	113000	64	19500	461000	861	1070000	236000	263	168000
28	116000	61	19100	443000	730	873000	230000	204	127000
29	111000	65	19500	428000	853	986000	232000	182	114000
30	111000	62	18600	410000	710	786000	234000	145	91600
31	108000	58	16900	---	---	---	232000	142	88900

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	246000	124	82400	252000	194	132000	159000	120	51500
2	230000	127	78900	244000	193	127000	158000	161	68700
3	220000	116	68900	243000	176	115000	180000	177	86000
4	279000	339	255000	245000	149	98600	278000	272	204000
5	360000	776	754000	246000	135	89700	409000	478	528000
6	385000	768	798000	242000	136	88900	459000	756	937000
7	384000	735	762000	237000	157	100000	473000	1050	1340000
8	367000	730	723000	229000	191	118000	483000	1110	1450000
9	338000	506	462000	224000	201	122000	492000	1090	1450000
10	317000	437	374000	225000	184	112000	494000	842	1120000
11	282000	396	302000	226000	280	171000	484000	736	962000
12	255000	402	277000	227000	276	169000	468000	595	752000
13	247000	355	237000	230000	274	170000	456000	518	638000
14	238000	289	186000	238000	229	147000	445000	386	464000
15	246000	260	173000	248000	282	189000	429000	1060	1230000
16	252000	262	178000	241000	403	262000	405000	1120	1220000
17	252000	238	162000	217000	313	183000	373000	1080	1090000
18	247000	243	162000	194000	393	206000	342000	757	699000
19	239000	225	145000	187000	428	216000	322000	545	474000
20	227000	250	153000	185000	363	181000	312000	531	447000
21	243000	268	176000	179000	268	130000	297000	462	370000
22	265000	236	169000	182000	251	123000	287000	353	274000
23	255000	226	156000	175000	208	98300	297000	360	289000
24	274000	208	154000	164000	258	114000	335000	421	381000
25	306000	251	207000	161000	218	94800	366000	681	673000
26	311000	316	265000	159000	259	111000	378000	814	831000
27	288000	382	297000	158000	114	48600	384000	896	929000
28	277000	322	241000	157000	109	46200	390000	1000	1050000
29	268000	233	168000	---	---	---	388000	702	735000
30	262000	230	163000	---	---	---	384000	664	688000
31	257000	209	145000	---	---	---	386000	623	649000
		APRIL			MAY			JUNE	
1	395000	444	474000	581000	308	483000	381000	328	337000
2	421000	599	681000	578000	338	527000	376000	243	247000
3	456000	922	1140000	569000	245	376000	369000	222	221000
4	481000	1910	2480000	555000	273	409000	361000	230	224000
5	493000	1880	2500000	559000	267	403000	360000	218	212000
6	490000	1220	1610000	583000	439	691000	365000	270	266000
7	495000	1100	1470000	596000	494	795000	394000	340	362000
8	497000	961	1290000	592000	386	617000	438000	797	945000
9	490000	804	1060000	595000	286	459000	454000	937	1150000
10	491000	652	864000	604000	407	664000	458000	868	1070000
11	505000	693	945000	607000	661	1080000	451000	653	795000
12	504000	929	1260000	594000	758	1220000	447000	683	824000
13	506000	804	1100000	602000	991	1610000	444000	572	686000
14	540000	755	1100000	608000	994	1630000	436000	456	537000
15	594000	784	1260000	610000	547	901000	426000	411	473000
16	645000	827	1440000	606000	724	1180000	419000	400	451000
17	667000	810	1460000	592000	527	841000	415000	400	447000
18	670000	608	1100000	577000	542	843000	416000	425	477000
19	664000	574	1030000	560000	518	783000	413000	509	566000
20	655000	414	732000	546000	574	846000	408000	568	624000
21	646000	351	612000	527000	416	592000	411000	824	912000
22	637000	282	485000	503000	471	640000	407000	1040	1140000
23	629000	286	486000	482000	392	510000	407000	852	938000
24	622000	396	665000	465000	369	463000	419000	815	920000
25	628000	511	866000	448000	288	348000	422000	500	571000
26	631000	367	625000	433000	335	392000	455000	525	646000
27	623000	328	552000	423000	292	333000	474000	570	729000
28	613000	351	581000	415000	266	299000	474000	438	560000
29	605000	302	493000	402000	253	275000	487000	500	656000
30	593000	306	490000	392000	325	344000	493000	525	699000
31	---	---	---	385000	289	300000	---	---	---

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	494000	625	834000	1050000	661	1870000	461000	261	325000
2	516000	725	1010000	1030000	702	1950000	456000	253	311000
3	566000	800	1220000	1010000	618	1680000	463000	292	365000
4	605000	850	1390000	988000	496	1320000	478000	296	382000
5	632000	825	1390000	969000	490	1280000	487000	425	559000
6	656000	815	1440000	931000	522	1310000	487000	452	594000
7	680000	694	1270000	885000	450	1080000	485000	543	711000
8	727000	592	1160000	836000	325	734000	480000	526	682000
9	762000	463	952000	788000	278	591000	476000	436	560000
10	783000	413	873000	761000	250	814000	470000	321	407000
11	804000	377	818000	737000	258	513000	467000	323	407000
12	804000	530	1150000	734000	235	466000	464000	343	430000
13	782000	474	1000000	732000	235	464000	457000	260	321000
14	794000	419	898000	731000	256	505000	459000	262	325000
15	806000	340	742000	701000	244	462000	501000	396	536000
16	846000	426	973000	677000	257	470000	534000	378	545000
17	927000	388	970000	655000	252	446000	547000	462	682000
18	972000	389	1010000	633000	222	379000	538000	427	620000
19	980000	301	793000	611000	228	376000	516000	412	574000
20	971000	308	808000	587000	237	376000	501000	349	472000
21	903000	391	953000	562000	289	438000	511000	358	494000
22	907000	310	759000	542000	252	369000	518000	447	625000
23	902000	296	720000	531000	324	464000	553000	545	814000
24	894000	275	663000	526000	249	353000	588000	479	760000
25	880000	254	604000	526000	272	386000	633000	438	748000
26	887000	290	694000	520000	266	373000	667000	315	567000
27	871000	323	760000	510000	250	344000	685000	308	570000
28	871000	345	811000	501000	249	337000	691000	321	599000
29	882000	375	893000	491000	240	318000	690000	331	617000
30	949000	439	1120000	482000	238	310000	692000	358	669000
31	1020000	461	1270000	470000	243	308000	---	---	---

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 mi^2.

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: Nov. 28-29 and Jan. 4-5. Records fair except for Jan. 4-5 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.--Flood of August 20, 1915, reached a stage of 26.5 ft, discharge, 60,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151	207	310	278	510	467	769	621	327	966	257	235
2	150	202	278	283	468	1040	816	580	304	721	250	236
3	149	201	257	288	434	2100	785	576	300	594	243	821
4	149	213	241	9000	404	2790	730	608	309	532	234	572
5	148	210	223	7000	374	2400	728	737	307	433	230	394
6	148	205	215	3300	341	1840	917	742	415	395	238	310
7	147	198	210	2120	306	1490	963	712	415	2000	232	286
8	147	192	205	1710	296	1240	913	650	382	1540	231	272
9	147	190	205	1420	278	1060	871	583	349	948	225	596
10	147	193	209	1240	266	924	810	530	351	682	232	464
11	146	211	210	1070	264	815	741	576	387	554	293	344
12	146	889	208	967	287	733	680	637	384	842	3940	286
13	146	1070	199	1000	346	671	651	590	346	636	12000	295
14	147	663	196	1080	339	620	1110	595	316	556	2290	2110
15	146	459	828	968	313	577	3140	543	297	1360	1420	4870
16	147	346	4500	892	315	565	3360	493	275	1320	1080	1810
17	147	283	2370	828	298	556	2330	449	264	925	861	1300
18	147	251	1530	764	269	541	1750	2110	258	662	716	1010
19	150	237	1140	698	251	532	1470	1900	259	717	608	826
20	151	263	923	694	252	749	1330	1300	261	606	530	1810
21	154	698	769	1540	311	940	1200	990	1440	520	470	1680
22	156	1320	671	1650	817	894	1050	787	1210	631	406	1280
23	156	1750	599	1400	798	1060	928	655	773	591	372	4200
24	157	1210	499	1180	675	1100	832	582	586	560	338	5770
25	161	899	464	1050	624	1000	1190	509	1020	469	321	15700
26	164	720	406	917	572	892	1100	444	1650	411	310	20400
27	168	587	360	825	513	799	894	391	1310	365	287	6110
28	177	460	349	749	463	731	786	352	868	322	265	2500
29	177	400	326	676	---	684	719	320	1310	299	254	1880
30	188	355	316	598	---	647	661	313	2200	283	243	1540
31	190	---	307	550	---	674	---	354	---	265	237	---
MEAN	155	503	630	1508	407	1004	1141	685	629	700	955	2664
MAX	190	1750	4500	9000	817	2790	3360	2110	2200	2000	12000	20400
MIN	146	190	196	278	251	467	651	313	258	265	225	235
IN.	.23	.72	.93	2.23	.54	1.48	1.63	1.01	.90	1.03	1.41	3.81

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

MEAN	286	466	587	566	652	870	1041	951	735	348	265	287
MAX	2562	2684	4712	3155	2397	2842	4305	3665	4644	3287	1181	2664
(WY)	1950	1986	1983	1950	1985	1945	1927	1957	1935	1951	1982	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	441		916		587	
HIGHEST ANNUAL MEAN					1473	1985
LOWEST ANNUAL MEAN					177	1954
HIGHEST DAILY MEAN	10400	Apr 21	20400	Sep 26	44500	Dec 4 1982
LOWEST DAILY MEAN	146	Oct 11-13, 15	146	Oct 11-13, 15	76	Jul 22 1934
INSTANTANEOUS PEAK FLOW	--		22300	Sep 26	51200	Jun 18 1985
INSTANTANEOUS PEAK STAGE	--		17.51	Sep 26	26.15	Jun 18 1985
INSTANTANEOUS LOW FLOW	--		144	Oct 11	74	Jul 22 1934
ANNUAL SEVEN-DAY MINIMUM	146	Oct 9	146	Oct 9	78	Oct 5 1956
ANNUAL RUNOFF (INCHES)	7.69		15.92		10.21	
10 PERCENT EXCEEDS	765		1650		1080	
50 PERCENT EXCEEDS	267		565		262	
90 PERCENT EXCEEDS	157		199		130	

MERAMEC RIVER BASIN

07014500 MERAMEC RIVER NEAR SULLIVAN, MO

LOCATION.--Lat 38°09'30", long 91°06'30", in SE ¼ NE ¼ 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 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1921 to September 1933, October 1943 to current year. Monthly discharge only for October 1943, published in WSP 1311.

REVISED RECORDS.--WSP 1007: 1922(M), 1924-30, 1933: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 581.82 ft above 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. 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 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	301	319	741	662	1200	1120	1820	1640	853	2330	794	478
2	293	353	678	665	1120	2210	1780	1550	805	1550	523	481
3	283	406	624	679	1050	4630	1690	1770	780	1260	472	713
4	276	416	584	9630	989	5320	1580	2390	785	1080	441	1210
5	265	409	544	24000	930	5020	1760	2420	770	926	419	799
6	258	388	514	19300	885	4090	1980	2230	819	815	432	643
7	258	365	496	5360	851	3310	2170	2050	861	4280	428	568
8	255	345	480	3870	813	2780	2070	1830	815	6330	426	540
9	255	331	479	3130	785	2370	1950	1610	766	3040	411	578
10	252	333	498	2640	755	2040	1810	1450	727	1950	428	821
11	248	433	490	2260	738	1780	1650	1480	730	1460	459	646
12	248	1880	482	2020	767	1570	1500	1540	759	1330	8860	559
13	248	2460	465	2090	790	1410	1520	1570	709	1490	17700	557
14	252	1870	447	2230	802	1290	3110	1480	659	1110	11800	3380
15	258	1250	2810	2030	779	1200	5070	1380	616	1630	3260	6670
16	252	944	10400	1850	797	1170	7160	1280	575	2300	2230	3640
17	252	771	8230	1700	763	1150	5300	1180	545	2070	1740	2200
18	258	668	3590	1560	720	1120	3900	5020	529	1470	1410	1630
19	258	602	2550	1420	685	1120	3260	5380	601	1470	1200	1320
20	258	569	2030	1600	683	1350	2950	3410	1690	1300	1050	1930
21	283	737	1670	2680	799	1760	2800	2540	4990	1060	935	2940
22	283	1960	1420	3480	1250	1800	2450	2050	3380	1010	847	2180
23	283	3260	1240	3080	1730	2060	2190	1740	2130	1010	779	20500
24	283	2670	1090	2660	1560	2310	2000	1520	1530	935	730	22500
25	283	1990	969	2400	1450	2140	2600	1350	6740	834	693	20600
26	283	1550	881	2110	1340	1950	2820	1210	9030	732	663	31300
27	283	1270	806	1890	1220	1760	2320	1090	4180	661	619	22000
28	283	1070	749	1710	1120	1590	2010	1000	2650	599	578	5920
29	283	931	709	1540	---	1460	1810	924	2140	554	549	4110
30	312	827	676	1380	---	1360	1710	872	3200	522	522	3260
31	315	---	669	1270	---	1640	---	863	---	502	495	---
MEAN	271	1046	1549	3642	978	2125	2558	1865	1845	1536	1997	5489
MAX	315	3260	10400	24000	1730	5320	7160	5380	9030	6330	17700	31300
MIN	248	319	447	662	683	1120	1500	863	529	502	411	478
IN.	.21	.79	1.21	2.85	.69	1.66	1.94	1.46	1.40	1.20	1.56	4.15

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

MEAN	590	984	1260	1215	1425	1905	2313	1931	1316	724	536	556
MAX	4307	5692	8307	6304	5264	5786	8287	7022	8742	6142	2030	5489
(WY)	1950	1986	1983	1950	1982	1945	1927	1957	1945	1951	1982	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1026		2077		1227	
HIGHEST ANNUAL MEAN					3014	1985
LOWEST ANNUAL MEAN					341	1954
HIGHEST DAILY MEAN	23900	Apr 21	31300	Sep 26	70600	Jun 9 1945
LOWEST DAILY MEAN	242	Sep 7	248	Oct 11-13	131	Sep 20 1956
INSTANTANEOUS PEAK FLOW	--		34200	Sep 26	77300	Jun 9 1945
INSTANTANEOUS PEAK STAGE	--		22.14	Sep 26	32.0	Jun 9 1945
INSTANTANEOUS LOW FLOW	--		248	Oct 11-13, 15	131	Sep 20 1956
ANNUAL SEVEN-DAY MINIMUM	251	Oct 8	251	Oct 8	133	Sep 16 1956
ANNUAL RUNOFF (INCHES)	9.47		19.12		11.31	
10 PERCENT EXCEEDS	1790		3520		2360	
50 PERCENT EXCEEDS	627		1220		588	
90 PERCENT EXCEEDS	282		360		270	

MERAMEC RIVER BASIN

07014500 MERAMEC RIVER NEAR SULLIVAN, MO--Continued
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1963 to July 1975, July 1977 to June 1990, November 1992 to current year.

REMARKS.--Reestablished ambient water-quality monitoring network station.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
09...	1030	334	7.5	349	7.8	11.4	93	<10	K12	K18	202
DEC											
10...	1000	501	4.0	313	7.9	12.3	93	<10	K11	28	160
JAN											
19...	1030	1450	2.0	265	8.0	13.0	91	<10	K7	K840	124
FEB											
23...	1200	1730	3.5	305	7.9	14.2	104	<10	K2	K500	154
MAR											
15...	1230	1200	5.0	262	8.2	13.3	102	<10	K0	K1500	B81
APR											
08...	0930	2090	11.5	239	7.9	10.1	92	<10	22	25	149
MAY											
19...	1345	5020	17.0	201	7.3	--	--	42	4600	K18000	93
JUN											
01...	1300	870	18.0	297	8.1	10.2	106	<10	K11	26	153
JUL											
06...	0845	833	24.5	276	8.1	8.6	101	<10	62	770	135
AUG											
12...	0930	6830	20.0	97	7.4	8.2	89	38	K23000	9200	45
SEP											
30...	1320	3210	15.0	226	7.5	9.3	90	<10	350	1000	95

K--Results based on colony count outside the acceptable range (non-ideal colony count).
B--Based on the cation/anion balance, this value is considered suspect.

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV											
09...	0.170	0.020	<0.010	<0.20	<0.010	0.010	200	39	24	3.5	1.1
DEC											
10...	0.380	0.040	0.020	<0.20	<0.010	<0.010	170	35	21	3.0	1.1
JAN											
19...	0.520	<0.010	0.020	0.30	0.020	0.020	130	27	16	3.4	1.1
FEB											
23...	0.310	<0.010	0.010	<0.20	<0.020	0.010	160	32	19	3.6	1.0
MAR											
15...	0.240	<0.010	<0.010	<0.20	<0.020	<0.010	130	27	16	2.7	1.0
APR											
08...	0.050	<0.010	0.020	<0.20	0.030	<0.010	--	--	--	--	--
MAY											
19...	0.210	0.010	0.030	0.60	0.080	0.070	99	20	12	2.6	1.4
JUN											
01...	0.100	<0.010	0.010	<0.20	0.020	<0.010	--	--	--	--	--
JUL											
06...	0.310	0.010	0.030	0.36	0.050	0.030	140	30	17	3.0	1.5
AUG											
12...	--	--	--	0.90	0.170	--	--	--	--	--	--
SEP											
30...	0.370	0.010	0.030	<0.20	0.030	0.030	--	--	--	--	--

MERAMEC RIVER BASIN

07014500 MERAMEC RIVER NEAR SULLIVAN, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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-PENDED (MG/L) (00530)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	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)
NOV										
09...	11	5.2	0.10	228	<1	--	--	<1	<1.0	<1
DEC										
10...	9.8	4.2	<0.10	181	5	--	--	<1	<1.0	<1
JAN										
19...	9.8	5.3	<0.10	143	30	110	10	<1	<1.0	<1
FEB										
23...	11	5.8	<0.10	187	<1	110	90	<1	<1.0	<1
MAR										
15...	9.2	4.1	<0.10	149	1	150	10	<1	<1.0	<1
APR										
08...	--	--	--	158	15	80	<10	--	--	--
MAY										
19...	7.2	3.4	<0.10	119	76	1500	80	<1	<1.0	3
JUN										
01...	--	--	--	159	6	100	20	--	--	--
JUL										
06...	7.6	3.6	0.10	163	26	360	30	<1	<1.0	2
AUG										
12...	--	--	--	171	7	40	30	--	--	--
SEP										
30...	--	--	--	130	16	410	130	--	--	--

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)
NOV										
09...	8	<1	<1	20	5	--	<10	<3	<0.05	<0.05
DEC										
10...	5	2	<1	20	9	0.20	40	3	<0.05	<0.05
JAN										
19...	14	1	<1	20	8	0.30	<10	5	<0.05	<0.05
FEB										
23...	12	1	<1	20	5	--	<10	<3	--	--
MAR										
15...	13	1	<1	30	11	0.60	<10	<3	--	--
MAY										
19...	110	6	<1	110	13	<0.10	150	9	<0.05	<0.05
JUL										
06...	290	3	<1	60	12	--	<10	--	<0.05	<0.05

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV										
09...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DEC										
10...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN										
19...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAY										
19...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JUL										
06...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

MERAMEC RIVER BASIN

07015720 BOURBEUSE RIVER NEAR HIGH GATE, MO

LOCATION.--Lat 38°08'49", long 91°34'50", in SW ¼ NE ¼ 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 mi^2.

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 Highway and Transportation Commission). Prior to Aug. 17, 1966, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Jan. 14-15, Feb. 16-20, 24-27, and Aug. 24-25. Records fair except for period Oct. 1-27, which are poor. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	5.0	44	40	48	243	71	61	21	74	16	4.0
2	2.7	3.8	37	40	44	1260	71	55	20	141	11	5.0
3	2.1	4.5	32	42	39	1730	61	54	19	73	6.8	759
4	1.8	4.0	27	7250	36	1540	61	67	19	52	4.8	101
5	1.5	3.1	25	795	33	689	173	60	18	29	4.2	51
6	1.3	2.8	23	337	31	335	212	55	18	1010	5.1	37
7	1.2	2.3	21	217	29	209	127	51	18	10200	3.9	29
8	1.4	2.0	19	156	28	147	117	43	42	975	3.2	28
9	1.5	1.7	19	123	26	107	109	37	63	281	2.6	58
10	1.4	2.5	31	110	25	87	85	34	77	136	15	41
11	1.3	160	36	91	26	69	70	182	56	89	207	27
12	1.3	1080	29	97	77	59	56	97	33	313	5960	22
13	1.2	279	25	332	84	53	86	271	22	115	393	20
14	1.2	104	23	158	66	49	1870	161	18	87	172	4110
15	1.1	60	4200	116	56	44	3570	92	17	181	108	901
16	1.1	41	1150	112	46	50	884	75	15	311	75	263
17	1.1	30	360	130	40	69	410	71	36	118	58	148
18	1.1	31	209	104	36	56	231	3320	713	70	47	100
19	1.1	133	146	101	34	65	279	489	98	46	38	74
20	1.1	776	115	987	32	307	594	206	131	35	33	915
21	1.1	1180	92	852	652	184	248	121	86	51	29	196
22	1.0	3080	78	386	381	136	149	85	53	113	25	261
23	1.0	581	64	237	204	253	109	66	35	39	22	7410
24	1.0	269	60	195	150	156	88	55	24	26	18	5730
25	1.0	219	51	135	125	115	891	45	2920	22	14	3580
26	1.1	146	47	107	115	93	282	36	321	19	12	566
27	1.0	100	44	90	110	79	152	30	120	16	10	216
28	1.1	76	38	79	98	68	102	25	73	13	8.0	135
29	1.6	61	35	67	---	60	81	23	94	9.5	6.1	99
30	3.3	52	35	60	---	54	69	30	50	7.2	4.8	75
31	2.8	---	37	52	---	68	---	27	---	6.6	4.3	---
MEAN	1.48	283	231	439	95.4	272	377	194	174	473	236	865
MAX	3.4	3080	4200	7250	652	1730	3570	3320	2920	10200	5960	7410
MIN	1.0	1.7	19	40	25	44	56	23	15	6.6	2.6	4.0
IN.	.01	2.34	1.97	3.75	.74	2.32	3.12	1.66	1.44	4.04	2.02	7.15

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

MEAN	50.1	156	214	136	179	230	232	165	103	39.3	33.6	57.3
MAX	552	799	1213	549	634	747	568	734	963	473	373	865
(WY)	1987	1986	1983	1969	1985	1984	1979	1990	1985	1993	1982	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	99.9		304		132	
HIGHEST ANNUAL MEAN					315	1985
LOWEST ANNUAL MEAN					21.7	1981
HIGHEST DAILY MEAN	4200	Dec 15	10200	Jul 7	21000	Dec 3 1982
LOWEST DAILY MEAN	.48	Aug 21	1.0	Oct 22-25, 27	.00	Several Years
INSTANTANEOUS PEAK FLOW	--		21600	Jul 7	49300	Dec 3 1982
INSTANTANEOUS PEAK STAGE	--		20.91	Jul 7	23.65	Dec 3 1982
INSTANTANEOUS LOW FLOW	--		1.0**	Oct 26-27	.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	.50	Aug 19	1.0	Oct 21	.00	Several Years
ANNUAL RUNOFF (INCHES)	10.07		30.56		13.24	
10 PERCENT EXCEEDS	163		520		217	
50 PERCENT EXCEEDS	27		60		19	
90 PERCENT EXCEEDS	1.1		3.2		.67	

**May have been less during period of questionable record, Oct. 1-27.

MERAMEC RIVER BASIN

07016400 BOURBEUSE RIVER ABOVE UNION, MO
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

LOCATION.--Lat 38°25'55", long 91°01'11, in SW ¼ NW ¼ sec.34, T.43 N., R.1 W., Franklin County, Hydrologic Unit 07140103, at bridge on North Bend Drive, 5.5 mi upstream from gaging station, and 0.5 mi southwest of Union.

DRAINAGE AREA.--808 mi^2, approximately.

PERIOD OF RECORD.--November 1983 to

REMARKS.--Reestablished ambient water-quality monitoring network.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
09...	1415	65	7.5	327	7.9	11.4	93	11	K9	K12	164
JAN											
19...	1430	575	1.0	220	7.5	14.1	96	33	K11	K2200	74
MAR											
15...	1600	397	4.5	203	7.6	12.7	97	<10	K5	K970	53
MAY											
19...	1200	913	16.5	155	7.2	--	--	61	5800	13000	61
JUL											
06...	1215	461	26.0	191	7.6	6.2	75	17	84	46	80
SEP											
30...	1055	1870	15.5	174	7.1	8.8	86	18	230	1400	68

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, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV											
09...	<0.050	0.020	0.010	0.20	0.040	0.020	180	34	23	4.9	1.8
JAN											
19...	0.630	0.010	0.030	0.33	0.040	0.050	97	19	12	6.4	1.6
MAR											
15...	0.470	<0.010	<0.010	0.32	0.030	0.020	--	--	--	--	--
MAY											
19...	0.140	0.020	0.030	0.94	0.150	0.100	69	14	8.2	3.0	1.8
JUL											
06...	0.440	0.010	0.020	0.46	0.070	0.060	--	--	--	--	--
SEP											
30...	0.370	0.010	0.050	0.47	0.060	0.060	--	--	--	--	--

MERAMEC RIVER BASIN

07016400 BOURBEUSE RIVER ABOVE UNION, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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-PENDED (MG/L) (00530)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	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)
NOV										
09...	16	5.5	<0.10	192	2	--	--	<1	<1.0	<1
JAN										
19...	23	11	<0.10	120	1	330	70	<1	<1.0	<1
MAR										
15...	--	--	--	131	4	410	50	--	--	--
MAY										
19...	12	3.5	<0.10	97	136	2000	130	<1	<1.0	3
JUL										
06...	--	--	--	120	19	600	130	--	--	--
SEP										
30...	--	--	--	110	36	1000	420	--	--	--

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)
NOV										
09...	16	<1	<1	60	27	--	<10	<3	<0.05	<0.05
JAN										
19...	73	2	<1	50	32	0.20	10	5	<0.05	<0.05
MAY										
19...	150	5	<1	260	10	<0.10	10	7	<0.05	<0.05

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV										
09...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN										
19...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAY										
19...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	0.05	<0.05

MERAMEC RIVER BASIN

07016500 BOURBEUSE RIVER AT UNION, MO

LOCATION.--Lat 38°26'45", long 90°59'30", in SE ¼ 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 mi^2.

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 ft^3/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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	37	358	238	383	469	499	550	210	667	179	133
2	42	37	317	232	354	1150	532	489	202	773	163	136
3	41	40	286	233	331	4960	511	474	203	1010	247	214
4	44	52	261	3100	309	7000	492	480	204	832	277	221
5	46	57	239	8860	293	7380	527	641	200	608	204	1080
6	46	75	226	13000	276	4290	674	643	226	604	176	521
7	43	61	215	7980	265	2260	880	603	219	9060	155	337
8	40	56	197	1480	252	1460	857	614	228	18900	141	253
9	39	63	190	1060	241	1070	702	508	237	34100	134	210
10	38	65	195	843	233	832	653	432	1140	23800	156	177
11	35	146	185	697	229	677	594	390	704	2100	225	157
12	33	407	184	624	227	580	511	425	480	975	6590	146
13	32	1440	186	640	224	501	1390	670	389	730	13300	142
14	29	2510	186	895	226	443	7540	1210	336	705	20500	1280
15	26	1030	1390	1060	242	402	10600	870	273	933	11800	4080
16	33	518	6000	782	293	380	12600	655	223	3930	1090	7850
17	39	365	9900	639	274	361	14900	496	200	4950	728	2620
18	41	286	6060	596	262	353	4340	861	175	1740	546	974
19	29	239	1410	577	238	355	1890	3220	162	994	439	697
20	29	218	963	787	226	392	1800	4440	460	809	362	1110
21	30	248	739	2550	282	487	2670	1440	493	571	308	1840
22	29	2770	599	5730	809	813	1800	877	433	732	271	2260
23	29	5420	505	2890	2270	904	1190	639	487	835	240	16000
24	28	6790	438	1710	1250	1080	911	517	350	610	221	20100
25	23	1860	391	1240	822	1040	995	433	3520	532	206	26900
26	24	1050	345	969	617	835	1780	375	9610	396	193	26500
27	26	799	314	762	525	682	1910	330	16000	328	229	20000
28	25	630	291	630	486	582	1100	298	7000	290	200	6730
29	26	494	276	534	---	512	793	268	1100	242	171	1860
30	38	414	263	471	---	462	642	244	1020	212	154	1250
31	39	---	249	422	---	501	---	223	---	192	141	---
MEAN	34.5	939	1076	2007	444	1394	2543	784	1549	3650	1927	4859
MAX	46	6790	9900	13000	2270	7380	14900	4440	16000	34100	20500	26900
MIN	23	37	184	232	224	353	492	223	162	192	134	133
IN.	.05	1.30	1.54	2.87	.57	1.99	3.51	1.12	2.14	5.21	2.75	6.71

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

MEAN	317	506	675	625	771	1121	1237	1100	845	347	192	269
MAX	4575	3320	6107	3518	3214	4207	4425	4126	4583	3650	1927	4859
(WY)	1950	1986	1983	1950	1985	1984	1927	1990	1942	1993	1993	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	450		1771		665	
HIGHEST ANNUAL MEAN					1771	1993
LOWEST ANNUAL MEAN					106	1954
HIGHEST DAILY MEAN	9900	Dec 17	34100	Jul 9	63000	Dec 5 1982
LOWEST DAILY MEAN	23	Oct 25	23	Oct 25	12	Oct 10 1956
INSTANTANEOUS PEAK FLOW	--		36700	Jul 9	73300	Dec 5 1982
INSTANTANEOUS PEAK STAGE	--		26.32	Jul 9	33.80	Dec 5 1982
INSTANTANEOUS LOW FLOW	--		22	Oct 25	11	Oct 10 1956
ANNUAL SEVEN-DAY MINIMUM	26	Oct 23	26	Oct 23	13	Oct 6 1956
ANNUAL RUNOFF (INCHES)	7.59		29.75		11.19	
10 PERCENT EXCEEDS	841		4380		1300	
50 PERCENT EXCEEDS	194		489		169	
90 PERCENT EXCEEDS	40		57		40	

MERAMEC RIVER BASIN

07017200 BIG RIVER AT IRONDALE, MO

LOCATION.--Lat 37°49'48", long 90°41'27", in SE ¼ SW ¼ 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 mi^2.

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: Nov. 26 to Dec. 7. Records good. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	13	47	115	142	159	222	173	45	196	23	19
2	7.9	16	43	86	127	1320	177	163	43	158	21	20
3	7.8	14	39	102	113	988	150	1090	43	130	20	47
4	7.7	16	36	7360	102	649	141	716	76	105	19	44
5	7.3	14	34	1600	95	494	226	414	74	80	19	30
6	6.9	12	32	768	86	383	272	308	51	69	21	25
7	6.9	10	30	532	81	319	217	243	47	244	21	23
8	7.3	10	28	394	75	270	198	200	40	303	20	25
9	6.8	10	28	339	70	223	180	167	39	129	18	27
10	7.2	11	30	340	67	191	157	164	41	89	24	24
11	7.0	18	29	291	66	158	136	321	38	71	32	21
12	7.1	229	27	287	70	139	120	203	35	61	3990	19
13	7.3	163	26	394	67	123	129	172	31	55	609	19
14	7.3	64	25	304	62	110	313	148	27	79	293	300
15	7.3	41	2920	272	63	104	1890	126	24	119	185	262
16	7.8	34	1400	251	69	138	818	110	22	94	129	92
17	7.8	23	514	230	62	150	501	97	20	68	95	64
18	7.6	20	325	208	53	126	378	559	742	65	76	49
19	7.2	17	246	189	53	127	327	316	128	52	63	41
20	7.9	19	200	476	56	155	528	177	772	47	52	124
21	8.4	528	164	1060	211	159	337	129	375	49	43	77
22	8.7	823	136	542	315	170	265	107	155	48	38	54
23	8.6	329	116	389	212	396	224	94	99	43	35	6610
24	8.6	163	97	380	150	281	196	131	93	43	41	3060
25	9.3	122	85	310	138	229	453	105	6470	37	34	6400
26	10	93	74	272	136	215	261	84	1070	32	29	1150
27	8.8	78	66	247	107	189	200	71	577	30	26	568
28	8.4	67	62	227	106	165	168	61	406	28	24	386
29	9.1	60	61	203	---	146	155	55	306	25	22	278
30	11	53	59	166	---	133	189	55	242	23	20	218
31	11	---	82	151	---	255	---	52	---	23	19	---
MEAN	8.05	102	228	596	105	279	318	220	404	83.7	196	669
MAX	11	823	2920	7360	315	1320	1890	1090	6470	303	3990	6610
MIN	6.8	10	25	86	53	104	120	52	20	23	18	19
IN.	.05	.65	1.50	3.93	.63	1.84	2.03	1.45	2.58	.55	1.29	4.27

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

MEAN	66.5	222	298	210	256	325	342	211	112	51.8	61.8	71.2
MAX	339	1086	1027	734	695	867	921	843	872	262	393	669
(WY)	1971	1986	1983	1969	1985	1978	1972	1990	1985	1981	1970	1993
MIN	6.95	10.5	13.7	11.1	24.9	38.9	66.4	24.1	9.95	4.69	4.31	3.95
(WY)	1981	1981	1977	1981	1977	1981	1977	1977	1980	1980	1980	1971

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	115		268		185	
HIGHEST ANNUAL MEAN					449	1985
LOWEST ANNUAL MEAN					56.6	1980
HIGHEST DAILY MEAN	4200	Apr 19	7360	Jan 4	16500	Nov 19 1985
LOWEST DAILY MEAN	6.1	Aug 26	6.8	Oct 9	2.5	Sep 15 1971
INSTANTANEOUS PEAK FLOW	--		20900	Jun 25	43200	Nov 1 1972
INSTANTANEOUS PEAK STAGE	--		18.08	Jun 25	27.92	Nov 1 1972
INSTANTANEOUS LOW FLOW	--		6.8	Oct 5-7, 9, 11-14	2.2	Sep 16 1971
ANNUAL SEVEN-DAY MINIMUM	6.7	Aug 20	7.0	Oct 6	2.7	Sep 12 1971
ANNUAL RUNOFF (INCHES)	8.98		20.77		14.38	
10 PERCENT EXCEEDS	246		430		363	
50 PERCENT EXCEEDS	42		94		59	
90 PERCENT EXCEEDS	7.7		13		10	

MERAMEC RIVER BASIN

07017605 COONVILLE CREEK AT ST. FRANCOIS STATE PARK
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

LOCATION.--Lat 37°58'04", long 90°32'00", in sec.25, T.38 N., R.4 E., St. Francois County, Hydrologic Unit 07140104, at first set of culverts on park road off U.S. Route 67.

PERIOD OF RECORD.--November 1992 to current year.

REMARKS.--Ambient water-quality monitoring network station since November 1992.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
10...	1300	1.4	10.0	392	8.0	11.2	97	--	42	42	266
JAN											
20...	0930	10	1.0	382	8.1	13.8	95	<10	34	47	214
MAR											
16...	1345	9.8	5.0	420	8.1	13.6	105	<10	K11	22	209
MAY											
18...	1730	8.5	15.0	336	7.3	8.4	82	<10	520	2200	155
JUL											
07...	0810	198	19.0	155	7.8	9.4	100	36	3600	7200	65
SEP											
29...	1740	3.2	14.5	380	8.1	9.0	86	<10	110	200	191

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, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV											
10...	0.059	0.020	<0.010	<0.20	<0.010	0.010	270	52	33	3.4	0.70
JAN											
20...	0.120	<0.010	0.020	<0.20	0.020	0.010	210	41	25	3.7	0.60
MAR											
16...	0.040	<0.010	0.010	<0.20	0.020	<0.010	--	--	--	--	--
MAY											
18...	0.040	<0.010	<0.010	0.21	<0.020	0.010	190	39	22	3.7	0.80
JUL											
07...	0.050	0.010	0.030	0.94	0.040	0.050	--	--	--	--	--
SEP											
29...	0.130	<0.010	0.020	<0.20	0.020	0.010	--	--	--	--	--

MERAMEC RIVER BASIN

07017605 COONVILLE CREEK AT ST. FRANCOIS STATE PARK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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-PENDED (MG/L) (00530)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	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)
NOV										
10...	0.20	5.3	0.10	289	<1	--	--	<1	<1.0	<1
JAN										
20...	14	6.1	<0.10	215	10	170	<10	<1	<1.0	<1
MAR										
16...	--	--	--	244	<1	50	<10	--	--	--
MAY										
18...	11	4.7	<0.10	216	3	80	30	<1	<1.0	1
JUL										
07...	--	--	--	104	13	570	130	--	--	--
SEP										
29...	--	--	--	212	1	50	20	--	--	--

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)
NOV										
10...	13	5	3	<10	3	--	110	100	<0.05	<0.05
JAN										
20...	7	27	3	30	4	<0.10	140	89	<0.05	<0.05
MAY										
18...	39	12	3	<10	6	<0.10	110	70	<0.05	<0.05

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV										
10...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN										
20...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAY										
18...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1942 to current year. Prior to May 1949 monthly discharge only, published in WSP 1311. Prior to 1984 published as "Big River near De Soto, Mo."

GAGE.--Water-stage recorder. Datum of gage is 523.00 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. 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 ft^3/s, from rating curve extended above 37,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	136	295	455	508	546	997	786	314	800	288	173
2	98	157	267	460	483	2710	827	775	302	629	298	181
3	96	161	243	433	458	6060	688	1410	292	520	232	346
4	96	164	226	7830	439	3460	651	3760	324	436	198	371
5	96	168	211	17400	422	2430	950	1970	336	367	179	273
6	95	153	200	4850	410	1810	1130	1380	372	328	186	241
7	95	143	191	2000	399	1390	979	1090	411	8740	182	209
8	94	137	182	1450	388	1130	847	904	345	5870	170	199
9	92	135	181	1150	380	945	769	762	291	1800	163	196
10	100	133	188	1050	371	809	695	657	267	1100	191	182
11	109	161	187	959	372	692	613	776	270	809	252	173
12	113	754	180	806	378	602	547	874	266	645	7030	165
13	113	1110	176	1100	387	540	834	782	251	545	9300	157
14	104	670	171	1130	379	486	1040	692	239	528	1870	197
15	94	453	3490	869	367	445	3600	593	211	711	1150	621
16	91	360	9350	750	381	441	5310	523	193	824	844	768
17	91	299	2880	677	377	442	2270	485	182	651	660	451
18	92	253	1360	608	361	455	1530	3040	176	487	533	334
19	92	222	971	558	342	439	1220	2670	680	392	443	281
20	95	223	766	758	355	484	1590	1370	1900	365	378	453
21	96	727	629	3830	418	532	1520	950	2030	1090	328	473
22	98	1680	543	2690	1220	564	1110	746	1140	594	302	466
23	100	2240	492	1620	1020	991	931	616	696	432	275	30600
24	103	1080	449	1290	741	1140	813	561	507	1810	271	38600
25	102	678	416	1140	631	934	1810	559	7150	783	256	18000
26	105	532	385	943	596	897	1680	516	11500	484	250	16900
27	104	453	366	814	561	851	1090	434	2420	358	226	4360
28	104	397	352	725	528	726	869	384	1390	294	210	2300
29	108	358	341	643	---	640	749	352	1050	250	198	1670
30	121	325	332	568	---	578	763	331	1120	222	186	1310
31	123	---	342	528	---	731	---	325	---	206	175	---
MEAN	101	482	850	1938	488	1126	1281	1002	1221	1067	878	4022
MAX	123	2240	9350	17400	1220	6060	5310	3760	11500	8740	9300	38600
MIN	91	133	171	433	342	439	547	325	176	206	163	157
IN.	.16	.73	1.33	3.04	.69	1.77	1.94	1.57	1.85	1.67	1.38	6.11

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

MEAN	279	626	870	720	922	1226	1233	994	527	408	266	337
MAX	1641	4223	4332	3845	2935	2838	4383	3880	3150	2492	1357	4022
(WY)	1950	1986	1983	1950	1985	1985	1957	1990	1985	1951	1950	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	467		1205		700	
HIGHEST ANNUAL MEAN					1766	1985
LOWEST ANNUAL MEAN					198	1954
HIGHEST DAILY MEAN	10500	Apr 20	38600	Sep 24	38600	Sep 24 1993
LOWEST DAILY MEAN	86	Aug 26	91	Oct 16-17	22	Sep 19 1954
INSTANTANEOUS PEAK FLOW	--		59800	Sep 23	59800	Sep 23 1993
INSTANTANEOUS PEAK STAGE	--		30.33	Sep 23	30.33	Sep 23 1993
INSTANTANEOUS LOW FLOW	--		90	Oct 15-19	20	Sep 19 1954
ANNUAL SEVEN-DAY MINIMUM	89	Sep 1	93	Oct 15	26	Sep 13 1954
ANNUAL RUNOFF (INCHES)	8.65		22.25		12.94	
10 PERCENT EXCEEDS	809		1880		1310	
50 PERCENT EXCEEDS	253		485		280	
90 PERCENT EXCEEDS	95		149		99	

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

MERAMEC RIVER BASIN

07018100 BIG RIVER NEAR RICHWOODS, MO--Continued
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--1963 to 1975, November 1983 to June 1987, November 1992 to current year.

REMARKS.--Reestablished ambient water-quality monitoring network station.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
09...	1240	153	8.0	527	8.2	11.8	98	11	20	30	251
JAN											
19...	1230	551	1.0	397	8.0	13.8	94	25	K3	K1200	182
MAR											
15...	1430	443	4.0	402	8.2	14.4	108	<10	K2	K710	128
MAY											
18...	1930	3350	16.5	248	7.1	7.8	79	29	K7500	K21000	B101
JUL											
06...	1045	319	26.0	395	8.0	6.8	82	<10	130	76	200
SEP											
30...	0840	1350	15.0	414	7.6	8.6	83	15	250	2900	169

K--Results based on colony count outside the acceptable range (non-ideal colony count).
B--Based on cation/anion balance, this value is considered suspect.

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV											
09...	0.081	0.020	0.010	<0.20	0.060	0.040	290	57	36	7.4	1.9
JAN											
19...	0.590	0.010	0.020	0.21	0.030	0.030	200	42	24	4.9	1.4
MAR											
15...	0.310	<0.010	<0.010	0.22	0.020	<0.010	--	--	--	--	--
MAY											
18...	0.160	0.020	0.010	0.97	0.180	0.060	140	29	16	2.6	1.4
JUL											
06...	0.160	<0.010	0.020	0.37	0.030	0.020	--	--	--	--	--
SEP											
30...	0.530	<0.010	0.030	<0.20	0.020	0.030	--	--	--	--	--

0718100 BIG RIVER NEAR RICHWOODS, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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-PENDED (MG/L) (00530)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	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)
NOV 09...	60	10	0.10	326	<1	--	--	<1	<1.0	2
JAN 19...	32	6.9	<0.10	223	18	70	<10	<1	<1.0	<1
MAR 15...	--	--	--	234	<1	70	<10	--	--	--
MAY 18...	17	3.3	0.10	165	196	2200	50	1	<1.0	4
JUL 06...	--	--	--	250	8	260	240	--	--	--
SEP 30...	--	--	--	216	11	270	20	--	--	--

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)
NOV 09...	7	18	2	50	19	--	10	6	<0.05	<0.05
JAN 19...	5	15	2	40	28	0.20	60	47	<0.05	<0.05
MAY 18...	58	200	3	310	8	0.10	110	13	<0.05	<0.05

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV 09...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN 19...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAY 18...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

MERAMEC RIVER BASIN

07018500 BIG RIVER AT BYRNESVILLE, MO

LOCATION.--Lat 38°21'45", long 90°39'15,, in SE ¼ 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 mi^2.

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 ft^3/s, by slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117	133	360	379	681	702	1170	987	438	1280	326	248
2	111	137	327	493	651	1910	1190	980	420	948	355	243
3	108	154	298	521	617	6210	1010	1010	405	786	385	513
4	106	170	274	5720	570	6040	1030	2720	412	671	329	480
5	104	167	255	12500	535	4030	1330	3270	441	586	298	458
6	101	166	239	18100	508	2920	1480	1990	492	537	283	362
7	99	164	228	5250	487	2170	1370	1520	598	5130	278	328
8	95	150	219	2270	468	1710	1220	1240	531	12200	270	301
9	94	144	216	1720	452	1400	1090	1040	469	5100	256	283
10	92	145	220	1420	439	1200	979	904	420	1850	270	272
11	91	282	218	1300	434	1040	888	860	400	1250	302	259
12	99	1130	215	1190	444	913	804	972	386	963	3680	245
13	107	1260	208	1240	451	817	1590	1240	367	803	9550	236
14	110	1050	204	1470	449	749	3090	1030	345	710	7470	564
15	110	725	4060	1280	440	687	3890	866	329	1080	1850	565
16	105	504	8990	1080	443	656	6370	756	306	1040	1260	693
17	96	383	7860	966	439	648	4360	679	294	954	965	743
18	93	315	2540	875	419	631	2470	2670	283	763	784	532
19	92	272	1590	794	394	651	1920	4030	284	616	656	439
20	99	272	1200	1040	395	737	1830	2480	752	542	565	594
21	99	751	982	3390	560	773	2150	1480	2390	602	493	554
22	99	1800	833	4240	978	919	1710	1110	1780	1150	440	775
23	101	2790	719	2630	1440	1540	1350	911	1080	759	412	14600
24	102	2090	633	1970	1110	1510	1170	799	923	1220	467	43100
25	103	1190	570	1610	923	1410	1540	723	2740	1740	469	57800
26	104	849	518	1380	819	1240	2570	697	9200	890	362	33900
27	104	667	471	1180	761	1180	1800	643	9910	638	339	24000
28	105	554	439	1030	710	1070	1310	574	2330	511	313	6630
29	106	470	413	924	---	934	1100	523	1620	433	291	2450
30	113	406	392	823	---	844	987	481	1330	376	274	1750
31	115	---	381	741	---	1010	---	455	---	341	259	---
MEAN	103	643	1164	2565	608	1556	1826	1279	1389	1499	1105	6464
MAX	117	2790	8990	18100	1440	6210	6370	4030	9910	12200	9550	57800
MIN	91	133	204	379	394	631	804	455	283	341	256	236
IN.	.13	.78	1.46	3.23	.69	1.96	2.22	1.61	1.69	1.89	1.39	7.87

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

MEAN	336	668	904	916	1103	1440	1627	1384	806	502	297	368
MAX	2290	4709	5594	5064	3696	4539	6190	5196	4530	3895	1490	6464
(WY)	1950	1986	1983	1950	1982	1945	1927	1990	1928	1957	1950	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	609		1682		862	
HIGHEST ANNUAL MEAN					1934	1985
LOWEST ANNUAL MEAN					227	1954
HIGHEST DAILY MEAN	13200	Apr 21	57800	Sep 25	57800	Sep 25 1993
LOWEST DAILY MEAN	91	Aug 26, Oct 11	91	Oct 11	25	Aug 30 1936
INSTANTANEOUS PEAK FLOW	--		63600	Sep 25	63600	Sep 25 1993
INSTANTANEOUS PEAK STAGE	--		29.37	Sep 25	29.37	Sep 25 1993
INSTANTANEOUS LOW FLOW	--		90	Oct 11	25	Aug 30 1936
ANNUAL SEVEN-DAY MINIMUM	94	Aug 22	96	Oct 6	34	Aug 28 1936
ANNUAL RUNOFF (INCHES)	9.05		24.91		12.77	
10 PERCENT EXCEEDS	1120		2690		1720	
50 PERCENT EXCEEDS	315		697		337	
90 PERCENT EXCEEDS	105		152		116	

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO

LOCATION.--Lat 38°30'20", long 90°35'30", in SE ¼ sec.32, T.44 N., R.4 E., St. Louis County, Hydrologic Unit 07140102, on right bank, 44 ft upstream from bridge on north access roadway of I-44, 2.0 mi east of Eureka, 3.0 mi downstream from Big River and at mile 34.1.

DRAINAGE AREA.--3,788 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1903 to July 1906, October 1921 to current year. Monthly discharge only for January, February and March 1904, published in WSP 1311.

REVISED RECORDS.--WSP 877: 1938(M). WSP 977: 1942. WSP 1007: Drainage area. WSP 1281: 1924-25.

GAGE.--Water-stage recorder. Datum of gage is 404.18 ft above sea level. Prior to Jan. 17, 1933, nonrecording gage at site 200 ft upstream at different datum; Jan. 17, 1933 to Sept. 22, 1937, nonrecording gage; Sept. 23, 1937 to Sept. 30, 1971, water-stage recorder at present site at datum 2.00 ft higher.

REMARKS.--Estimated daily discharges: Nov. 24-28, Jan. 7-11, and July 12 to Aug. 12. Water-discharge records good. National Weather Service telemark and U.S. Army Corps of Engineers satellite telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 22, 1915, reached a stage of 42.2 ft, from floodmarks, present datum, discharge, 175,000 ft^3/s, by slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	589	579	1890	1820	2760	2620	3800	3910	1920	5540	1210	1230
2	570	599	1730	1820	2590	4930	4020	3700	1880	4950	2000	1220
3	541	623	1590	1820	2460	12700	3800	3560	1840	4000	1270	2030
4	521	720	1480	10700	2310	18300	3710	4730	1820	3820	1130	1810
5	500	769	1370	23600	2200	18200	4180	6830	1870	3570	1050	1990
6	495	758	1290	32400	2080	16400	4660	5710	2230	3680	995	2490
7	492	777	1220	38300	1960	11500	4800	5250	2770	11900	1030	1830
8	479	747	1160	30000	1860	8140	4890	4580	2170	27300	1020	1570
9	452	717	1140	17000	1760	6380	4590	4080	2060	32600	1020	1430
10	447	710	1160	11500	1700	5330	4140	3630	1970	34400	975	1330
11	443	1040	1150	8000	1700	4490	3820	3510	2680	34700	1020	1350
12	436	3990	1120	4810	1700	3870	3470	3550	2300	11000	1100	1390
13	442	5650	1100	4890	1700	3410	4590	5370	1970	3520	23900	1310
14	450	5840	1080	5000	1690	3030	11200	5130	1840	3980	30800	3810
15	447	5240	7100	5100	1700	2780	19700	4850	1710	2890	32400	9470
16	442	3150	19800	4640	1750	2640	24000	4060	1600	4400	28100	12200
17	429	2270	23100	4060	1760	2530	25500	3440	1490	6410	8210	13000
18	431	1870	22000	3660	1700	2440	23800	6270	1460	5710	5110	5980
19	442	1610	13600	3420	1640	2440	13500	12700	1400	3930	3890	3790
20	450	1470	6430	4390	1590	2730	9430	14100	1740	3930	3060	4560
21	455	2320	4840	9160	1830	2980	8990	10500	3580	3430	2520	4310
22	447	4080	3950	12800	2760	3560	8680	6190	6560	3100	2160	6090
23	452	9560	3330	11600	4270	6070	6730	4710	5640	2800	2000	27200
24	453	11100	2850	8250	5130	5650	5580	3850	4380	2800	1930	51200
25	447	9610	2530	6580	4060	5600	6340	3230	6250	2650	1890	85500
26	449	6000	2280	5670	3410	5130	7720	2880	18200	2400	1660	91600
27	443	3980	2080	4890	2980	4610	8050	2650	26400	2300	1570	81500
28	446	2970	1930	4250	2740	4120	6430	2440	23400	2070	1540	69700
29	459	2470	1840	3740	---	3690	5070	2400	13200	1860	1460	46700
30	496	2130	1820	3270	---	3350	4330	2140	5800	1600	1360	17400
31	532	---	1820	3000	---	3530	---	2010	---	1350	1290	---
MEAN	470	3112	4509	9359	2350	5908	8317	4902	5071	7696	5441	18500
MAX	589	11100	23100	38300	5130	18300	25500	14100	26400	34700	32400	91600
MIN	429	579	1080	1820	1590	2440	3470	2010	1400	1350	975	1220
IN.	.14	.92	1.37	2.85	.65	1.80	2.45	1.49	1.49	2.34	1.66	5.45

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

MEAN	1434	2376	3070	3154	3840	5161	6146	5090	3570	1930	1178	1487
MAX	12120	15450	23620	17320	14730	13960	22580	17840	18070	12600	5441	18500
(WY)	1950	1986	1983	1950	1982	1978	1927	1990	1945	1951	1993	1993
MIN	236	464	426	374	538	514	945	708	503	318	255	244
(WY)	1957	1957	1956	1956	1954	1954	1954	1932	1936	1936	1936	1956

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	2518		6309		3187	
HIGHEST ANNUAL MEAN					7407	1985
LOWEST ANNUAL MEAN					751	1954
HIGHEST DAILY MEAN	38000	Apr 22	91600	Sep 26	139000	Dec 6 1982
LOWEST DAILY MEAN	429	Oct 17	429	Oct 17	196	Aug 27 1936
INSTANTANEOUS PEAK FLOW	--		95200	Sep 26	145000	Dec 6 1982
INSTANTANEOUS PEAK STAGE	--		36.72	Sep 26	42.89	Dec 6 1982
INSTANTANEOUS LOW FLOW	--		423	Oct 17-18	196	Aug 27 1936
ANNUAL SEVEN-DAY MINIMUM	440	Oct 12	440	Oct 12	209	Aug 26 1936
ANNUAL RUNOFF (INCHES)	9.05		22.61		11.43	
10 PERCENT EXCEEDS	5160		13500		6700	
50 PERCENT EXCEEDS	1550		3100		1400	
90 PERCENT EXCEEDS	491		719		520	

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1978 to September 1981.
WATER TEMPERATURE: January 1978 to September 1981.
SUSPENDED-SEDIMENT: February 1969 to September 1970, October 1980 to May 1981, November 1981 to September 1986.

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 1992 TO SEPTEMBER 1993

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-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												
09...	1600	607	408	7.8	7.5	2.3	12.1	99	K12	20	210	42
JAN												
19...	1630	3170	307	7.8	2.0	5.9	13.6	95	K9	K1200	150	31
MAR												
15...	1700	2760	293	8.0	4.5	4.2	13.1	99	K6	K970	140	30
MAY												
19...	0945	13200	220	7.7	15.5	65	--	--	5300	12000	110	23
JUL												
06...	1345	3580	284	7.9	27.0	14	6.7	82	86	34	140	29
SEP												
29...	1100	49300	152	7.0	16.5	50	7.8	77	K450	720	72	16

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												
09...	25	6.2	1.6	207	25	9.5	0.20	5.7	244	240	0.33	400
JAN												
19...	17	6.2	1.4	134	19	10	<0.10	8.1	174	176	0.24	1490
MAR												
15...	16	4.3	1.2	B96	18	6.5	<0.10	6.2	176	142	0.24	1310
MAY												
19...	12	3.3	1.4	104	14	4.6	0.10	5.8	139	127	0.19	4950
JUL												
06...	16	3.9	1.9	118	16	4.4	0.10	9.4	165	154	0.22	1590
SEP												
29...	7.7	1.7	2.5	65	7.5	1.9	<0.10	9.2	98	86	0.13	13100

B--Based on cation/anion balance, this value is considered suspect.

MERAMEC RIVER BASIN

07019000 MERAMEC RIVER NEAR EUREKA, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	SEDIMENT, SUSPENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)
NOV 09...	<0.010	<0.050	0.020	0.020	0.20	0.030	0.020	0.020	9	--	<10
JAN 19...	0.020	0.630	--	0.010	--	--	0.010	0.020	7	--	30
MAR 15...	<0.010	0.360	<0.010	<0.010	0.41	0.030	<0.020	<0.010	18	65	20
MAY 19...	<0.010	0.110	--	0.010	1.0	0.210	0.030	0.010	295	95	10
JUL 06...	<0.010	0.490	--	0.040	0.30	0.070	0.040	0.030	33	--	30
SEP 29...	<0.010	0.190	--	0.040	0.40	0.070	0.030	0.040	119	92	--

DATE	BARIUM, DISSOLVED (UG/L AS BA) (01005)	COBALT, DISSOLVED (UG/L AS CO) (01035)	IRON, DISSOLVED (UG/L AS FE) (01046)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)
NOV 09...	150	<3	5	<4	12	<10	1	<1	<1.0	59	<6
JAN 19...	110	<3	28	<4	33	<10	2	<1	<1.0	47	<6
MAR 15...	110	<3	28	<4	31	<10	<1	<1	<1.0	46	<6
MAY 19...	110	<3	32	<4	6	<10	2	<1	<1.0	42	<6
JUL 06...	140	<3	97	<4	11	<10	<1	<1	<1.0	50	<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 mi^2, approximately.

PERIOD OF RECORD.--August 1963 to July 1975, 1982 to current year.

REMARKS.--Records of discharge are given for gaging station near Eureka plus a 10 percent correction.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
10...	0715	670	8.0	422	8.1	11.1	92	11	K300	460	200
DEC											
09...	1300	1060	4.0	352	7.4	11.6	87	11	K430	150	154
JAN											
20...	0730	3490	2.0	320	7.7	13.4	94	<10	92	580	138
FEB											
23...	1000	4440	1.0	392	7.8	15.0	102	11	K440	340	164
MAR											
16...	0700	3040	4.0	295	7.7	13.0	97	<10	50	43	110
APR											
06...	1400	5100	9.5	299	7.7	--	--	12	K19	K0	134
MAY											
19...	0800	13300	16.5	302	7.7	--	--	73	400	4000	138
JUN											
01...	1100	2060	20.0	331	7.8	8.0	86	19	66	K18	151
JUL											
06...	1500	3940	28.0	255	8.3	6.4	80	17	140	K12	B116
AUG											
10...	1800	7890	29.0	268	8.1	3.1	39	110	120	110	130
SEP											
29...	0830	54300	17.0	108	7.1	6.9	69	29	K610	290	54

K--Results based on colony count outside the acceptable range (non-ideal colony count).
B--Based on the cation/anion balance, this value is considered suspect.

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV											
10...	0.140	0.040	0.230	0.50	0.140	0.100	210	43	26	10	1.8
DEC											
09...	0.480	0.060	0.200	0.40	0.080	0.080	170	37	20	8.8	1.8
JAN											
20...	0.630	0.010	0.110	0.37	0.070	0.060	150	32	16	9.8	1.4
FEB											
23...	0.340	0.010	0.070	0.47	0.060	0.040	180	40	20	12	1.4
MAR											
16...	0.360	0.010	0.070	0.37	0.050	0.030	140	31	16	6.8	1.3
MAY											
19...	0.130	0.010	0.060	0.42	0.040	0.050	150	32	16	6.4	1.6
JUN											
01...	0.140	0.010	0.070	0.46	0.140	0.040	--	--	--	--	--
JUL											
06...	<0.020	0.010	0.020	0.81	0.070	0.020	130	28	14	3.9	2.1
AUG											
10...	--	--	--	1.2	0.130	--	--	--	--	--	--
SEP											
29...	0.140	0.020	0.070	0.66	0.130	0.110	--	--	--	--	--

MERAMEC RIVER BASIN

07019280 MERAMEC RIVER AT PAULINA HILLS, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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-PENDED (MG/L) (00530)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	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)
NOV										
10...	29	13	0.20	245	<1	--	--	<1	<1.0	<1
DEC										
09...	24	12	0.10	204	27	--	--	<1	<1.0	<1
JAN										
20...	20	15	<0.10	181	9	330	30	<1	<1.0	<1
FEB										
23...	25	20	<0.10	240	14	390	360	<1	<1.0	1
MAR										
16...	19	10	<0.10	185	7	300	10	<1	<1.0	2
APR										
06...	--	--	--	183	9	180	20	--	--	--
MAY										
19...	17	8.5	0.10	178	17	400	<10	<1	<1.0	1
JUN										
01...	--	--	--	189	21	370	10	--	--	--
JUL										
06...	13	5.1	0.10	157	3	150	20	<1	<1.0	2
AUG										
10...	--	--	--	168	4	40	40	--	--	--
SEP										
29...	--	--	--	90	50	2200	1500	--	--	--

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)
NOV										
10...	5	6	<1	70	24	--	<10	<3	<0.05	<0.05
DEC										
09...	16	6	<1	150	77	<0.10	40	<3	<0.05	<0.05
JAN										
20...	33	14	1	70	41	<0.10	20	8	<0.05	<0.05
FEB										
23...	30	6	<1	70	40	0.20	10	7	--	--
MAR										
16...	22	7	2	60	33	<0.10	<10	4	--	--
MAY										
19...	17	8	<1	100	7	<0.10	<10	5	<0.05	<0.05
JUL										
06...	65	6	<1	50	2	<0.10	<10	10	<0.05	<0.05

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV										
10...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	0.08	<0.05	<0.05
DEC										
09...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN										
20...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAY										
19...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	0.06
JUL										
06...	<0.05	0.05	<0.05	<0.20	<0.05	<0.05	<0.05	0.24	<0.05	<0.05

HEADWATER DIVERSION CHANNEL BASIN

07020200 PICKLE CREEK AT HAWN STATE PARK
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

LOCATION.--Lat 37°50'05", long 90°13'28, in sec.11 T.36 N., R.7 E., Ste. Genevieve County, at foot bridge on walking trail 200 ft downstream from camping area in Hawn State Park.

PERIOD OF RECORD.--November 1992 to current year.

REMARKS.--Ambient water-quality monitoring network station beginning November 1992.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
10...	1450	1.6	9.0	58	6.8	11.0	93	13	29	90	B17
JAN											
20...	1230	10	0.5	51	7.2	14.6	99	<10	K28	160	B8
MAR											
16...	1530	7.5	4.5	54	6.8	13.8	105	12	K4	K5	12
MAY											
18...	1600	6.2	15.5	49	6.0	8.2	81	17	K360	K1400	B8
JUL											
07...	1010	3.6	22.5	54	7.4	8.4	95	21	310	3000	19
SEP											
29...	1545	1.7	15.0	48	7.1	9.6	93	22	96	K240	--

K--Results based on colony count outside the acceptable range (non-ideal colony count).
B--Based on cation/anion balance, this value is considered suspect.

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV											
10...	<0.050	0.020	0.010	<0.20	0.010	<0.010	43	8.9	5.1	3.2	1.9
JAN											
20...	0.090	0.010	0.030	0.37	0.030	0.020	22	4.3	2.7	1.9	1.1
MAR											
16...	0.030	<0.010	<0.010	0.21	<0.020	<0.010	--	--	--	--	--
MAY											
18...	0.080	<0.010	<0.010	0.32	0.020	0.020	20	4.2	2.2	2.0	1.3
JUL											
07...	0.090	0.010	0.020	0.33	<0.020	0.010	--	--	--	--	--
SEP											
29...	0.030	0.010	0.030	0.22	0.020	0.010	--	--	--	--	--

HEADWATER DIVERSION CHANNEL BASIN

07020200 PICKLE CREEK AT HAWN STATE PARK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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-PENDED (MG/L) (00530)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	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)
NOV										
10...	B4.2	B3.7	<0.10	34	10	--	--	<1	<1.0	2
JAN										
20...	B12	B2.4	<0.10	38	10	330	100	<1	<1.0	<1
MAR										
16...	--	--	--	48	<1	120	50	--	--	--
MAY										
18...	B8.3	B2.0	<0.10	43	13	300	70	<1	<1.0	2
JUL										
07...	--	--	--	46	5	180	30	--	--	--
SEP										
29...	--	--	--	48	8	180	100	--	--	--

B--Based on cation/anion balance, this value is considered suspect.

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)
NOV										
10...	480	2	<1	10	8	--	<10	12	<0.05	<0.05
JAN										
20...	150	2	<1	100	60	0.10	<10	8	<0.05	<0.05
MAY										
18...	410	3	2	50	16	0.10	<10	<3	<0.05	<0.05

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV										
10...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN										
20...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAY										
18...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

MISSISSIPPI RIVER MAIN STEM

07020500 MISSISSIPPI RIVER AT CHESTER, IL

LOCATION.--Lat 37°54'10", long 89°51'10", in SW ¼ 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 mi^2, 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 ft^3/s, computed by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	185000	111000	389000	253000	270000	161000	389000	594000	395000	508000	950000	497000
2	168000	114000	366000	261000	262000	168000	401000	584000	390000	511000	947000	488000
3	146000	117000	348000	245000	258000	186000	425000	582000	385000	528000	938000	487000
4	133000	126000	334000	280000	256000	236000	450000	582000	378000	563000	955000	489000
5	129000	129000	322000	384000	258000	359000	473000	568000	372000	599000	991000	494000
6	124000	141000	308000	426000	258000	437000	485000	567000	372000	629000	1000000	500000
7	118000	161000	286000	437000	254000	468000	488000	580000	384000	666000	1000000	501000
8	114000	172000	267000	433000	247000	481000	493000	592000	408000	701000	985000	500000
9	108000	178000	241000	406000	240000	490000	495000	593000	433000	734000	961000	497000
10	111000	179000	219000	374000	237000	496000	493000	596000	446000	751000	929000	494000
11	109000	182000	216000	341000	238000	495000	495000	602000	451000	786000	896000	488000
12	107000	207000	218000	303000	241000	487000	499000	605000	450000	808000	866000	484000
13	109000	227000	219000	279000	242000	473000	502000	609000	449000	813000	842000	480000
14	114000	259000	219000	267000	246000	462000	510000	615000	446000	814000	818000	475000
15	132000	283000	230000	259000	256000	451000	546000	618000	440000	813000	800000	482000
16	148000	270000	326000	265000	261000	432000	593000	618000	433000	823000	785000	504000
17	157000	238000	432000	266000	245000	404000	639000	612000	429000	845000	766000	527000
18	161000	216000	483000	261000	220000	371000	667000	606000	427000	874000	743000	544000
19	157000	205000	504000	253000	202000	343000	675000	597000	428000	909000	715000	547000
20	151000	205000	505000	243000	199000	326000	671000	582000	426000	928000	690000	540000
21	149000	217000	495000	254000	195000	317000	664000	569000	426000	929000	662000	533000
22	146000	308000	477000	275000	201000	303000	654000	548000	427000	898000	634000	531000
23	142000	414000	453000	282000	199000	300000	645000	523000	426000	907000	608000	563000
24	137000	455000	413000	281000	189000	316000	636000	500000	429000	929000	588000	612000
25	132000	471000	356000	305000	179000	347000	629000	480000	440000	905000	573000	642000
26	126000	473000	299000	325000	173000	369000	630000	461000	451000	908000	561000	679000
27	120000	461000	266000	320000	168000	378000	629000	446000	473000	916000	551000	709000
28	117000	447000	246000	302000	164000	383000	623000	436000	484000	911000	541000	735000
29	118000	429000	243000	291000	---	387000	614000	426000	497000	906000	531000	751000
30	114000	412000	248000	281000	---	386000	605000	414000	506000	911000	521000	756000
31	112000	---	246000	274000	---	385000	---	403000	---	930000	509000	---
MEAN	132100	260200	328200	304100	227100	374100	557300	551900	430000	795300	769500	551000
MAX	185000	473000	505000	437000	270000	496000	675000	618000	506000	930000	1000000	756000
MIN	107000	111000	216000	243000	164000	161000	389000	403000	372000	508000	509000	475000
IN.	.21	.41	.53	.49	.33	.61	.88	.90	.68	1.29	1.25	.87

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

MEAN	145700	152100	138500	131100	156300	250500	336600	308900	272700	239700	158500	149300
MAX	588300	380400	500100	323200	331000	528400	719100	625000	597200	795300	769500	551000
(WY)	1987	1986	1983	1973	1974	1973	1973	1973	1947	1993	1993	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	209800		441700		203300	
HIGHEST ANNUAL MEAN					441700	1993
LOWEST ANNUAL MEAN					96770	1956
HIGHEST DAILY MEAN	505000	Dec 20	1000000	Aug 6	1000000	Aug 6 1993
LOWEST DAILY MEAN	98700	Sep 3	107000	Oct 12	37600	Jan 1 1964
INSTANTANEOUS PEAK FLOW	--		1000000	Aug 7	1000000	Aug 7 1993
INSTANTANEOUS PEAK STAGE	--		49.74	Aug 7	49.74	Aug 7 1993
INSTANTANEOUS LOW FLOW	--		106000	Oct 11-12	30000	Dec 12 1937
ANNUAL SEVEN-DAY MINIMUM	104000	Sep 1	110000	Oct 8	38500	Dec 20 1963
ANNUAL RUNOFF (INCHES)	4.03		8.46		3.90	
10 PERCENT EXCEEDS	349000		785000		393000	
50 PERCENT EXCEEDS	184000		433000		163000	
90 PERCENT EXCEEDS	118000		161000		75800	

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 records 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, 1,780 mg/L, Nov. 23; minimum daily mean, 67 mg/L, Nov. 2.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 2,160,000 tons, July 6; minimum daily, 20,500 tons, Nov. 2.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	185000	201	97700	111000	95	28500	389000	624	657000
2	168000	184	83200	114000	67	20500	366000	393	390000
3	146000	143	56500	117000	72	22800	348000	441	414000
4	133000	125	44800	126000	78	26600	334000	527	475000
5	129000	117	40700	129000	94	32800	322000	463	403000
6	124000	110	36900	141000	119	45600	308000	382	319000
7	118000	104	33100	161000	201	87700	286000	312	242000
8	114000	113	34400	172000	255	119000	267000	217	157000
9	108000	126	36600	178000	299	144000	241000	206	134000
10	111000	93	27900	179000	299	144000	219000	309	183000
11	109000	84	24700	182000	292	143000	216000	195	114000
12	107000	106	30700	207000	407	228000	218000	108	63400
13	109000	146	43200	227000	521	320000	219000	209	123000
14	114000	192	59200	259000	778	544000	219000	223	132000
15	132000	218	78600	283000	860	656000	230000	245	153000
16	148000	542	217000	270000	721	529000	326000	535	481000
17	157000	626	265000	238000	458	296000	432000	897	1050000
18	161000	607	263000	216000	431	251000	483000	1300	1700000
19	157000	1060	447000	205000	305	169000	504000	1120	1520000
20	151000	432	176000	205000	234	130000	505000	833	1140000
21	149000	580	233000	217000	412	243000	495000	683	913000
22	146000	259	102000	308000	1240	1060000	477000	544	700000
23	142000	663	253000	414000	1780	1990000	453000	633	772000
24	137000	447	165000	455000	1630	2000000	413000	558	622000
25	132000	632	225000	471000	1190	1510000	356000	478	459000
26	126000	899	307000	473000	1100	1410000	299000	472	381000
27	120000	521	170000	461000	917	1140000	266000	361	259000
28	117000	312	98500	447000	786	949000	246000	274	182000
29	118000	205	65400	429000	692	804000	243000	196	129000
30	114000	188	57900	412000	629	699000	248000	186	124000
31	112000	171	51800	---	---	---	246000	156	104000

MISSISSIPPI RIVER MAIN STEM

07020500 MISSISSIPPI RIVER AT CHESTER, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	253000	123	84300	270000	320	233000	161000	178	77400
2	261000	110	77100	262000	300	212000	168000	150	68400
3	245000	197	130000	258000	406	282000	186000	255	129000
4	280000	323	248000	256000	390	269000	236000	331	213000
5	384000	492	513000	258000	214	149000	359000	424	416000
6	426000	660	759000	258000	222	154000	437000	580	688000
7	437000	647	763000	254000	333	228000	468000	779	986000
8	433000	588	687000	247000	369	246000	481000	845	1100000
9	406000	554	608000	240000	372	241000	490000	850	1120000
10	374000	400	404000	237000	374	239000	496000	849	1140000
11	341000	278	257000	238000	359	230000	495000	847	1130000
12	303000	231	189000	241000	346	225000	487000	842	1110000
13	279000	198	149000	242000	336	219000	473000	813	1040000
14	267000	181	130000	246000	322	214000	462000	894	1110000
15	259000	317	222000	256000	271	188000	451000	1000	1220000
16	265000	213	152000	261000	220	155000	432000	1070	1250000
17	266000	256	184000	245000	183	121000	404000	1060	1160000
18	261000	256	181000	220000	212	126000	371000	910	910000
19	253000	227	155000	202000	433	236000	343000	739	684000
20	243000	201	132000	199000	398	213000	326000	634	558000
21	254000	190	130000	195000	342	180000	317000	560	479000
22	275000	395	295000	201000	542	294000	303000	551	451000
23	282000	496	380000	199000	514	275000	300000	552	447000
24	281000	475	360000	189000	436	222000	316000	544	465000
25	305000	350	288000	179000	314	152000	347000	605	568000
26	325000	325	285000	173000	214	100000	369000	645	643000
27	320000	375	324000	168000	149	67300	378000	538	549000
28	302000	450	367000	164000	137	60500	383000	571	591000
29	291000	600	471000	---	---	---	387000	527	550000
30	281000	478	363000	---	---	---	386000	438	457000
31	274000	325	240000	---	---	---	385000	413	429000
		APRIL			MAY			JUNE	
1	389000	452	474000	594000	286	459000	395000	358	382000
2	401000	543	589000	584000	281	443000	390000	505	531000
3	425000	756	871000	582000	313	491000	385000	461	479000
4	450000	1310	1600000	582000	283	444000	378000	519	529000
5	473000	1640	2100000	568000	258	395000	372000	554	556000
6	485000	1470	1920000	567000	249	382000	372000	546	548000
7	488000	1220	1590000	580000	384	603000	384000	482	500000
8	493000	1020	1360000	592000	408	652000	408000	599	663000
9	495000	913	1220000	593000	346	555000	433000	1080	1260000
10	493000	730	970000	596000	346	556000	446000	1220	1480000
11	495000	656	876000	602000	354	576000	451000	931	1130000
12	499000	668	901000	605000	581	950000	450000	926	1120000
13	502000	622	842000	609000	727	1200000	449000	925	1120000
14	510000	681	940000	615000	687	1140000	446000	580	698000
15	546000	743	1100000	618000	681	1140000	440000	512	607000
16	593000	753	1210000	618000	687	1150000	433000	450	526000
17	639000	699	1210000	612000	650	1070000	429000	500	579000
18	667000	646	1160000	606000	661	1080000	427000	609	703000
19	675000	619	1130000	597000	699	1120000	428000	722	834000
20	671000	507	919000	582000	758	1190000	426000	787	905000
21	664000	435	778000	569000	547	839000	426000	702	807000
22	654000	412	726000	548000	517	763000	427000	705	813000
23	645000	406	707000	523000	529	747000	426000	724	832000
24	636000	344	590000	500000	501	677000	429000	698	808000
25	629000	370	627000	480000	530	685000	440000	647	770000
26	630000	420	715000	461000	505	627000	451000	711	867000
27	629000	417	709000	446000	498	600000	473000	777	992000
28	623000	367	618000	436000	445	524000	484000	697	922000
29	614000	347	574000	426000	388	446000	497000	570	772000
30	605000	312	509000	414000	435	485000	506000	524	721000
31	---	---	---	403000	394	429000	---	---	---

MISSISSIPPI RIVER MAIN STEM

07020500 MISSISSIPPI RIVER AT CHESTER, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	508000	519	716000	950000	358	916000	497000	239	321000
2	511000	582	810000	947000	455	1160000	488000	246	325000
3	528000	662	951000	938000	573	1450000	487000	346	457000
4	563000	838	1280000	955000	586	1500000	489000	538	713000
5	599000	1030	1670000	991000	431	1150000	494000	580	775000
6	629000	1270	2160000	1000000	369	993000	500000	563	759000
7	666000	817	1460000	1000000	308	825000	501000	568	767000
8	701000	557	1050000	985000	218	570000	500000	556	749000
9	734000	548	1090000	961000	211	534000	497000	585	785000
10	751000	433	878000	929000	212	518000	494000	545	725000
11	786000	415	882000	896000	212	499000	488000	505	665000
12	808000	391	853000	866000	180	413000	484000	423	553000
13	813000	352	773000	842000	172	385000	480000	240	311000
14	814000	363	798000	818000	203	440000	475000	262	337000
15	813000	337	739000	800000	221	470000	482000	287	373000
16	823000	372	745000	785000	210	438000	504000	314	425000
17	845000	353	805000	766000	214	437000	527000	343	487000
18	874000	372	879000	743000	272	540000	544000	389	569000
19	909000	326	802000	715000	266	509000	547000	471	693000
20	928000	304	762000	690000	296	546000	540000	579	843000
21	929000	231	580000	662000	322	573000	533000	603	867000
22	898000	164	397000	634000	332	566000	531000	563	808000
23	907000	164	403000	608000	292	480000	563000	527	802000
24	929000	234	588000	588000	248	393000	612000	488	803000
25	905000	260	635000	573000	269	417000	642000	421	728000
26	908000	240	587000	561000	224	340000	679000	443	812000
27	916000	257	634000	551000	212	317000	709000	611	1170000
28	911000	277	679000	541000	213	312000	735000	348	691000
29	906000	280	682000	531000	219	314000	751000	260	528000
30	911000	257	631000	521000	225	317000	756000	290	591000
31	930000	308	771000	509000	232	319000	---	---	---

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 mi^2, 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 ft^3/s, computed by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196000	114000	426000	279000	288000	192000	421000	597000	403000	503000	886000	500000
2	180000	115000	403000	286000	280000	198000	428000	593000	396000	505000	899000	489000
3	162000	117000	381000	286000	269000	219000	445000	592000	393000	510000	916000	488000
4	143000	122000	362000	286000	263000	230000	468000	600000	386000	527000	919000	485000
5	133000	129000	344000	342000	261000	302000	492000	596000	378000	558000	934000	486000
6	129000	133000	329000	435000	260000	395000	508000	588000	373000	591000	966000	491000
7	124000	148000	310000	458000	255000	448000	514000	594000	379000	622000	978000	496000
8	119000	167000	290000	465000	249000	475000	516000	604000	393000	659000	963000	498000
9	114000	179000	272000	456000	241000	492000	523000	611000	423000	702000	951000	499000
10	111000	184000	248000	424000	236000	503000	525000	611000	452000	740000	924000	499000
11	114000	186000	234000	391000	238000	506000	521000	614000	462000	759000	903000	497000
12	112000	212000	232000	356000	242000	505000	519000	618000	465000	781000	880000	494000
13	112000	242000	232000	323000	243000	494000	520000	617000	462000	799000	851000	492000
14	115000	255000	233000	305000	246000	484000	519000	620000	459000	828000	830000	490000
15	124000	281000	236000	291000	254000	477000	534000	620000	455000	864000	809000	491000
16	149000	287000	279000	285000	263000	463000	564000	625000	449000	837000	787000	494000
17	163000	264000	381000	285000	261000	441000	595000	621000	441000	815000	771000	508000
18	167000	238000	446000	280000	245000	408000	627000	619000	436000	836000	757000	524000
19	168000	222000	482000	271000	225000	373000	649000	617000	431000	866000	736000	536000
20	162000	215000	502000	262000	214000	345000	658000	606000	428000	889000	707000	539000
21	157000	226000	504000	265000	220000	327000	650000	598000	422000	889000	685000	535000
22	155000	268000	501000	276000	230000	313000	644000	586000	421000	891000	662000	530000
23	150000	377000	483000	286000	227000	305000	633000	564000	419000	874000	634000	546000
24	145000	442000	454000	287000	221000	311000	626000	540000	418000	885000	611000	577000
25	139000	476000	407000	294000	214000	336000	618000	515000	425000	865000	593000	603000
26	134000	493000	354000	313000	206000	370000	610000	494000	437000	812000	576000	628000
27	128000	492000	315000	323000	202000	392000	610000	472000	449000	834000	560000	653000
28	122000	478000	291000	315000	196000	405000	607000	453000	469000	863000	549000	683000
29	120000	460000	279000	307000	---	417000	604000	441000	485000	887000	535000	705000
30	119000	444000	279000	301000	---	422000	599000	428000	496000	870000	524000	723000
31	115000	---	280000	294000	---	422000	---	414000	---	871000	512000	---
MEAN	138100	265500	347400	323500	241000	386100	558200	569900	430200	765500	768000	539300
MAX	196000	493000	504000	465000	288000	506000	658000	625000	496000	891000	978000	723000
MIN	111000	114000	232000	262000	196000	192000	421000	414000	373000	503000	512000	485000
IN.	.22	.42	.56	.52	.35	.62	.87	.92	.67	1.24	1.24	.84

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

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

MEAN	144800	152100	140500	134100	158600	249700	329200	308000	274900	234500	153400	144200
MAX	589600	389000	531700	333300	350400	542000	731000	655800	584100	765500	768000	539300
(WY)	1987	1986	1983	1973	1974	1985	1973	1973	1947	1993	1993	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	215500		446000		202400	
HIGHEST ANNUAL MEAN					446000	1993
LOWEST ANNUAL MEAN					71730	1934
HIGHEST DAILY MEAN	504000	Dec 21	978000	Aug 7	978000	Aug 7 1993
LOWEST DAILY MEAN	97000	Sep 4	111000	Oct 10	24700	Jan 21 1940
INSTANTANEOUS PEAK FLOW	--		996000	Aug 7	996000	Aug 7 1993
INSTANTANEOUS PEAK STAGE	--		45.51	Aug 7	45.51	Aug 7 1993
INSTANTANEOUS LOW FLOW	--		110000	Oct 10	23400	Dec 13 1937
ANNUAL SEVEN-DAY MINIMUM	103000	Sep 1	114000	Oct 8	26700	Jan 20 1940
ANNUAL RUNOFF (INCHES)	4.11		8.49		3.86	
10 PERCENT EXCEEDS	354000		775000		394000	
50 PERCENT EXCEEDS	186000		446000		162000	
90 PERCENT EXCEEDS	122000		168000		73000	

**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, September 1986. Samples are analyzed by the Illinois Environmental Protection Agency. Sediment records good.

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 and July 17, 1977; minimum daily, 0.0°C, on several days during winter periods.
SUSPENDED-SEDIMENT CONCENTRATONS: Maximum daily mean, 3,890 mg/L, Dec. 22, 1986; minimum daily mean, 9 mg/L, Aug. 23, 1993.
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, 3,410,000 tons, Nov. 25; minimum daily, 32,200 tons, Oct. 30.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, 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, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)
NOV											
11...	1130	81700	17002	184000	515	7.7	8.0	14	10.8	88	23
JAN											
21...	0800	81700	17002	263000	480	7.9	1.0	36	13.7	95	200
MAR											
17...	0730	81700	17002	446000	400	7.7	1.5	190	14.2	98	68
MAY											
18...	0900	81700	17002	622000	378	7.2	19.0	100	C0.01	0	12
JUL											
07...	1330	81700	17002	626000	344	7.6	29.0	150	--	--	41
20...	1400	1028	80020	885000	335	7.9	26.0	99	3.9	47	--

C--Dissolved oxygen was not measured in the main channel due to high flow conditions.

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS. PER 100 ML) (31673)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)
NOV											
11...	K1680	260	230	56	59	56	23	22	23	23	4.4
JAN											
21...	430	680	210	--	55	53	18	18	18	18	3.9
MAR											
17...	550	3500	160	53	57	42	18	13	17	15	7.6
MAY											
18...	K1500	300	210	92	62	57	19	17	12	12	5.3
JUL											
07...	810	340	150	--	47	39	16	12	9.6	9.5	6.3
20...	335	498	150	--	--	42	--	11	--	6.8	--

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

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, TOTAL (MG/L AS F) (00951)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
NOV								
11...	4.3	186	65	26	0.3	137	15	2.10
JAN								
21...	3.8	165	50	25	0.2	82	10	3.10
MAR								
17...	4.7	B164	43	20	0.2	836	72	2.70
MAY								
18...	3.4	142	44	14	0.2	272	40	2.70
JUL								
07...	4.2	125	35	11	0.2	792	84	2.00
20...	4.2	120	25	9.3	--	--	--	2.40

B--Based on cation/anion balance, this value is considered suspect.

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UNIONIZED (MG/L AS N) (00619)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)
NOV											
11...	0.140	0.001	1.1	0.320	0.160	1600	410	2	100	83	<1.0
JAN											
21...	0.330	0.002	0.64	0.240	0.100	1300	<150	<1	100	75	<1.0
MAR											
17...	0.470	0.002	2.3	0.770	0.097	10000	840	7	1000	250	<1.0
MAY											
18...	0.050	<0.001	1.8	0.250	0.070	11000	2000	<1	1000	--	<1.0
JUL											
07...	0.060	0.002	1.2	0.680	0.080	12000	210	4	300	98	<1.0
20...	0.090	--	0.93	0.330	0.090	--	20	--	--	90	--

DATE	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)
NOV											
11...	<1	60	50	<5	<5.0	6	<5	10	<5	18	7
JAN											
21...	<1	20	10	<5	<5.0	6	<5	30	<5	<5	<5
MAR											
17...	<1	90	30	7	<5.0	24	5	50	<5	6	<5
MAY											
18...	<1	100	--	<3	<3.0	29	10	10	6	<5	<5
JUL											
07...	<1	30	--	<3	<3.0	18	<5	30	7	11	<5

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	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)
NOV											
11...	2900	680	29	<5	190	49	--	<15	<15	<5	<5.0
JAN											
21...	2200	68	26	<5	100	15	0.07	<15	<15	<5	<5.0
MAR											
17...	15000	170	<5	<5	730	31	--	38	<15	<5	<5.0
MAY											
18...	11000	190	15	7	390	44	<0.05	<15	<15	<3	<3.0
JUL											
07...	16000	110	<5	<5	570	<15	<0.05	<15	<15	4	<3.0
20...	--	40	--	--	--	3	0.50	--	3	--	<1.0

DATE	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)
NOV									
11...	230	220	6	<5	60	<50	6.0	0.037	<10
JAN									
21...	170	170	5	<5	60	<50	14	<0.010	<10
MAR									
17...	230	170	24	<5	120	<50	14	--	<10
MAY									
18...	220	220	21	<5	<100	<100	8.0	<0.010	<10
JUL									
07...	180	140	31	<5	100	<100	11	<0.010	<10
20...	--	140	--	<6	--	--	--	--	--

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	196000	363	189000	114000	177	54300	426000	707	821000
2	180000	332	161000	115000	135	41500	403000	751	816000
3	162000	268	117000	117000	105	32800	381000	699	713000
4	143000	189	73400	122000	108	35300	362000	528	512000
5	133000	180	65300	129000	134	46200	344000	573	534000
6	129000	169	59600	133000	129	46000	329000	430	385000
7	124000	148	49900	148000	124	49100	310000	479	405000
8	119000	142	45900	167000	159	70200	290000	479	381000
9	114000	128	39700	179000	294	137000	272000	389	288000
10	111000	151	45700	184000	299	143000	248000	350	233000
11	114000	141	43500	186000	338	163000	234000	371	234000
12	112000	119	35700	212000	481	269000	232000	409	256000
13	112000	122	36800	242000	608	386000	232000	344	217000
14	115000	130	40100	255000	556	379000	233000	351	220000
15	124000	182	61500	281000	676	513000	236000	351	223000
16	149000	254	103000	287000	963	739000	279000	562	424000
17	163000	295	128000	264000	1100	772000	381000	847	866000
18	167000	323	145000	238000	458	285000	446000	1350	1610000
19	168000	340	151000	222000	437	252000	482000	1970	2530000
20	162000	310	134000	215000	446	250000	502000	1790	2400000
21	157000	284	118000	226000	345	204000	504000	1510	2040000
22	155000	300	123000	268000	402	296000	501000	1450	1950000
23	150000	283	113000	377000	1030	1080000	483000	1210	1570000
24	145000	281	108000	442000	2210	2690000	454000	1040	1270000
25	139000	295	110000	476000	2610	3410000	407000	886	950000
26	134000	276	99200	493000	2420	3280000	354000	705	646000
27	128000	246	84600	492000	1730	2370000	315000	494	404000
28	122000	136	44600	478000	1510	2000000	291000	341	258000
29	120000	106	34300	460000	1110	1420000	279000	297	216000
30	119000	100	32200	444000	949	1160000	279000	254	184000
31	115000	143	44800	---	---	---	280000	306	224000
		JANUARY			FEBRUARY			MARCH	
1	279000	400	295000	288000	170	130000	192000	255	123000
2	286000	375	285000	280000	161	120000	198000	305	153000
3	286000	308	229000	269000	156	112000	219000	357	200000
4	286000	423	313000	263000	142	101000	230000	372	231000
5	342000	636	604000	261000	147	105000	302000	610	527000
6	435000	779	921000	260000	238	169000	395000	897	1000000
7	458000	913	1130000	255000	256	178000	448000	1140	1440000
8	465000	1010	1280000	249000	256	174000	475000	1110	1480000
9	456000	922	1120000	241000	232	153000	492000	1000	1390000
10	424000	716	801000	236000	224	145000	503000	904	1270000
11	391000	539	549000	238000	245	161000	506000	833	1180000
12	356000	563	518000	242000	203	135000	505000	823	1150000
13	323000	501	420000	243000	329	220000	494000	885	1210000
14	305000	520	416000	246000	467	317000	484000	1060	1400000
15	291000	445	342000	254000	447	312000	477000	1170	1510000
16	285000	351	266000	263000	455	330000	463000	1280	1600000
17	285000	253	193000	261000	605	433000	441000	1220	1440000
18	280000	232	174000	245000	729	485000	408000	972	1050000
19	271000	192	140000	225000	591	357000	373000	812	795000
20	262000	168	118000	214000	514	294000	345000	724	662000
21	265000	318	230000	220000	445	260000	327000	602	526000
22	276000	428	322000	230000	390	237000	313000	469	393000
23	286000	433	338000	227000	388	233000	305000	444	362000
24	287000	358	280000	221000	367	212000	311000	414	346000
25	294000	364	293000	214000	336	184000	336000	418	381000
26	313000	415	356000	206000	351	184000	370000	498	498000
27	323000	452	396000	202000	371	189000	392000	592	619000
28	315000	408	343000	196000	323	159000	405000	313	335000
29	307000	379	308000	---	---	---	417000	236	257000
30	301000	273	217000	---	---	---	422000	254	278000
31	294000	269	209000	---	---	---	422000	246	267000

MISSISSIPPI RIVER MAIN STEM

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	421000	368	401000	597000	272	461000	403000	460	489000
2	428000	391	435000	593000	304	511000	396000	450	469000
3	445000	475	551000	592000	264	444000	393000	423	435000
4	468000	629	780000	600000	233	399000	386000	421	429000
5	492000	1220	1610000	596000	233	390000	378000	427	426000
6	508000	1450	1990000	588000	293	485000	373000	357	353000
7	514000	1320	1830000	594000	340	567000	379000	337	341000
8	516000	996	1390000	604000	433	738000	393000	442	465000
9	523000	840	1190000	611000	384	660000	423000	510	582000
10	525000	766	1090000	611000	362	624000	452000	835	1020000
11	521000	674	944000	614000	358	622000	462000	840	1050000
12	519000	569	802000	618000	390	680000	465000	789	996000
13	520000	664	939000	617000	521	907000	462000	711	897000
14	519000	751	1070000	620000	595	1040000	459000	783	984000
15	534000	811	1210000	620000	606	1050000	455000	635	795000
16	564000	743	1190000	625000	511	895000	449000	501	617000
17	595000	881	1490000	621000	487	843000	441000	417	505000
18	627000	929	1670000	619000	502	865000	436000	419	502000
19	649000	1040	1930000	617000	479	815000	431000	480	569000
20	658000	837	1570000	606000	507	844000	428000	544	639000
21	650000	817	1520000	598000	501	815000	422000	624	724000
22	644000	550	1010000	586000	431	687000	421000	759	878000
23	633000	322	582000	564000	453	695000	419000	715	823000
24	626000	296	528000	540000	451	661000	418000	710	817000
25	618000	285	502000	515000	405	564000	425000	725	850000
26	610000	301	525000	494000	388	515000	437000	764	922000
27	610000	328	572000	472000	378	478000	449000	775	962000
28	607000	298	517000	453000	394	476000	469000	818	1070000
29	604000	265	455000	441000	391	458000	485000	684	917000
30	599000	251	427000	428000	383	435000	496000	555	763000
31	---	---	---	414000	343	375000	---	---	---
		JULY			AUGUST			SEPTEMBER	
1	503000	483	672000	886000	472	1130000	500000	147	199000
2	505000	443	622000	899000	494	1200000	489000	114	151000
3	510000	456	647000	916000	591	1460000	488000	137	181000
4	527000	593	873000	919000	560	1390000	485000	123	162000
5	558000	802	1250000	934000	491	1240000	486000	220	289000
6	591000	878	1450000	966000	435	1130000	491000	225	298000
7	622000	853	1490000	978000	376	992000	496000	275	368000
8	659000	727	1360000	963000	356	927000	498000	304	409000
9	702000	596	1180000	951000	307	789000	499000	304	410000
10	740000	551	1130000	924000	287	717000	499000	277	373000
11	759000	501	1050000	903000	279	679000	497000	258	346000
12	781000	490	1080000	880000	246	585000	494000	242	322000
13	799000	465	1060000	851000	260	597000	492000	229	304000
14	828000	472	1080000	830000	192	430000	490000	212	280000
15	864000	473	1100000	809000	151	330000	491000	211	280000
16	837000	442	1000000	787000	176	374000	494000	233	311000
17	815000	459	1020000	771000	155	322000	508000	267	366000
18	836000	426	971000	757000	97	199000	524000	244	345000
19	866000	485	1140000	736000	101	200000	536000	191	277000
20	889000	475	1140000	707000	98	188000	539000	155	226000
21	889000	460	1100000	685000	91	169000	535000	165	238000
22	891000	428	1030000	662000	108	194000	530000	180	258000
23	874000	358	844000	634000	89	153000	546000	294	436000
24	885000	374	895000	611000	107	176000	577000	353	552000
25	865000	330	768000	593000	110	176000	603000	417	681000
26	812000	302	662000	576000	120	186000	628000	434	738000
27	834000	303	683000	560000	110	167000	653000	388	684000
28	863000	314	731000	549000	114	169000	683000	361	666000
29	887000	317	759000	535000	105	151000	705000	354	675000
30	870000	349	819000	524000	110	155000	723000	343	664000
31	871000	353	831000	512000	137	189000	---	---	---

ST. FRANCIS RIVER BASIN

07034000 ST. FRANCIS RIVER NEAR ROSELLE, MO

LOCATION.--Lat 37°35'45", long 90°29'50", in NE ¼ 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 mi^2.

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 discharges: Nov. 23-29, Dec. 16, Mar. 3, 4, July 30 to Aug. 9, and Sept. 24, 25. Records fair except for flow above 2,000 ft^3/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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	39	108	353	167	291	530	250	66	161	18	14
2	5.3	33	98	241	149	2020	384	426	57	93	16	14
3	4.5	49	89	283	136	1900	295	3180	53	68	16	35
4	4.2	38	80	7900	127	1170	254	2310	53	53	23	149
5	5.3	37	75	5210	119	831	460	890	56	42	18	73
6	6.0	39	69	984	112	582	508	610	71	35	16	41
7	5.4	27	62	592	106	454	391	468	60	34	14	30
8	3.8	21	60	438	101	364	336	372	55	125	13	26
9	3.2	17	56	339	99	291	451	296	50	147	12	24
10	3.1	16	57	439	94	246	373	250	51	82	14	19
11	2.9	80	62	358	92	212	287	267	53	55	13	18
12	2.8	2940	60	332	122	178	235	304	45	40	1520	17
13	2.7	619	55	697	144	160	256	257	38	32	840	16
14	2.5	259	52	452	132	140	647	230	34	27	338	14
15	2.4	157	2740	337	124	130	4120	195	29	170	219	23
16	6.5	114	2790	290	132	166	2330	164	25	304	149	85
17	13	94	912	252	131	214	924	149	22	141	114	50
18	31	81	492	215	112	195	591	205	20	130	97	33
19	20	70	354	186	108	184	456	388	19	105	80	25
20	13	143	281	829	115	219	379	250	21	56	67	22
21	8.3	1520	233	2140	454	269	312	192	21	392	56	31
22	7.0	1970	201	965	877	261	255	158	26	236	46	50
23	5.9	1000	177	577	511	403	226	132	30	120	41	5230
24	5.4	500	151	504	348	399	203	122	25	81	35	5000
25	4.7	350	132	419	291	315	222	133	392	69	31	7500
26	4.2	250	121	330	274	419	259	108	523	56	27	3380
27	3.8	200	105	285	233	380	229	92	251	43	24	753
28	3.5	160	101	252	233	300	194	84	154	36	22	462
29	3.2	135	102	222	---	246	173	76	112	30	20	328
30	3.2	119	111	182	---	213	206	71	174	26	17	254
31	5.2	---	182	172	---	499	---	67	---	21	16	---
MEAN	6.43	369	328	864	202	440	550	410	86.2	97.1	127	791
MAX	31	2940	2790	7900	877	2020	4120	3180	523	392	1520	7500
MIN	2.4	16	52	172	92	130	173	67	19	21	12	14
IN.	.03	1.76	1.62	4.26	.90	2.17	2.62	2.02	.41	.48	.63	3.77

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

MEAN	94.2	609	498	304	430	514	422	395	252	38.7	59.1	95.6
MAX	550	2017	1233	864	1165	1130	722	1423	1617	97.1	341	791
(WY)	1985	1986	1991	1993	1985	1985	1984	1990	1985	1993	1985	1993
MIN	6.43	11.5	11.9	57.0	178	218	186	28.8	7.70	7.78	1.65	1.54
(WY)	1993	1990	1990	1986	1992	1992	1986	1987	1988	1983	1983	1983

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	189		356		310	
HIGHEST ANNUAL MEAN					710	1985
LOWEST ANNUAL MEAN					124	1987
HIGHEST DAILY MEAN	5150	Apr 20	7900	Jan 4	28000	Nov 19 1985
LOWEST DAILY MEAN	2.4	Oct 15	2.4	Oct 15	.83	Aug 26 1983
INSTANTANEOUS PEAK FLOW	--		14000	Jan 4	43000	Nov 19 1985
INSTANTANEOUS PEAK STAGE	--		15.22	Jan 4	20.40	Nov 19 1985
INSTANTANEOUS LOW FLOW	--		2.4	Oct 24	.76	Aug 22 1983
ANNUAL SEVEN-DAY MINIMUM	2.8	Oct 9	2.8	Oct 9	1.1	Aug 20 1983
ANNUAL RUNOFF (INCHES)	10.97		20.66		17.97	
10 PERCENT EXCEEDS	351		591		554	
50 PERCENT EXCEEDS	81		130		82	
90 PERCENT EXCEEDS	5.3		14		6.0	

ST. FRANCIS RIVER BASIN

07035000 LITTLE ST. FRANCIS RIVER AT FREDERICKTOWN, MO

LOCATION.--Lat 37°33'33", long 90°18'46", in NW ¼ sec.7, T.33 N., R.7 E., Madison County, Hydrologic Unit 08020202, on right bank at downstream side of State Highway 72 bridge, 0.5 mi downstream from Village Creek, 1.3 mi below City Lake and 1.0 mi west of courthouse in Fredericktown.

DRAINAGE AREA.--90.5 mi^2.

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

GAGE.--Data-collection platform used as primary recorder. Datum of gage is 679.23 ft above sea level.

REMARKS.--No estimated daily discharges. Records fair. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers gage-height and satellite telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	43	56	167	92	120	135	103	24	11	8.9	9.1
2	3.6	27	51	115	82	876	109	191	21	9.0	8.9	10
3	3.3	26	50	174	58	607	95	2010	19	7.0	5.6	22
4	3.0	37	79	6860	55	357	89	664	22	5.6	4.7	15
5	3.0	29	75	1050	51	271	184	325	18	4.8	4.3	11
6	2.6	20	72	400	50	199	163	217	15	4.3	5.3	9.3
7	2.4	16	71	281	48	162	132	160	15	35	4.8	8.2
8	2.4	15	70	232	45	137	125	128	14	26	4.4	8.0
9	2.1	14	80	217	43	114	167	102	23	17	4.0	7.5
10	1.9	21	120	298	41	102	130	90	57	9.8	5.3	7.0
11	1.9	622	115	210	45	87	107	89	25	7.1	5.3	7.0
12	1.7	2320	110	202	54	78	92	77	19	6.2	308	6.5
13	1.7	453	107	255	53	70	109	65	15	5.2	116	6.5
14	1.7	211	105	183	49	63	511	54	13	38	47	25
15	3.0	133	1010	161	51	59	1610	49	9.8	210	30	18
16	67	100	777	148	56	104	602	46	8.1	111	23	14
17	29	82	335	135	48	96	329	40	7.8	43	19	11
18	15	67	235	118	39	80	225	76	8.4	51	15	8.4
19	10	57	197	111	40	83	179	61	9.2	28	12	8.1
20	8.4	193	172	308	47	93	179	46	13	35	10	29
21	7.0	753	142	646	294	98	140	38	12	93	8.4	17
22	6.1	729	101	341	356	96	116	33	9.4	37	7.5	14
23	4.6	416	93	240	200	117	102	29	7.4	24	7.4	1490
24	4.0	229	64	207	140	103	92	30	6.9	19	7.2	573
25	3.6	164	59	167	132	129	110	28	23	14	8.3	1480
26	3.3	125	53	147	116	203	100	24	30	12	6.5	555
27	3.3	99	50	135	101	162	82	22	16	10	6.0	255
28	2.9	84	49	125	97	132	71	21	27	8.0	6.1	153
29	2.6	71	57	109	---	112	70	21	43	6.6	6.1	101
30	6.1	63	59	99	---	99	82	22	15	5.6	6.6	77
31	12	---	151	98	---	145	---	37	---	6.1	8.7	---
MEAN	7.22	241	154	450	88.7	166	208	158	18.2	29.0	23.2	165
MAX	67	2320	1010	6860	356	876	1610	2010	57	210	308	1490
MIN	1.7	14	49	98	39	59	70	21	6.9	4.3	4.0	6.5
IN.	.09	2.97	1.96	5.73	1.02	2.12	2.56	2.01	.22	.37	.30	2.04

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

MEAN	40.5	198	183	134	157	212	171	172	86.3	19.3	35.3	26.4
MAX	273	591	423	450	336	352	278	542	521	67.7	282	165
(WY)	1985	1985	1991	1993	1989	1985	1939	1990	1985	1939	1985	1993
MIN	1.97	11.9	6.62	19.3	68.2	89.7	78.5	11.7	3.33	7.78	1.10	.69
(WY)	1988	1988	1990	1961	1992	1992	1988	1987	1988	1992	1988	1961

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	78.1		143		119	
HIGHEST ANNUAL MEAN					265	1985
LOWEST ANNUAL MEAN					42.4	1987
HIGHEST DAILY MEAN	2320	Nov 12	6860	Jan 4	6860	Jan 4 1993
LOWEST DAILY MEAN	1.7	Oct 12-14	1.7	Oct 12-14	.76	Oct 17 1983
INSTANTANEOUS PEAK FLOW	--		11200	Jan 4	11200	Jan 4 1993
INSTANTANEOUS PEAK STAGE	--		21.00	Jan 4	22.22	May 16 1986
INSTANTANEOUS LOW FLOW	--		1.7	Oct 12-14	.66	Oct 8 1983
ANNUAL SEVEN-DAY MINIMUM	1.9	Oct 8	1.9	Oct 8	.94	Sep 27 1983
ANNUAL RUNOFF (INCHES)	11.75		21.39		17.86	
10 PERCENT EXCEEDS	143		255		244	
50 PERCENT EXCEEDS	34		54		36	
90 PERCENT EXCEEDS	3.2		5.8		2.6	

ST. FRANCIS RIVER BASIN

07035800 ST. FRANCIS RIVER NEAR MILL CREEK, MO

LOCATION.--Lat 37°30'09", long 90°27'28", in NE ¼ 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 mi^2.

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, except for period Oct. 13-15 and 29-31, due to debris accumulation on control, 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	30	333	944	377	599	1150	500	165	229	28	30
2	21	66	305	681	345	4120	843	753	138	138	25	23
3	18	86	274	801	310	4880	665	7620	120	96	24	38
4	15	123	265	24200	283	2540	578	5520	131	72	32	140
5	14	118	265	12500	266	1740	915	2050	179	54	27	139
6	12	105	252	2430	252	1260	1110	1290	183	42	23	78
7	11	90	241	1480	241	972	862	945	152	48	19	52
8	10	73	231	1090	228	786	766	722	129	95	18	40
9	9.4	64	225	884	221	639	894	565	120	190	16	36
10	8.3	66	270	1160	212	553	804	467	123	120	18	31
11	7.1	1390	284	914	211	476	640	498	151	75	23	28
12	6.5	9810	271	801	240	416	533	511	117	51	1490	24
13	6.1	2340	260	1330	278	378	575	439	93	38	1650	21
14	6.7	960	256	990	261	343	1820	380	78	35	581	22
15	6.7	605	5590	771	252	320	9460	337	64	118	352	53
16	98	458	7500	677	277	467	5210	306	53	599	240	100
17	114	379	2110	597	263	582	2110	280	45	289	180	98
18	62	327	1230	515	237	508	1350	328	40	154	144	65
19	57	287	912	461	225	500	1030	555	42	178	115	47
20	44	620	752	1250	235	579	925	381	60	107	94	59
21	33	4480	629	4560	780	677	754	304	58	268	78	67
22	28	4800	526	2200	2050	639	613	262	56	391	63	79
23	24	2910	465	1330	1170	876	538	231	53	187	56	6390
24	20	1350	398	1100	793	836	478	216	51	118	46	7690
25	18	924	350	911	670	717	499	216	342	84	42	9470
26	17	716	325	728	612	943	536	198	848	76	38	6350
27	17	565	296	627	527	857	475	166	413	63	34	1530
28	15	476	280	559	510	693	407	148	257	53	29	872
29	15	412	296	493	---	589	371	174	207	46	25	570
30	16	367	321	421	---	520	408	218	181	37	21	438
31	18	---	533	396	---	1040	---	179	---	31	22	---
MEAN	24.9	1167	847	2187	440	1001	1244	863	155	132	179	1153
MAX	114	9810	7500	24200	2050	4880	9460	7620	848	599	1650	9470
MIN	6.1	30	225	396	211	320	371	148	40	31	16	21
IN.	.06	2.58	1.93	4.99	.91	2.29	2.75	1.97	.34	.30	.41	2.55

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

MEAN	73.6	616	1074	994	895	916	925	752	217	79.2	68.8	192
MAX	154	1167	2428	2187	1745	1296	1283	2911	595	132	179	1153
(WY)	1992	1993	1991	1993	1989	1988	1992	1990	1989	1993	1993	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	459		784		589	
HIGHEST ANNUAL MEAN					784	1993
LOWEST ANNUAL MEAN					429	1992
HIGHEST DAILY MEAN	11500	Apr 20	24200	Jan 4	24200	Jan 4 1993
LOWEST DAILY MEAN	6.1	Oct 13	6.1	Oct 13	1.8	Aug 18-19 1988
INSTANTANEOUS PEAK FLOW	--		36800	Jan 4	36800	Jan 4 1993
INSTANTANEOUS PEAK STAGE	--		20.31	Jan 4	20.31	Jan 4 1993
INSTANTANEOUS LOW FLOW	--		6.1	Oct 13	1.7	Aug 18 1988
ANNUAL SEVEN-DAY MINIMUM	7.3	Oct 9	7.3	Oct 9	2.2	Aug 16 1988
ANNUAL RUNOFF (INCHES)	12.37		21.08		15.83	
10 PERCENT EXCEEDS	790		1340		1160	
50 PERCENT EXCEEDS	231		280		181	
90 PERCENT EXCEEDS	17		24		15	

ST. FRANCIS RIVER BASIN

07036100 ST. FRANCIS RIVER NEAR SACO, MO

LOCATION.--Lat 37°23'06", long 90°28'27", in NE ¼ SE ¼ NE ¼ 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	50	471	1380	517	795	1850	607	190	202	43	39
2	47	79	419	1040	469	4700	1340	874	175	196	39	41
3	43	99	371	973	421	7760	1030	9030	154	142	35	53
4	40	135	335	33500	375	4540	871	8910	148	114	34	54
5	38	158	334	20700	345	2850	1210	3420	210	96	34	114
6	35	140	315	4470	322	1960	1770	2010	221	86	39	110
7	32	125	298	2460	302	1510	1360	1420	204	83	35	80
8	30	111	282	1730	285	1190	1160	1060	173	87	32	65
9	29	100	271	1330	270	957	1210	826	157	121	30	57
10	28	111	288	1620	257	812	1230	678	154	163	31	52
11	26	1970	326	1410	250	698	965	663	160	117	31	47
12	26	12000	319	1140	263	603	804	662	159	90	362	43
13	25	6000	303	1680	310	534	772	586	136	74	2530	41
14	22	2000	294	1500	311	479	2270	492	118	67	622	49
15	21	1100	7500	1110	300	428	12000	417	108	67	338	54
16	30	763	16000	960	321	580	8500	365	95	323	228	59
17	95	538	3700	846	316	928	3710	323	85	335	174	90
18	95	438	1940	733	288	808	2240	335	79	198	142	93
19	70	365	1360	645	263	765	1630	557	75	140	118	83
20	65	406	1080	920	271	840	1420	467	84	147	100	93
21	59	7100	874	6540	514	1020	1170	349	93	104	86	93
22	54	8000	729	3750	3190	960	930	288	93	321	76	90
23	50	5250	618	2120	1940	1260	795	248	90	221	67	3530
24	45	2260	522	1610	1280	1290	702	225	89	144	62	9940
25	42	1450	440	1350	1040	1060	656	213	123	106	63	10200
26	39	1100	396	1060	902	1230	710	207	955	85	55	9690
27	37	860	354	907	783	1270	652	180	507	77	51	2450
28	36	719	323	804	733	1020	555	161	325	65	48	1310
29	36	622	338	711	---	858	497	157	238	56	44	869
30	37	538	389	608	---	753	505	226	218	51	44	649
31	39	---	532	548	---	1270	---	218	---	45	42	---
MEAN	42.7	1820	1346	3231	601	1475	1817	1167	187	133	182	1338
MAX	95	12000	16000	33500	3190	7760	12000	9030	955	335	2530	10200
MIN	21	50	271	548	250	428	497	157	75	45	30	39
IN.	.07	3.06	2.34	5.61	.94	2.56	3.05	2.03	.31	.23	.32	2.25

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

MEAN	355	1710	1573	1151	1338	1588	1390	1213	701	102	176	200
MAX	2404	4900	3451	3231	2846	2858	1951	4125	4250	170	1215	1338
(WY)	1985	1986	1991	1993	1985	1985	1984	1990	1985	1985	1985	1993
MIN	27.1	65.2	44.1	179	601	705	606	94.7	29.1	39.7	10.7	6.53
(WY)	1988	1990	1990	1986	1993	1992	1987	1987	1988	1983	1988	1983

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	657		1114		958	
HIGHEST ANNUAL MEAN					2084	1985
LOWEST ANNUAL MEAN					356	1987
HIGHEST DAILY MEAN	17100	Apr 20	33500	Jan 4	38200	Nov 19 1985
LOWEST DAILY MEAN	19	Sep 1	21	Oct 15	4.7	Sep 24 1983
INSTANTANEOUS PEAK FLOW	--		57800	Jan 4	65800	Nov 19 1985
INSTANTANEOUS PEAK STAGE	--		26.44	Jan 4	25.80	Nov 19 1985
INSTANTANEOUS LOW FLOW	--		21	Oct 14-15	4.0	Sep 19-20, 24 1983
ANNUAL SEVEN-DAY MINIMUM	21	Aug 27	25	Oct 9	5.1	Sep 15 1983
ANNUAL RUNOFF (INCHES)	13.46		22.78		19.61	
10 PERCENT EXCEEDS	1100		2000		2000	
50 PERCENT EXCEEDS	276		325		264	
90 PERCENT EXCEEDS	36		43		29	

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
SEDIMENT RECORDS: November 1988 to current year.

REMARKS.--Sediment records are poor.

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, 0.01 tons, Sept. 5, 1991.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 180 mg/L, Sept. 25; minimum daily mean, 1 mg/L, Mar. 26.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 19,100 tons, Jan. 4; minimum daily, 0.12 tons, Sept. 2.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	52	25	3.5	50	12	1.7	471	30	42
2	47	29	3.7	79	19	4.1	419	34	38
3	43	26	3.0	99	19	5.2	371	39	39
4	40	28	3.1	135	19	6.9	335	44	40
5	38	22	2.3	158	19	8.0	334	42	38
6	35	31	2.9	140	37	14	315	25	21
7	32	44	3.8	125	25	8.6	298	16	13
8	30	41	3.3	111	29	8.9	282	16	12
9	29	32	2.5	100	32	8.7	271	16	12
10	28	18	1.3	111	34	10	288	16	12
11	26	11	.78	1970	22	107	326	---	13
12	26	21	1.5	12000	25	810	319	---	12
13	25	11	.76	6000	20	324	303	---	10
14	22	8	.49	2000	18	97	294	---	7.0
15	21	11	.62	1100	17	50	7500	---	600
16	30	10	.84	763	16	33	16000	---	2500
17	95	13	3.5	538	15	22	3700	---	350
18	95	20	5.1	438	14	17	1940	---	100
19	70	18	3.5	365	13	13	1360	---	50
20	65	23	3.9	406	12	14	1080	---	30
21	59	25	4.0	7100	21	403	874	---	25
22	54	25	3.6	8000	43	929	729	---	20
23	50	20	2.7	5250	49	700	618	---	15
24	45	18	2.2	2260	43	263	522	---	13
25	42	25	2.9	1450	38	147	440	---	10
26	39	32	3.4	1100	33	98	396	---	10
27	37	39	3.9	860	29	67	354	---	9.0
28	36	27	2.6	719	26	50	323	---	9.0
29	36	21	2.0	622	25	43	338	9	8.1
30	37	9	.94	538	26	38	389	13	14
31	39	10	1.0	---	---	---	532	20	30

ST. FRANCIS RIVER BASIN

07036100 ST. FRANCIS RIVER NEAR SACO, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	1380	28	104	517	26	36	795	15	33
2	1040	25	70	469	24	31	4700	37	598
3	973	23	62	421	18	20	7760	69	1470
4	33500	154	19100	375	21	22	4540	48	600
5	20700	64	3930	345	11	11	2850	24	189
6	4470	---	350	322	11	9.6	1960	42	226
7	2460	---	180	302	11	9.1	1510	49	200
8	1730	---	70	285	11	8.4	1190	30	99
9	1330	---	60	270	10	7.5	957	5	13
10	1620	---	70	257	10	6.8	812	2	4.4
11	1410	---	60	250	9	6.2	698	7	13
12	1140	---	40	263	9	6.5	603	4	7.6
13	1680	---	70	310	9	7.6	534	1	1.9
14	1500	---	65	311	9	8.1	479	2	2.8
15	1110	---	40	300	12	9.7	428	3	3.4
16	960	---	25	321	15	13	580	5	7.9
17	846	---	23	316	15	13	928	5	13
18	733	---	15	288	8	6.0	808	6	13
19	645	6	10	263	9	6.2	765	7	14
20	920	6	17	271	9	6.7	840	4	8.7
21	6540	28	487	514	7	13	1020	3	9.2
22	3750	26	276	3190	29	248	960	4	10
23	2120	12	68	1940	17	95	1260	4	12
24	1610	6	25	1280	11	38	1290	2	8.8
25	1350	4	14	1040	8	22	1060	2	4.9
26	1060	3	9.3	902	7	18	1230	1	3.8
27	907	4	10	783	9	19	1270	2	5.8
28	804	5	10	733	6	12	1020	4	10
29	711	4	7.3	---	---	---	858	2	3.7
30	608	3	5.4	---	---	---	753	6	13
31	548	8	12	---	---	---	1270	11	37
		APRIL			MAY			JUNE	
1	1850	7	35	607	5	8.9	190	14	7.5
2	1340	5	17	874	11	31	175	8	4.0
3	1030	8	21	9030	23	360	154	13	5.7
4	871	9	22	8910	15	356	148	9	4.0
5	1210	5	15	3420	17	159	210	8	4.6
6	1770	2	12	2010	15	80	221	5	3.3
7	1360	3	12	1420	12	46	204	6	3.5
8	1160	11	34	1060	10	30	173	15	7.0
9	1210	6	20	826	11	24	157	24	11
10	1230	6	21	678	11	20	154	9	4.0
11	965	4	10	663	12	22	160	10	4.4
12	804	2	5.4	662	15	28	159	7	3.0
13	772	7	14	586	13	21	136	5	1.8
14	2270	16	120	492	22	30	118	7	2.3
15	12000	34	1150	417	21	25	108	23	7.1
16	8500	55	1220	365	20	20	95	52	14
17	3710	49	524	323	15	13	85	47	11
18	2240	11	65	335	11	10	79	13	2.9
19	1630	9	41	557	9	14	75	9	1.9
20	1420	10	40	467	8	9.5	84	16	3.8
21	1170	4	14	349	15	15	93	31	8.2
22	930	7	18	288	30	24	93	24	6.2
23	795	5	10	248	26	18	90	13	3.4
24	702	2	4.5	225	15	9.4	89	19	4.7
25	656	4	7.0	213	10	6.1	123	13	4.6
26	710	7	13	207	13	7.5	955	13	33
27	652	5	8.4	180	25	13	507	12	16
28	555	6	8.7	161	11	4.9	325	12	11
29	497	20	27	157	11	4.7	238	15	9.8
30	505	5	6.7	226	8	5.1	218	14	8.4
31	---	---	---	218	13	7.8	---	---	---

ST. FRANCIS RIVER BASIN

07036100 ST. FRANCIS RIVER NEAR SACO, MO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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	202	9	5.2	43	9	1.1	39	6	.58
2	196	13	6.5	39	8	.88	41	1	.12
3	142	25	9.7	35	7	.69	53	3	.40
4	114	20	6.2	34	6	.59	54	11	1.5
5	96	8	2.0	34	6	.57	114	2	.56
6	86	6	1.4	39	10	1.0	110	2	.62
7	83	8	1.9	35	13	1.2	80	14	3.0
8	87	7	1.6	32	9	.83	65	12	2.1
9	121	8	2.8	30	10	.86	57	1	.21
10	163	13	5.8	31	16	1.3	52	2	.31
11	117	9	2.9	31	12	1.0	47	3	.34
12	90	16	4.1	362	11	12	43	2	.29
13	74	4	.73	2530	86	487	41	5	.55
14	67	10	1.8	622	89	152	49	7	.84
15	67	8	1.4	338	73	67	54	5	.67
16	323	5	4.8	228	63	39	59	6	.99
17	335	7	6.0	174	56	26	90	7	1.5
18	198	9	4.9	142	49	19	93	5	1.2
19	140	8	3.0	118	47	15	83	3	.67
20	147	8	3.2	100	27	7.4	93	3	.75
21	104	6	1.8	86	15	3.4	93	9	2.3
22	321	4	3.7	76	16	3.4	90	9	2.1
23	221	7	4.5	67	15	2.6	3530	80	762
24	144	7	2.8	62	10	1.7	9940	100	2680
25	106	6	1.9	63	11	1.9	10200	180	4960
26	85	6	1.3	55	26	3.8	9690	100	2620
27	77	8	1.7	51	37	5.1	2450	100	662
28	65	10	1.8	48	40	5.2	1310	100	354
29	56	13	2.1	44	44	5.3	869	90	211
30	51	10	1.4	44	60	7.1	649	75	131
31	45	9	1.1	42	28	3.2	---	---	---

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 mi^2.

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	28	95	109	68	98	229	133	79	67	13	10
2	26	31	87	102	61	849	207	144	67	61	13	11
3	24	33	79	102	55	1380	183	976	60	56	11	32
4	23	37	73	6010	50	879	165	1120	93	51	12	32
5	23	38	66	1900	47	445	200	548	273	46	12	25
6	21	38	62	715	43	269	242	354	144	43	14	20
7	21	36	59	404	40	225	214	260	90	43	14	17
8	21	34	54	306	38	193	196	203	77	44	13	17
9	21	33	52	231	37	168	198	159	73	40	12	19
10	21	35	53	200	34	152	187	139	73	38	13	19
11	21	922	50	164	33	136	171	233	74	36	18	15
12	21	3690	49	142	32	123	155	178	74	33	40	15
13	20	1150	49	147	31	112	142	146	67	28	51	14
14	20	506	47	140	30	104	630	106	62	31	40	18
15	20	308	1720	119	32	86	2450	90	56	38	35	32
16	21	218	1770	104	35	112	1360	82	52	38	33	30
17	26	167	698	96	32	128	657	74	48	36	28	25
18	25	129	377	82	30	128	394	75	48	31	23	22
19	25	100	240	77	30	131	286	74	48	27	23	20
20	24	129	161	113	30	142	256	68	47	25	19	34
21	23	1040	106	1020	44	173	230	63	51	29	18	40
22	24	1270	86	615	109	173	210	58	53	31	17	36
23	24	921	72	374	135	212	195	54	50	29	15	50
24	24	518	62	274	118	210	182	52	49	29	16	114
25	24	363	53	206	122	184	172	49	177	24	14	1150
26	23	268	47	165	101	171	160	45	317	21	13	869
27	23	204	41	131	90	160	148	41	172	18	12	473
28	24	162	36	105	90	149	140	39	103	15	11	305
29	24	130	35	92	---	140	136	38	85	13	11	216
30	25	103	36	80	---	130	134	159	75	12	12	162
31	25	---	43	75	---	176	---	113	---	12	11	---
MEAN	23.1	421	208	465	57.0	250	341	189	91.2	33.7	18.9	128
MAX	28	3690	1770	6010	135	1380	2450	1120	317	67	51	1150
MIN	20	28	35	75	30	86	134	38	47	12	11	10
IN.	.27	4.72	2.41	5.38	.60	2.89	3.82	2.19	1.02	.39	.22	1.43

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

MEAN	77.8	265	248	185	171	232	249	173	130	34.3	29.1	35.3
MAX	396	610	632	465	400	357	404	494	587	95.7	102	128
(WY)	1985	1986	1988	1993	1989	1985	1991	1990	1985	1987	1985	1993
MIN	21.7	32.5	25.5	37.0	57.0	92.7	106	28.9	15.0	11.9	7.67	6.50
(WY)	1988	1990	1990	1984	1993	1992	1987	1987	1988	1991	1983	1983

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	123		186		153	
HIGHEST ANNUAL MEAN					267	1985
LOWEST ANNUAL MEAN					71.8	1987
HIGHEST DAILY MEAN	3790	Apr 20	6010	Jan 4	6350	Nov 19 1985
LOWEST DAILY MEAN	14	Jul 13	10	Sep 1	4.9	Sep 3 1983
INSTANTANEOUS PEAK FLOW	--		12200	Jan 4	16000	Nov 19 1985
INSTANTANEOUS PEAK STAGE	--		11.71	Jan 4	12.92	Nov 19 1985
INSTANTANEOUS LOW FLOW	--		10	Aug 29	4.9	Sep 3, 5 1983
ANNUAL SEVEN-DAY MINIMUM	15	Aug 20	11	Aug 27	5.1	Aug 31 1983
ANNUAL RUNOFF (INCHES)	16.77		25.35		20.81	
10 PERCENT EXCEEDS	184		332		313	
50 PERCENT EXCEEDS	46		63		55	
90 PERCENT EXCEEDS	20		19		16	

ST. FRANCIS RIVER BASIN

07037300 BIG CREEK AT SAM A. BAKER STATE PARK
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

LOCATION.--Lat 37°15'40", long 90°30'23", in sec.21, T.30 N., R.5 E., Wayne County, Hydrologic Unit 08020202, at bridge 435 on County Highway NN.

PERIOD OF RECORD.--November 1992 to current year.

REMARKS.--Ambient water-quality monitoring network station since November 1992.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
11...	0730	91	12.0	278	7.7	8.8	80	<10	48	98	141
JAN											
20...	1530	268	4.0	187	7.9	13.2	99	<10	22	26	93
MAR											
18...	0730	242	4.5	188	7.4	12.4	93	<10	21	K570	104
MAY											
18...	1300	139	16.5	201	7.1	8.7	87	<10	K11	K17	B86
JUL											
07...	1730	70	26.5	8	8.1	8.5	103	15	36	25	115
SEP											
22...	1245	52	21.5	259	8.1	9.0	100	<10	27	K9	136

K--Results based on colony count outside the acceptable range (non-ideal colony count).
B--Based on cation/anion balance, this value is considered suspect.

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV											
11...	0.090	0.020	0.050	0.30	0.030	0.010	140	29	17	4.5	1.7
JAN											
20...	0.150	<0.010	0.020	<0.20	<0.020	<0.010	90	18	11	2.4	0.90
MAR											
18...	0.050	<0.010	<0.010	<0.20	<0.020	<0.010	--	--	--	--	--
MAY											
18...	<0.020	<0.010	0.010	<0.20	<0.020	<0.010	110	23	12	3.0	1.3
JUL											
07...	0.070	<0.010	0.020	<0.20	<0.020	0.010	--	--	--	--	--
SEP											
22...	--	--	--	<0.20	<0.010	--	--	--	--	--	--

ST. FRANCIS RIVER BASIN

07037300 BIG CREEK AT SAM A. BAKER STATE PARK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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-PENDED (MG/L) (00530)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	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)
NOV										
11...	15	4.3	0.10	152	24	--	--	<1	<1.0	8
JAN										
20...	11	2.1	<0.10	104	<1	30	20	<1	<1.0	<1
MAR										
18...	--	--	--	107	<1	40	10	--	--	--
MAY										
18...	9.9	2.3	0.10	110	3	20	--	<1	<1.0	2
JUL										
07...	--	--	--	139	1	20	<10	--	--	--
SEP										
22...	--	--	--	149	4	20	<10	--	--	--

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)
NOV										
11...	10	1	<1	10	6	--	30	29	<0.05	<0.05
JAN										
20...	5	<1	<1	<10	4	0.10	<10	6	<0.05	<0.05
MAY										
18...	43	2	<1	<10	7	0.10	<10	12	<0.05	<0.05

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV										
11...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN										
20...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAY										
18...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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 mi^2.

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 ft^3/s, from rating curve extended above 55,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	141	123	705	1140	959	1170	2260	858	453	374	109	100
2	128	177	614	1530	885	3020	2090	1010	411	344	111	97
3	117	187	543	1280	796	10400	1680	7070	383	330	101	138
4	109	252	493	25100	709	6770	1440	16000	412	281	94	152
5	102	303	451	49200	647	4180	1580	5500	531	239	91	135
6	95	336	435	9580	599	2820	2200	3280	522	210	98	146
7	90	318	410	4290	562	2470	2120	2450	485	219	98	178
8	83	291	387	3120	529	1990	1820	1940	440	213	95	156
9	76	268	370	2550	508	1650	1690	1560	417	198	90	141
10	74	260	375	2470	489	1400	1780	1300	424	203	95	126
11	71	561	378	2470	477	1210	1560	1240	403	246	101	112
12	68	15200	392	2150	475	1050	1310	1180	379	220	120	104
13	67	14300	381	2040	475	938	1160	1100	361	186	1370	101
14	66	3300	368	2360	503	853	1450	958	338	173	1280	111
15	69	2010	3070	1980	509	776	12000	840	338	164	607	133
16	86	1270	18500	1730	526	865	14900	741	292	160	413	140
17	79	1060	6840	1530	515	1200	5790	666	265	314	323	131
18	95	841	3210	1360	485	1310	3550	614	244	395	266	138
19	174	703	2210	1220	460	1240	2700	640	229	304	227	152
20	153	770	1730	1160	458	1250	2320	821	220	245	195	174
21	134	6860	1430	5120	626	1430	1990	671	219	239	168	180
22	127	8250	1210	5590	2290	1510	1670	568	226	216	149	166
23	118	8900	1040	3330	2840	1570	1420	509	225	337	134	183
24	110	3800	883	2510	2070	1870	1260	482	216	324	127	11000
25	101	2360	776	2140	1700	1690	1120	448	306	258	134	8500
26	96	1800	685	1800	1480	1570	1080	424	582	208	117	15800
27	92	1430	615	1550	1280	1770	1050	403	1010	176	110	4690
28	88	1140	557	1390	1170	1560	946	378	655	154	107	2240
29	84	947	537	1250	---	1340	850	366	496	139	100	1530
30	94	806	562	1130	---	1190	823	415	412	126	99	1110
31	101	---	623	1030	---	1270	---	499	---	115	102	---
MEAN	99.6	2627	1638	4681	894	2043	2587	1772	396	236	233	1602
MAX	174	15200	18500	49200	2840	10400	14900	16000	1010	395	1370	15800
MIN	66	123	368	1030	458	776	823	366	216	115	90	97
IN.	.12	3.07	1.98	5.65	.97	2.46	3.02	2.14	.46	.28	.28	1.87

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

MEAN	366	958	1326	1468	1554	2163	2314	1708	928	330	219	256
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	957		1570		1130	
HIGHEST ANNUAL MEAN					2731	1985
LOWEST ANNUAL MEAN					343	1941
HIGHEST DAILY MEAN	24500	Apr 20	49200	Jan 5	107000	Dec 4 1982
LOWEST DAILY MEAN	38	Sep 1	66	Oct 14	8.0	Aug 28 1936
INSTANTANEOUS PEAK FLOW	--		62300	Jan 5	155000	Dec 3 1982
INSTANTANEOUS PEAK STAGE	--		26.97	Jan 5	35.77	Dec 3 1982
INSTANTANEOUS LOW FLOW	--		64	Oct 15	8.0	Aug 28 1936
ANNUAL SEVEN-DAY MINIMUM	40	Aug 27	70	Oct 9	8.4	Aug 26 1936
ANNUAL RUNOFF (INCHES)	13.62		22.30		16.06	
10 PERCENT EXCEEDS	1550		2830		2310	
50 PERCENT EXCEEDS	437		531		335	
90 PERCENT EXCEEDS	76		103		52	

ST. FRANCIS RIVER BASIN

07039000 WAPPAPELLO LAKE AT WAPPAPELLO, MO

LOCATION.--Lat 36°55'42", long 90°17'04", in NW ¼ SE ¼ 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 mi^2, 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, 222,000 ac-ft, Jan. 7, elevation, 373.84 ft; minimum, 28,400 ac-ft, March 31, elevation, 354.07 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	360.06	359.71	368.71	360.27	357.85	354.54	354.11	361.27	360.05	360.13	359.81	359.84
2	360.01	359.87	368.33	359.86	357.19	354.87	354.52	361.00	360.03	360.08	359.89	359.84
3	359.97	359.84	367.79	359.52	356.59	355.78	354.87	360.84	360.00	360.00	359.85	359.98
4	359.99	359.86	367.27	359.16	356.01	358.25	355.16	363.64	359.99	359.90	359.84	359.96
5	359.94	359.85	366.75	365.56	355.50	358.99	355.47	366.74	360.04	359.82	359.78	359.95
6	359.97	359.84	366.17	373.35	354.97	358.94	355.73	367.29	359.98	359.78	359.80	359.92
7	359.98	359.84	365.64	373.84	354.71	358.89	356.10	367.42	359.92	359.72	359.76	359.92
8	360.01	359.83	365.07	373.47	354.59	358.48	356.54	367.36	359.86	359.71	359.72	359.91
9	360.00	359.81	364.49	372.90	354.55	357.88	356.83	367.16	359.86	359.70	359.70	359.90
10	359.94	359.82	363.97	372.28	354.51	357.49	356.98	366.86	359.99	359.70	359.70	359.92
11	359.97	359.86	363.40	371.59	354.44	357.05	357.04	366.59	360.03	359.70	359.72	359.90
12	359.92	360.31	362.82	370.87	354.44	356.67	357.06	366.27	360.03	359.72	359.80	359.86
13	359.90	363.79	362.23	370.18	354.40	356.45	356.97	365.93	360.02	359.70	359.88	359.81
14	359.87	366.10	361.65	369.36	354.35	356.13	356.85	365.54	359.99	359.70	360.09	359.84
15	359.85	366.43	361.15	368.63	354.32	355.79	357.02	365.11	359.95	359.71	360.00	360.07
16	360.08	366.48	362.22	367.83	354.45	355.48	360.53	364.64	359.90	359.71	359.78	360.02
17	360.03	366.44	365.39	367.00	354.46	355.33	363.71	364.19	359.87	359.70	359.72	360.01
18	360.00	366.29	366.09	366.15	354.47	354.84	364.32	363.71	359.82	359.72	359.64	360.00
19	359.99	366.09	366.09	365.23	354.43	354.59	364.47	363.24	359.79	359.78	359.60	359.98
20	359.97	365.86	365.93	364.27	354.40	354.45	364.51	362.76	359.77	359.80	359.62	360.00
21	359.98	366.17	365.62	363.54	354.77	354.48	364.53	362.28	359.78	359.83	359.64	360.02
22	359.97	367.49	365.25	363.38	355.07	354.60	364.36	361.84	359.80	359.84	359.66	360.01
23	359.97	369.01	364.84	363.30	355.34	354.66	364.08	361.43	359.80	359.83	359.69	360.01
24	359.93	370.11	364.40	362.83	355.64	354.49	363.87	361.14	359.84	359.88	359.72	360.07
25	359.89	370.39	363.90	362.15	355.64	354.42	363.44	360.87	359.93	359.88	359.76	362.62
26	359.85	370.35	363.42	361.64	355.44	354.42	363.13	360.61	360.05	359.90	359.78	364.67
27	359.80	370.13	362.90	361.11	355.01	354.37	362.77	360.38	360.17	359.89	359.81	366.94
28	359.76	369.81	362.36	360.49	354.72	354.34	362.36	360.28	360.25	359.88	359.83	367.16
29	359.74	369.47	361.84	359.88	---	354.26	361.96	360.13	360.24	359.87	359.80	366.92
30	359.73	369.10	361.31	359.21	---	354.13	361.61	360.07	360.23	359.83	359.75	366.56
31	359.72	---	360.78	358.48	---	354.07	---	360.09	---	359.79	359.78	---
MAX	360.08	370.39	368.71	373.84	357.85	358.99	364.53	367.42	360.25	360.13	360.09	367.16
MIN	359.72	359.71	360.78	358.48	354.32	354.07	354.11	360.07	359.77	359.70	359.60	359.81
(-)	62800	159000	71900	53600	31000	28400	79400	65900	67100	63400	63300	129000
(=)	-900	+96200	-87100	-18300	-22600	-2600	+51000	-13500	+1200	-3700	-100	+65700

CAL YR 1992. . . . .+35300
WTR YR 1993. . . . .+65300

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

ST. FRANCIS RIVER BASIN

07039000 WAPPAPELLO LAKE AT WAPPAPELLO, MO

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
OBSERVATION AT 08:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65600	62800	154000	67400	49200	30300	28600	76200	65500	66200	63600	63800
2	65100	64000	149000	63900	44700	31600	30200	73800	65300	65800	64200	63800
3	64800	63800	143000	61200	41000	36300	31600	72400	65100	65100	63900	64900
4	65000	63900	137000	58400	37500	51900	33000	98700	65000	64300	63800	64700
5	64600	63900	131000	118000	34800	57100	34600	131000	65400	63600	63300	64700
6	64800	63800	125000	215000	32000	56700	36000	137000	64900	63300	63500	64400
7	64900	63800	119000	222000	31000	56400	38100	139000	64400	62800	63200	64400
8	65100	63700	113000	216000	30500	53500	40700	138000	63900	62800	62800	64300
9	66100	63600	107000	208000	30300	49400	42400	136000	63900	62700	62700	64300
10	64600	63600	102000	200000	30500	46700	43300	132000	65000	62700	62700	64400
11	64800	63900	96300	190000	29900	43800	43700	129000	65300	62700	62800	64300
12	64400	67800	90700	181000	29900	41500	43800	126000	65300	62800	63500	63900
13	64300	100000	85100	172000	29800	40200	43300	122000	66200	62700	64100	63600
14	64000	124000	79700	162000	29600	38300	42600	118000	65000	62700	65800	63800
15	63900	128000	75200	153000	29400	36400	43600	113000	64700	62800	65100	65700
16	65800	128000	85000	143000	30000	34700	69700	109000	64300	62700	63300	65200
17	65300	128000	116000	134000	30000	33900	99300	104000	64000	62700	62800	65100
18	65100	126000	123000	125000	30000	31500	105000	99300	63600	62800	62200	65100
19	65000	124000	124000	115000	29900	30500	107000	94800	63400	63300	61800	64900
20	64800	121000	122000	105000	29800	30000	107000	90100	63200	63500	62000	65100
21	64900	125000	119000	97700	31200	30100	108000	85600	63300	63700	62200	65200
22	64800	140000	115000	86200	37500	30500	106000	81400	63700	63700	62300	65100
23	64800	157000	111000	95300	34000	30800	103000	77700	63700	63700	62600	65100
24	64500	171000	106000	90800	35600	30100	101000	75100	64100	64100	62800	65700
25	64200	175000	101000	84300	35600	29800	96700	72700	64100	64100	63200	88800
26	63900	174000	96500	79600	34500	29800	93700	70400	64300	64300	63300	109000
27	63500	171000	91500	74800	32200	29800	90200	68400	64200	64200	63600	133000
28	63200	167000	86300	69300	31000	29500	86300	67500	67200	64100	63700	136000
29	63000	163000	81500	64100	---	29200	82500	66200	67200	64000	63500	133000
30	62900	159000	76600	58800	---	28700	79400	65700	67100	63700	63100	129000
31	62800	---	71900	53500	---	28400	---	65800	---	63400	63300	---
MAX	66100	175000	154000	222000	49200	57100	108000	139000	67200	66200	65800	136000
MIN	62800	62800	71900	53500	29400	28400	28600	65700	63200	62700	61800	63600

ST. FRANCIS RIVER BASIN

07039500 ST. FRANCIS RIVER AT WAPPAPELLO, MO

LOCATION.--Lat 36°55'41", long 90°15'55", in NW ¼ SE ¼ 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 mi^2.

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 ft^3/s, determined by U.S. Army Corps of Engineers. Maximum discharge, as determined by U.S. Army Corps of Engineers, 85,000 ft^3/s, Aug. 1915 (stage unknown).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	353	226	3450	3230	3520	2230	1510	2720	546	595	189	83
2	341	270	3460	3200	3240	2280	1450	2570	536	593	190	84
3	294	349	3670	3170	2970	3160	1250	2680	534	589	186	112
4	223	356	3700	3380	2750	4080	1110	2990	541	567	186	193
5	166	358	3660	4070	2490	4600	1110	2970	619	445	183	196
6	77	359	3620	5290	2090	4720	1120	3090	772	329	186	197
7	72	360	3590	6570	1320	4640	1130	3360	782	312	186	198
8	73	359	3550	7150	943	4440	1190	3420	756	256	186	198
9	95	356	3500	7370	798	4050	1600	3410	574	199	152	158
10	210	359	3450	7500	781	3600	1750	3390	544	194	92	106
11	222	360	3380	7490	776	3190	1980	3380	538	194	89	190
12	223	477	3310	7410	775	2630	1990	3350	535	194	90	196
13	223	1110	3270	7310	761	2230	1980	3320	530	194	160	161
14	172	1780	3220	7170	696	2140	1750	3290	528	194	814	89
15	85	1890	3240	7020	688	2030	1780	3260	525	194	1250	122
16	131	1910	3350	6880	694	1970	2130	3230	485	194	1080	196
17	220	2000	3530	6710	690	2420	2840	3190	419	193	664	199
18	227	2220	3620	6510	688	2670	3170	3150	397	193	515	199
19	225	2230	3710	6340	685	2310	3240	3100	319	192	276	199
20	225	2240	3720	6210	685	1790	3310	3050	288	193	171	202
21	227	2300	3690	6250	711	1490	3280	2940	204	195	87	200
22	226	2370	3670	6570	1060	1490	3240	2650	196	194	81	199
23	246	2400	3640	6650	2170	2220	3210	2380	196	195	81	199
24	336	2410	3580	6480	2540	2330	3180	2110	196	195	81	204
25	344	2860	3530	5830	2850	2270	3140	1830	201	194	81	225
26	345	3470	3470	5160	2950	2130	3110	1530	198	194	81	462
27	308	3520	3420	4580	2860	2110	3070	1240	289	193	79	1640
28	227	3510	3390	4330	2540	2090	3040	939	563	191	107	2580
29	223	3500	3360	4150	---	2050	2990	865	596	188	192	3140
30	225	3480	3320	3940	---	1920	2810	759	598	185	154	3220
31	224	---	3280	3760	---	1690	---	630	---	185	86	---
MEAN	219	1646	3495	5732	1633	2676	2282	2606	467	262	257	512
MAX	353	3520	3720	7500	3520	4720	3310	3420	782	595	1250	3220
MIN	72	226	3220	3170	685	1490	1110	630	196	185	79	83
IN.	.19	1.40	3.07	5.04	1.30	2.35	1.94	2.29	.40	.23	.23	.44

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

MEAN	394	899	1913	2384	2290	2715	2902	2460	1357	730	393	408
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1145		1824		1567	
HIGHEST ANNUAL MEAN					3534	1985
LOWEST ANNUAL MEAN					406	1941
HIGHEST DAILY MEAN	3720	Apr 26	7500	Jan 10	21800	Apr 16 1945
LOWEST DAILY MEAN	72	Oct 7	72	Oct 7	.00	Several Years
INSTANTANEOUS PEAK FLOW	--		7550	Jan 10	22300	Apr 16 1945
INSTANTANEOUS PEAK STAGE	--		29.20	Jan 10	31.34	May 29-31 1991
INSTANTANEOUS LOW FLOW	--		72	Oct 6-8	.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	77	Aug 19	82	Aug 21	.00	At Times
ANNUAL RUNOFF (INCHES)	11.90		18.89		16.24	
10 PERCENT EXCEEDS	3440		3690		4050	
50 PERCENT EXCEEDS	679		1120		650	
90 PERCENT EXCEEDS	94		186		40	

ST. FRANCIS RIVER BASIN

07046001 LITTLE RIVER DITCHES NEAR KENNETT, MO
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

LOCATION.--Lat 36°14'11", long 89°58'06, in NW 1/4 sec.3, T.18 N., R.10 E ., Dunklin County, at bridges on State Highway 84, 4 mi east of Kennett.

PERIOD OF RECORD.--November 1969 to June 1970, August 1972 to September 1973, July 1977 to June 1989, November 1992 to current year.

REMARKS.--Analyses represent a composite of water from five ditches. Bacterial analysis is usually done from samples taken from ditch 66.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
11...	1530	412	13.0	371	7.6	9.9	91	13	K33	K34	163
JAN											
21...	1400	4530	6.5	234	7.8	10.8	86	39	460	20000	90
MAR											
17...	1230	1600	7.0	306	7.9	14.7	116	--	K8	1400	156
MAY											
17...	1700	595	21.5	370	7.5	8.3	92	13	20	80	175
JUL											
08...	1200	731	28.0	357	8.1	6.7	83	--	72	150	150
SEP											
22...	1600	344	28.0	375	8.4	10.2	126	16	60	89	154

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, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV											
11...	<0.050	0.020	<0.010	<0.20	0.080	0.070	170	48	13	13	2.8
JAN											
21...	0.350	0.080	0.130	1.1	0.280	0.250	96	26	7.6	7.6	3.4
MAR											
17...	0.460	0.030	0.170	1.4	0.260	0.170	--	--	--	--	--
MAY											
17...	0.040	<0.010	<0.010	0.46	0.160	0.080	170	47	12	11	2.2
JUL											
08...	0.270	<0.010	0.030	0.48	0.180	0.120	--	--	--	--	--
SEP											
22...	--	--	--	0.20	0.100	--	--	--	--	--	--

ST. FRANCIS RIVER BASIN

07046001 LITTLE RIVER DITCHES NEAR KENNETT, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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-PENDED (MG/L) (00530)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	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)
NOV										
11...	24	16	0.20	234	3	--	--	<1	<1.0	1
JAN										
21...	17	12	0.20	136	198	7000	180	<1	<1.0	3
MAR										
17...	--	--	--	204	97	2100	120	--	--	--
MAY										
17...	19	14	0.20	231	56	930	20	<1	<1.0	<1
JUL										
08...	--	--	--	232	146	1100	<10	--	--	--
SEP										
22...	--	--	--	215	17	360	20	--	--	--

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)
NOV										
11...	12	2	<1	200	160	--	<10	4	<0.05	<0.05
JAN										
21...	260	6	2	190	44	C3.6	40	10	<0.05	<0.05
MAY										
17...	<3	2	<1	220	91	0.10	<10	3	<0.05	<0.05

C--This value may be the result of sample contamination, use value with caution.

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV										
11...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN										
21...	<0.05	0.10	0.05	<0.20	<0.05	<0.05	0.07	0.16	<0.05	<0.05
MAY										
17...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	0.10	0.57	<0.05	<0.05

WHITE RIVER BASIN

07050152 ROARING RIVER AT ROARING RIVER STATE PARK
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

LOCATION.--Lat 36°34'51", long 93°50'01, in NE ¼ sec.34, T.22N., R.27W., Barry County, at campground on downstream side of bridge on Highway F.

PERIOD OF RECORD.--November 1991 to currrent year.

REMARKS.--Ambient water-quality monitoring network station beginning November 1992.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
18...	1245	--	--	C330	C8.0	--	--	<10	--	--	--
JAN											
13...	1330	189	9.5	288	7.7	11.8	102	--	29	59	141
MAR											
09...	1500	131	11.5	288	7.8	12.0	111	<10	K17	K18	161
MAY											
04...	1430	109	14.0	291	7.3	11.0	107	19	K6	K11	138
JUL											
28...	1130	71	16.5	300	7.0	10.3	104	<10	23	29	136
SEP											
16...	1530	98	16.5	344	7.3	9.4	96	<10	60	52	166

C--Laboratory value substituted for missing field value.
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, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV											
18...	1.90	0.070	0.020	<0.20	0.040	0.010	150	57	2.6	2.7	1.4
JAN											
13...	1.60	<0.010	0.020	<0.20	0.020	0.020	150	55	2.2	2.3	1.1
MAR											
09...	1.90	<0.010	0.020	0.21	0.030	0.020	140	51	2.1	2.5	1.1
MAY											
04...	1.80	<0.010	0.030	<0.20	0.030	0.030	140	54	2.2	2.8	1.2
JUL											
28...	--	--	--	<0.20	0.040	--	--	--	--	--	--
SEP											
16...	--	--	--	<0.20	0.020	--	--	--	--	--	--

WHITE RIVER BASIN

07050152 ROARING RIVER AT ROARING RIVER STATE PARK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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-PENDED (MG/L) (00530)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	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)
NOV										
18...	4.3	4.9	<0.10	181	<1	--	--	<1	<1.0	<1
JAN										
13...	4.5	4.7	<0.10	--	<1	50	20	2	<1	3
MAR										
09...	3.9	5.0	<0.10	171	7	50	30	1	<1.0	<1
MAY										
04...	4.5	5.3	<0.10	174	2	50	<10	<1	<1.0	1
JUL										
28...	--	--	--	177	<1	110	<10	--	--	--
SEP										
16...	--	--	--	190	3	50	<10	--	--	--

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)
NOV										
18...	5	<1	<1	20	2	--	<10	5	<0.05	<0.05
JAN										
13...	6	33	8	<10	2	0.10	<10	<3	<0.05	<0.05
MAR										
09...	<3	<1	<1	10	<1	<0.10	<10	4	--	--
MAY										
04...	<3	<1	1	<10	1	0.10	<10	5	--	--

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV										
18...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN										
13...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

WHITE RIVER BASIN

07050700 JAMES RIVER NEAR SPRINGFIELD, MO

LOCATION.--Lat 37°09'00", long 93°12'12", in SW ¼ SE ¼ SW ¼ 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 mi^2.

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.--Estimated daily discharges: Mar. 28 and Sept. 29-30. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	42	234	117	150	408	278	159	110	190	51	26
2	18	38	200	109	132	974	251	146	100	174	59	27
3	21	27	172	118	125	933	240	190	100	154	47	44
4	25	25	148	3670	118	730	213	827	1630	142	40	47
5	23	20	125	1680	103	621	440	408	793	122	47	42
6	22	17	114	894	93	545	719	304	471	112	96	31
7	21	18	102	647	87	467	559	329	323	116	83	30
8	20	18	89	505	81	378	502	414	260	117	63	92
9	19	14	97	423	83	321	405	346	462	99	41	167
10	19	17	134	385	83	280	363	1200	1680	91	43	92
11	17	66	158	335	82	247	321	1050	1270	73	41	64
12	17	2730	158	313	80	206	262	734	830	67	35	46
13	17	956	148	321	79	179	230	699	584	118	34	38
14	16	498	137	295	78	173	1130	548	453	87	38	932
15	15	344	2260	283	78	157	5070	437	370	73	39	1020
16	14	255	3320	260	77	184	1920	354	288	72	32	512
17	15	195	1160	233	76	242	1070	315	256	70	30	366
18	16	157	783	203	77	230	816	323	262	67	35	265
19	16	125	595	177	74	662	660	294	329	218	33	208
20	16	426	473	424	74	2040	545	277	1930	128	30	1010
21	16	2690	395	855	115	1120	453	267	1560	92	29	605
22	16	5250	337	621	348	840	380	209	794	82	28	390
23	16	1880	288	501	326	641	343	195	562	77	28	291
24	16	990	243	440	272	501	302	190	1090	59	59	7270
25	16	720	214	372	262	408	294	165	897	65	72	24500
26	16	560	182	321	230	348	247	146	669	60	37	4460
27	16	453	161	286	206	307	240	129	479	54	27	1700
28	16	380	140	250	242	280	201	126	348	49	29	1100
29	17	325	128	218	---	242	190	121	284	45	29	875
30	21	274	118	184	---	230	175	120	227	43	29	725
31	21	---	115	163	---	222	---	119	---	41	27	---
MEAN	17.8	650	417	503	137	488	627	359	647	95.4	42.3	1566
MAX	25	5250	3320	3670	348	2040	5070	1200	1930	218	96	24500
MIN	14	14	89	109	74	157	175	119	100	41	27	26
IN.	.08	2.95	1.95	2.36	.58	2.29	2.85	1.68	2.94	.45	.20	7.10

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

MEAN	106	246	317	214	264	423	408	385	204	117	40.8	127
MAX	587	1327	1370	786	972	1041	1193	1672	873	1148	262	1566
(WY)	1971	1973	1983	1991	1985	1978	1965	1961	1985	1958	1958	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	194		461		237	
HIGHEST ANNUAL MEAN					465	1985
LOWEST ANNUAL MEAN					52.8	1956
HIGHEST DAILY MEAN	5250	Nov 22	24500	Sep 25	24500	Sep 25 1993
LOWEST DAILY MEAN	9.6	Sep 16	14	Oct 16, Nov 9	.30	Sep 16 1956
INSTANTANEOUS PEAK FLOW	--		41100	Sep 25	41100	Sep 25 1993
INSTANTANEOUS PEAK STAGE	--		19.45	Sep 25	19.45	Sep 25 1993
INSTANTANEOUS LOW FLOW	--		10	Nov 7	0.1	Sep 16 1956
ANNUAL SEVEN-DAY MINIMUM	11	Sep 1	15	Oct 14	.53	Sep 12 1956
ANNUAL RUNOFF (INCHES)	10.76		25.43		13.11	
10 PERCENT EXCEEDS	385		895		513	
50 PERCENT EXCEEDS	88		190		78	
90 PERCENT EXCEEDS	16		24		12	

WHITE RIVER BASIN

07052250 JAMES RIVER NEAR BOAZ, MO
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

LOCATION.--Lat 37°00'25", long 93°21'50, in NE ¼ NW ¼ sec.32, T.27 N., R.22 E., Christan County, Hydrologic Unit 11010002, at Frazier Bridge, 0.2 mi upstream from Turkey Hollow, and 2.0 mi southeast of Boaz.

DRAINAGE AREA.--462 mi^2.

PERIOD OF RECORD.--August 1967 to September 1982, November 1983 to June 1987, November 1992 to current year.

REMARKS.--Reestablished ambient water-quality monitoring network station.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
17...	1610	545	13.5	450	7.6	9.2	88	11	540	440	148
JAN											
14...	1130	747	5.5	432	7.8	11.1	87	--	K260	42	174
MAR											
09...	0920	800	9.0	397	7.8	9.8	85	<10	600	K4200	B193
MAY											
04...	0900	500	17.5	390	7.5	5.9	62	23	K12000	890	159
JUL											
29...	1040	42	24.0	637	8.1	5.8	68	16	380	220	182
SEP											
15...	1700	2000	18.0	364	7.2	8.2	86	11	6800	12000	154

K--Results baased on colony count outside the acceptable range (non-ideal colony count).
B--Based on cation/anion balance, this value is considered suspect.

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV											
17...	2.60	0.070	0.100	0.50	0.390	0.360	190	67	5.6	14	3.1
JAN											
14...	2.30	0.030	0.340	0.79	0.270	0.250	200	69	5.7	15	2.2
MAR											
09...	2.00	0.050	0.310	0.72	0.250	0.220	170	60	5.4	12	2.2
MAY											
04...	1.40	0.070	0.160	0.63	0.350	0.290	170	61	5.4	13	2.4
JUL											
29...	--	--	--	0.80	0.880	--	--	--	--	--	--
SEP											
15...	--	--	--	0.30	0.150	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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-PENDED (MG/L) (00530)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	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)
NOV 17...	21	21	0.10	246	1	--	--	<1	<1.0	2
JAN 14...	17	25	0.10	254	<1	70	20	<1	<1.0	<1
MAR 09...	16	21	<0.10	237	22	150	20	<1	<1.0	1
MAY 04...	17	20	0.20	239	28	110	<10	<1	<1.0	2
JUL 29...	--	--	--	404	7	200	20	--	--	--
SEP 15...	--	--	--	201	53	860	20	--	--	--

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)
NOV 17...	9	2	<1	70	23	--	10	9	<0.05	<0.05
JAN 14...	6	<1	<1	20	16	0.10	<10	6	<0.05	<0.05
MAR 09...	6	<1	<1	50	23	0.10	<10	9	--	--
MAY 04...	13	2	1	80	35	0.10	10	9	--	--

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV 17...	0.06	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN 14...	0.08	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

WHITE RIVER BASIN

07052500 JAMES RIVER AT GALENA, MO

LOCATION.--Lat 36°48'19", long 93°27'41", in SW ¼ SE ¼ SW ¼ 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 Railey Creek and 42.3 mi above mouth.

DRAINAGE AREA.--987 mi^2.

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.--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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	363	205	1560	963	1170	1880	1690	1150	610	1750	492	221
2	325	358	1410	929	1100	2880	1610	1090	566	1570	472	217
3	294	359	1270	905	1050	3920	1480	1100	550	1400	463	254
4	271	291	1160	3190	995	3470	1440	1320	2130	1260	432	464
5	253	272	1060	9420	944	2910	1830	1900	6070	1150	469	336
6	240	242	989	4470	900	2560	2590	1440	2660	3400	831	281
7	228	218	926	3240	860	2280	2870	1230	1910	2550	827	248
8	219	202	866	2660	824	2050	2610	1280	1580	1970	652	259
9	209	188	891	2320	789	1840	2360	1480	1710	1620	549	830
10	197	195	1220	2210	748	1650	2140	1920	6790	1370	647	625
11	187	256	1330	2090	756	1490	1930	3780	6720	1200	1080	486
12	181	7180	1300	2010	762	1350	1750	3050	4680	1100	750	378
13	173	6540	1240	1920	733	1240	1590	2580	3480	1150	585	320
14	171	3260	1210	1840	694	1150	3580	2390	2600	1120	492	1780
15	165	2190	3850	1740	712	1100	11500	1970	2130	996	437	4280
16	159	1620	12800	1640	715	1170	10300	1640	1800	896	394	2610
17	162	1280	7130	1520	666	1280	5530	1490	1580	816	361	1840
18	159	1100	4520	1430	648	1330	4040	1570	1620	788	333	1430
19	156	997	3480	1320	643	1810	3320	1550	2500	867	310	1170
20	151	1860	2850	1610	639	5910	3070	1370	5840	2440	295	1480
21	143	7710	2430	3140	708	5540	2710	1230	8220	1510	279	2150
22	128	11700	2120	3350	1140	4100	2340	1110	4660	1380	266	1670
23	141	12800	1880	2810	1640	3300	2090	1030	3170	1120	249	1320
24	143	5780	1660	2470	1680	2850	1900	991	2910	955	276	6980
25	143	4010	1520	2160	1680	2540	1840	929	5610	840	325	57000
26	147	3120	1380	1920	1570	2290	1670	850	5290	751	321	53200
27	147	2590	1270	1750	1470	2050	1500	772	3460	680	292	12300
28	142	2230	1180	1610	1510	1880	1390	718	2720	612	257	7110
29	150	1960	1110	1480	---	1720	1290	666	2300	570	236	5150
30	152	1740	1060	1340	---	1620	1220	645	1980	534	224	4130
31	164	---	1010	1240	---	1570	---	653	---	502	219	---
MEAN	189	2748	2183	2281	991	2346	2839	1448	3262	1254	446	5684
MAX	363	12800	12800	9420	1680	5910	11500	3780	8220	3400	1080	57000
MIN	128	188	866	905	639	1100	1220	645	550	502	219	217
IN.	.22	3.11	2.55	2.66	1.05	2.74	3.21	1.69	3.69	1.46	.52	6.43

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

MEAN	497	837	979	897	1099	1505	1748	1583	1196	602	406	440
MAX	2494	4407	5435	3443	3485	5372	8376	9549	6383	4010	5159	5684
(WY)	1942	1973	1983	1937	1966	1945	1927	1943	1935	1951	1927	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1003		2132		981	
HIGHEST ANNUAL MEAN					2499	1927
LOWEST ANNUAL MEAN					119	1954
HIGHEST DAILY MEAN	12800	Nov 23	57000	Sep 25	57000	Sep 25 1993
LOWEST DAILY MEAN	123	Sep 6	128	Oct 22	11	Aug 22 1954
INSTANTANEOUS PEAK FLOW	--		73200	Sep 25	73200	Sep 25 1993
INSTANTANEOUS PEAK STAGE	--		33.46	Sep 25	33.46	Sep 25 1993
INSTANTANEOUS LOW FLOW	--		102	Oct 21, 22	10	Sep 20 1954
ANNUAL SEVEN-DAY MINIMUM	132	Sep 1	142	Oct 22	12	Aug 18 1954
ANNUAL RUNOFF (INCHES)	13.83		29.33		13.50	
10 PERCENT EXCEEDS	1930		3960		2130	
50 PERCENT EXCEEDS	527		1330		430	
90 PERCENT EXCEEDS	181		241		118	

WHITE RIVER BASIN

07053400 TABLE ROCK LAKE NEAR BRANSON, MO

LOCATION.--Lat 36°35'46", long 93°18'35", in NW 1/4 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 mi^2.

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, 2,950,000 ac-ft, Sept. 27, elevation, 920.64 ft; minimum, 2,500,000 ac-ft, Nov. 6, elevation, 910.24 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
OBSERVATION AT 24:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	915.60	911.00	916.30	915.56	915.14	916.05	914.63	915.97	917.16	919.54	914.97	912.56
2	915.41	910.84	916.04	915.44	915.02	916.11	914.54	915.91	917.28	919.35	914.89	912.66
3	915.37	910.59	915.87	915.44	914.97	916.17	914.40	915.91	917.35	919.15	914.92	912.59
4	915.45	910.50	915.74	916.41	914.97	916.08	914.85	916.06	917.44	918.90	914.92	912.62
5	915.30	910.40	915.58	917.12	914.94	916.02	915.04	916.22	917.31	918.68	915.07	912.61
6	915.04	910.24	915.50	917.03	914.93	915.96	915.33	916.18	917.07	920.21	915.08	912.61
7	914.94	910.26	915.38	916.78	914.95	915.82	915.41	916.07	917.00	920.14	915.11	912.52
8	914.63	910.29	915.28	916.41	914.94	915.62	915.35	916.00	917.07	919.82	915.14	912.56
9	914.39	910.29	915.31	916.38	914.95	915.37	915.25	916.19	917.09	919.45	914.98	912.54
10	914.39	910.36	915.31	916.46	914.95	915.06	915.06	916.42	917.48	918.93	915.07	912.55
11	914.40	910.69	915.28	916.33	914.99	914.71	914.90	916.86	917.78	918.43	915.08	912.54
12	914.27	911.60	915.22	916.30	914.93	914.26	914.61	916.95	917.91	917.95	914.95	912.48
13	914.09	912.10	915.16	916.18	914.80	913.84	914.60	916.87	918.02	917.50	914.78	912.45
14	913.88	912.41	915.34	916.04	914.70	913.66	915.64	916.56	918.00	917.32	914.59	912.93
15	913.81	912.63	917.01	915.85	914.71	913.78	916.87	916.52	917.86	917.19	914.47	913.24
16	913.51	912.74	918.36	915.73	914.60	913.90	917.26	916.51	917.77	916.97	914.21	913.45
17	913.22	912.86	918.52	915.59	914.44	913.62	917.37	916.65	917.65	916.99	913.98	913.56
18	913.08	912.89	918.39	915.43	914.31	913.42	917.32	916.96	917.70	916.88	913.77	913.64
19	912.84	912.99	918.16	915.20	914.16	913.92	917.21	917.20	917.71	916.71	913.55	913.73
20	912.61	913.79	917.76	915.34	914.29	912.48	916.96	917.21	918.10	916.62	913.38	913.66
21	912.41	914.73	917.36	915.51	914.75	914.96	916.68	917.01	918.50	916.49	913.20	913.57
22	912.40	916.52	917.02	915.59	914.89	915.11	916.31	917.02	918.60	916.31	912.91	913.40
23	912.33	917.56	916.74	915.73	914.90	915.24	915.97	917.06	918.68	915.97	912.90	913.23
24	912.28	917.68	916.52	915.74	914.89	915.30	915.96	917.05	918.66	915.63	912.92	913.56
25	912.26	917.70	916.37	915.76	915.06	915.32	915.89	917.15	919.37	915.33	912.87	917.67
26	912.05	917.42	916.12	915.75	915.44	915.23	916.02	917.18	919.56	915.28	912.79	920.36
27	911.83	917.01	915.98	915.70	915.73	915.03	916.11	917.20	919.79	915.29	912.78	920.64
28	911.52	917.01	915.81	915.64	915.90	914.90	916.10	917.17	919.75	915.34	912.75	920.46
29	911.24	916.92	915.75	915.58	---	914.78	916.12	917.18	919.74	915.25	912.68	919.88
30	911.00	916.68	915.72	915.45	---	914.63	916.06	917.21	919.64	915.10	912.65	919.37
31	910.81	---	915.66	915.30	---	914.69	---	917.18	---	915.02	912.59	---
(-)	2530000	2770000	2730000	2710000	2740000	2690000	2750000	2800000	2910000	2700000	2600000	2890000
(=)	-210000	+240000	-40000	-20000	+30000	-50000	+60000	+50000	+110000	-210000	-100000	+290000
MAX	915.60	917.70	918.52	917.12	915.90	916.17	917.37	917.21	919.79	920.21	915.14	920.64
MIN	910.81	910.24	915.16	915.20	914.16	912.48	914.40	915.91	917.00	915.02	912.59	912.45

CAL YR 1992. 0
WTR YR 1993. . . . .+150000

(-) 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. 13 to June 14.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	10.7	9.8	10.3	12.3	11.5	11.8	12.3	12.1	12.2	9.6	9.4	9.5
2	10.5	9.8	10.3	13.0	11.5	12.6	12.3	12.1	12.2	9.5	9.4	9.4
3	10.7	9.9	10.2	12.8	11.7	12.5	12.2	12.0	12.7	9.6	9.3	9.4
4	10.5	9.9	10.2	12.9	11.7	12.4	12.1	11.8	12.0	9.7	9.3	9.4
5	10.8	9.9	10.3	12.9	11.7	12.5	11.9	11.7	11.8	9.4	9.2	9.3
6	10.8	9.9	10.4	12.8	11.7	12.5	11.8	11.6	11.7	9.2	9.2	9.2
7	10.8	10.0	10.4	12.5	11.5	11.8	11.7	11.5	11.6	9.2	9.1	9.2
8	11.4	9.9	10.8	12.1	11.4	11.7	11.6	11.4	11.5	9.1	9.0	9.1
9	11.0	10.2	10.7	12.5	11.6	11.8	11.4	11.3	11.3	9.2	8.9	9.0
10	11.0	10.2	10.5	12.4	11.7	11.8	11.4	11.2	11.3	9.1	8.8	8.9
11	10.7	10.0	10.4	12.4	11.7	11.9	11.2	11.1	11.1	9.0	8.7	8.8
12	10.8	10.0	10.5	12.8	11.5	12.2	11.1	11.0	11.1	8.9	8.7	8.8
13	11.1	10.1	10.7	12.8	11.9	12.4	11.0	10.9	11.0	8.8	8.5	8.6
14	11.3	10.3	10.8	12.6	11.6	12.0	11.0	10.9	10.9	---	---	---
15	---	---	9.8	12.5	11.5	11.9	11.0	10.8	10.9	---	---	---
16	---	---	---	12.6	11.5	12.1	10.8	10.7	10.8	---	---	---
17	---	---	---	12.5	11.8	12.0	10.8	10.6	10.7	---	---	---
18	---	---	---	12.6	11.7	12.1	10.6	10.6	10.6	---	---	---
19	---	---	---	12.5	11.8	12.0	10.6	10.5	10.5	---	---	---
20	---	---	---	12.5	11.7	11.9	10.6	10.4	10.5	---	---	---
21	---	---	---	12.4	11.7	11.8	10.4	10.3	10.4	---	---	---
22	---	---	---	12.4	11.5	11.7	10.4	10.3	10.3	---	---	---
23	---	---	---	12.5	11.5	12.3	10.4	10.1	10.3	---	---	---
24	---	---	---	12.5	12.4	12.4	10.2	9.9	10.1	---	---	---
25	---	---	---	12.6	12.4	12.5	10.1	9.8	10.0	---	---	---
26	---	---	---	12.7	12.4	12.5	10.0	9.7	9.9	---	---	---
27	---	---	---	12.5	12.4	12.4	9.9	9.7	9.8	---	---	---
28	12.3	11.2	11.9	12.9	12.1	12.4	9.8	9.7	9.8	---	---	---
29	12.4	11.6	12.1	12.3	12.1	12.3	9.7	9.6	9.7	---	---	---
30	12.4	11.4	11.9	12.4	12.2	12.3	9.7	9.6	9.7	---	---	---
31	12.5	11.5	11.9	---	---	---	9.7	9.6	9.6	---	---	---

07053450 WHITE RIVER BELOW TABLE ROCK DAM NEAR BRANSON, MO--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	8.7	8.6	8.6	---	---	---	10.7	10.4	10.6
2	---	---	---	8.7	8.6	8.7	---	---	---	11.2	10.4	10.7
3	---	---	---	9.0	8.7	8.8	---	---	---	11.0	10.4	10.7
4	---	---	---	9.1	8.9	9.0	---	---	---	12.0	10.3	10.7
5	---	---	---	9.1	8.9	9.0	---	---	---	12.2	10.3	10.8
6	---	---	---	---	---	---	---	---	---	12.6	10.4	10.7
7	---	---	---	---	---	---	---	---	---	11.0	10.4	10.7
8	---	---	---	---	---	---	---	---	---	11.0	10.0	10.4
9	---	---	---	---	---	---	---	---	---	11.6	10.0	10.7
10	---	---	---	---	---	---	---	---	---	11.7	10.4	10.7
11	---	---	---	---	---	---	11.6	10.5	10.8	12.4	10.4	10.7
12	---	---	---	---	---	---	12.4	10.6	11.2	10.9	10.3	10.7
13	---	---	---	---	---	---	12.0	11.2	11.5	11.5	10.4	10.8
14	---	---	---	---	---	---	12.1	11.2	11.5	11.2	10.4	10.8
15	---	---	---	10.4	9.8	10.2	12.4	11.2	11.6	11.1	10.6	10.9
16	---	---	---	10.4	9.5	9.9	12.0	11.1	11.6	11.6	10.4	10.7
17	---	---	---	10.4	9.5	9.8	11.9	11.4	11.8	11.6	10.3	10.7
18	---	---	---	10.8	9.3	9.9	12.2	11.3	11.8	11.7	10.3	10.7
19	---	---	---	10.3	9.8	9.9	12.7	11.4	11.8	11.4	10.2	10.7
20	---	---	---	9.9	9.8	9.9	12.4	11.4	11.8	---	---	---
21	---	---	---	10.0	9.6	9.8	12.0	11.4	11.7	---	---	---
22	---	---	---	10.2	9.7	10.0	12.1	11.4	11.8	12.6	10.9	11.6
23	---	---	---	10.3	9.8	10.0	12.8	11.9	12.1	12.2	10.9	11.6
24	---	---	---	10.2	9.8	9.9	---	---	---	11.8	11.0	11.5
25	---	---	---	10.3	9.6	9.9	---	---	---	11.4	11.0	11.2
26	---	---	---	10.3	9.8	9.9	---	---	---	11.9	11.1	11.6
27	---	---	---	10.2	9.8	9.9	11.5	10.9	11.2	12.1	11.7	12.0
28	---	---	---	10.5	9.8	9.9	11.5	10.9	11.2	12.3	11.9	12.1
29	---	---	---	---	---	---	11.6	10.9	11.2	12.6	12.3	12.4
30	---	---	---	---	---	---	12.1	10.4	11.0	12.7	12.6	12.6
31	---	---	---	---	---	---	11.0	10.5	10.7	---	---	---

WHITE RIVER BASIN

07053450 WHITE RIVER BELOW TABLE ROCK DAM NEAR BRANSON, MO--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8.7	2.1	5.3	10.5	2.8	6.4	8.4	5.9	6.9	---	---	---
2	9.2	3.6	4.8	9.4	---	---	11.1	7.3	8.7	---	---	---
3	9.9	4.6	6.2	7.3	3.2	4.4	10.9	6.7	8.2	---	---	---
4	11.6	4.7	6.8	7.9	3.5	5.3	11.4	8.2	9.4	---	---	---
5	8.1	4.7	5.9	7.1	3.4	4.8	11.2	8.0	9.2	---	---	---
6	8.8	2.8	5.1	6.7	3.6	4.5	11.8	7.8	9.3	---	---	---
7	8.7	3.7	4.8	6.0	3.7	4.8	11.8	8.5	9.6	---	---	---
8	8.9	3.4	5.1	7.5	2.6	4.8	11.8	8.6	9.8	---	---	---
9	8.9	3.1	5.0	7.0	2.6	4.5	11.7	8.3	9.2	---	---	---
10	10.7	4.3	7.3	6.7	3.1	4.5	11.6	9.8	10.5	---	---	---
11	10.9	4.3	6.7	6.9	3.2	4.9	11.9	9.2	10.2	---	---	---
12	9.1	4.1	5.0	9.3	2.5	5.1	11.9	9.4	10.2	---	---	---
13	9.3	2.8	5.0	9.8	4.1	7.7	12.3	9.4	10.3	---	---	---
14	8.7	2.9	5.1	10.3	5.0	6.7	12.5	9.5	10.6	---	---	---
15	9.4	3.6	5.0	8.6	4.7	6.7	12.0	9.9	10.7	---	---	---
16	8.7	3.3	5.3	9.9	3.2	6.7	11.8	10.2	10.6	---	---	---
17	8.1	3.3	4.8	10.8	4.6	7.1	10.8	10.3	10.5	---	---	---
18	9.6	3.0	5.5	11.4	3.9	6.4	10.9	10.3	10.6	---	---	---
19	8.5	2.8	4.5	8.5	3.9	5.8	10.9	10.2	10.6	---	---	---
20	8.0	3.1	4.4	8.1	2.0	4.5	11.0	10.6	10.8	---	---	---
21	7.9	3.6	4.7	8.3	1.2	4.1	12.5	10.5	10.8	---	---	---
22	9.3	3.3	5.9	8.6	3.3	5.3	12.2	10.5	11.0	---	---	---
23	9.3	3.1	5.0	5.6	4.0	4.9	11.8	10.7	11.1	---	---	---
24	9.2	3.6	5.9	4.4	3.7	4.1	13.9	11.1	11.8	---	---	---
25	8.5	3.8	5.8	5.4	3.8	4.4	13.2	11.2	12.0	---	---	---
26	8.4	3.5	5.3	5.9	5.1	5.5	13.8	11.2	12.0	---	---	---
27	9.1	3.2	4.6	5.5	4.5	5.1	13.8	11.2	12.2	---	---	---
28	6.9	3.0	4.2	8.3	5.0	6.7	---	---	---	---	---	---
29	8.5	3.1	4.8	8.1	5.4	6.5	---	---	---	---	---	---
30	11.2	2.6	5.1	8.5	5.2	6.6	---	---	---	---	---	---
31	8.0	3.5	5.2	---	---	---	---	---	---	---	---	---
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	6.4	6.0	6.2	---	---	---	10.5	4.5	6.6
2	---	---	---	6.1	5.9	6.0	---	---	---	10.0	4.1	6.9
3	---	---	---	6.3	5.6	5.9	---	---	---	9.5	4.7	6.2
4	---	---	---	6.1	5.6	5.8	---	---	---	10.3	5.8	7.4
5	---	---	---	6.0	5.3	---	---	---	---	10.6	4.6	7.6
6	---	---	---	---	---	---	9.4	4.9	6.2	10.7	4.7	7.4
7	---	---	---	---	---	---	9.6	4.6	6.9	8.3	4.3	5.9
8	---	---	---	---	---	---	8.3	4.1	5.7	9.4	4.7	6.8
9	---	---	---	---	---	---	10.0	4.4	6.8	10.6	4.5	7.0
10	---	---	---	---	---	---	8.9	4.6	6.7	10.8	5.9	8.0
11	---	---	---	---	---	---	12.0	4.4	7.3	10.1	6.4	8.2
12	---	---	---	---	---	---	8.7	4.1	5.9	---	---	---
13	---	---	---	---	---	---	9.1	4.8	7.0	---	---	---
14	---	---	---	---	---	---	9.7	4.7	6.6	---	---	---
15	---	---	---	8.2	5.8	6.4	9.2	4.6	6.5	---	---	---
16	---	---	---	8.4	5.8	6.6	10.9	5.0	7.6	---	---	---
17	---	---	---	9.9	5.8	7.1	11.2	5.2	7.7	12.4	7.7	9.3
18	---	---	---	10.7	5.6	7.6	9.3	4.8	6.1	11.1	6.5	8.1
19	---	---	---	7.1	4.5	5.6	10.3	4.2	7.1	10.2	5.2	7.0
20	---	---	---	7.7	3.6	5.6	8.7	4.0	7.0	8.8	4.9	5.9
21	---	---	---	6.7	4.5	5.6	9.7	5.7	7.2	---	---	---
22	---	---	---	7.8	4.1	5.4	8.3	4.5	6.6	6.9	3.7	4.6
23	---	---	---	7.9	5.3	6.0	8.1	4.0	6.2	6.9	3.7	4.6
24	---	---	---	7.4	4.0	5.3	7.0	3.7	4.3	7.2	4.0	4.8
25	---	---	---	6.6	4.1	5.2	---	---	---	5.5	3.0	3.9
26	---	---	---	7.2	4.4	5.7	8.2	4.9	6.6	7.5	3.8	4.8
27	---	---	---	6.6	4.4	5.6	8.3	4.8	6.5	4.5	4.1	4.3
28	---	---	---	---	---	---	9.1	4.4	6.5	4.6	2.4	3.3
29	---	---	---	---	---	---	7.6	4.0	6.0	5.1	1.9	2.4
30	---	---	---	---	---	---	7.3	3.7	4.9	5.0	2.1	3.6
31	---	---	---	---	---	---	11.1	3.4	3.9	---	---	---

WHITE RIVER BASIN

07053500 WHITE RIVER NEAR BRANSON, MO

LOCATION.--Lat 36°35'51", long 93°17'42", in SE ¼ NE ¼ 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 mi^2.

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 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6850	1510	11000	12300	6770	11100	10800	13600	6360	7300	2170	1230
2	5160	5930	8500	10400	6250	14000	10300	13300	8130	7300	3530	1070
3	1180	6490	7440	6820	4250	13700	11600	12100	9490	7320	1040	1740
4	370	2970	9130	6550	3230	15000	3670	7740	10400	7340	171	192
5	3900	3280	8950	10700	4500	11800	10300	8530	14900	7370	128	175
6	6060	4120	7470	15000	10200	9280	10600	8220	13000	6000	139	177
7	3840	40	7680	15000	9460	11000	10500	11100	5060	14000	141	2470
8	6710	40	7790	15100	10100	10800	9660	10900	4190	14000	232	671
9	4970	340	9310	11600	9890	10700	7460	5630	4880	14200	5390	1220
10	630	140	8280	8050	9810	11000	9630	7980	6450	13800	1650	447
11	220	140	8280	10700	9950	12000	7600	9640	6310	14300	3360	166
12	3110	1620	8500	9970	10800	13600	9750	10800	7070	14500	5470	1800
13	4610	1370	9010	9310	8530	14100	8200	11300	5290	14100	5360	3090
14	6250	140	6310	9300	7230	7810	6330	14100	6690	10100	5530	2960
15	3160	140	6350	10000	8720	5600	10400	6740	6810	9360	4360	2670
16	5860	1380	10700	7420	8810	3530	13400	5470	6610	10600	8180	373
17	5670	260	14900	8170	10800	10700	15000	4560	6600	4230	6480	325
18	3310	1640	14900	8980	8530	11000	15000	2420	6480	4470	6980	489
19	6680	810	14900	8740	8140	7710	15000	695	6420	7880	6700	1990
20	5100	1410	14900	8770	1580	8750	15000	8060	4230	6270	4920	4790
21	4450	140	14300	7560	780	4530	15000	8640	4200	6750	4080	5310
22	670	140	14400	8000	10300	9920	15200	4430	6430	8200	7360	6060
23	2000	6820	10800	7580	11700	10700	15200	5710	6970	10200	3090	5420
24	140	10800	8300	7680	11000	8730	6300	6090	7300	8330	2750	4520
25	710	11300	8220	7780	8930	9520	6830	2880	7340	8250	3270	40
26	5140	11900	8760	7700	7550	10600	6620	2880	7240	4850	2300	4920
27	4570	14000	7600	7350	7190	9940	10300	2520	7220	4710	2100	9030
28	6740	4280	10400	8120	7920	9350	11800	4770	7250	4860	1630	14400
29	6920	5990	12000	7770	---	10400	11700	2590	7260	6320	2230	19200
30	5040	9780	11600	7100	---	10000	11900	3140	7270	5410	3070	16700
31	4350	---	12100	7070	---	10600	---	3190	---	5100	1310	---
MEAN	4012	3631	10090	9245	7961	10240	10700	7088	7128	8626	3391	3788
MAX	6920	14000	14900	15100	11700	15000	15200	14100	14900	14500	8180	19200
MIN	140	40	6310	6550	780	3530	3670	695	4190	4230	128	40

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

MEAN	1670	2815	4009	3653	4042	5447	6095	5926	4088	3376	2727	2042
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	3945		7161		3823	
HIGHEST ANNUAL MEAN					7797	1957
LOWEST ANNUAL MEAN					729	1954
HIGHEST DAILY MEAN	18900	Jun 13	19200	Sep 29	72000	May 16 1956
LOWEST DAILY MEAN	40	Many Days	40	Nov 7-8, Sep 25	.00	At Times
INSTANTANEOUS PEAK FLOW	--		*****		89100	May 16 1956
INSTANTANEOUS PEAK STAGE	--		*****		36.9	May 16 1956
INSTANTANEOUS LOW FLOW	--		*****		.00	At Times
ANNUAL SEVEN-DAY MINIMUM	40	Apr 24	527	Nov 7	8.4	Sep 10 1956
ANNUAL RUNOFF (INCHES)	13.35		24.18		12.92	
10 PERCENT EXCEEDS	9640		13300		9670	
50 PERCENT EXCEEDS	2760		7260		2250	
90 PERCENT EXCEEDS	140		1140		140	

*****Indicates not enough data, therefore, statistic is not computed.

WHITE RIVER BASIN

07053600 LAKE TANEYCOMO AT COLLEGE OF THE OZARKS

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. 13 to June 14.

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	10.7	9.6	10.2	12.1	11.5	11.9	11.4	11.0	11.2	8.4	8.3	8.4
2	10.9	9.9	10.4	12.5	11.1	11.8	11.4	10.7	11.2	8.4	8.2	8.3
3	11.3	10.0	10.6	12.2	11.7	12.0	11.1	10.8	11.0	8.5	8.3	8.4
4	12.1	10.7	11.3	12.1	10.9	11.7	11.1	10.7	10.9	9.0	8.2	8.4
5	11.9	10.3	11.2	11.9	11.0	11.7	10.9	10.4	10.7	8.3	7.7	8.1
6	10.9	10.1	10.4	12.3	10.8	11.8	10.7	10.2	10.5	8.2	8.1	8.1
7	11.0	10.2	10.5	12.0	10.7	11.5	10.7	10.2	10.5	8.2	8.1	8.1
8	11.0	9.9	10.6	11.2	10.1	10.5	10.5	9.7	10.3	8.1	8.0	8.0
9	11.3	10.3	10.8	10.7	9.8	10.3	10.4	10.0	10.3	8.0	7.7	7.9
10	11.4	10.5	10.9	11.2	9.9	10.6	10.3	9.7	10.1	7.9	7.6	7.8
11	11.5	10.3	10.8	11.8	10.6	11.2	10.3	9.5	10.0	7.8	7.5	7.7
12	11.3	10.4	10.8	11.6	11.1	11.3	10.1	9.6	10.0	7.8	7.6	7.7
13	11.5	10.0	10.7	12.0	10.8	11.4	10.0	9.7	9.9	---	---	---
14	11.3	10.5	10.9	11.7	11.1	11.4	9.9	9.5	9.8	---	---	---
15	11.1	10.5	11.0	11.7	10.6	11.0	9.9	9.5	9.7	---	---	---
16	---	---	---	12.2	10.2	11.1	9.8	9.0	9.6	---	---	---
17	---	---	---	12.0	10.5	11.4	9.7	9.5	9.6	---	---	---
18	---	---	---	12.2	10.6	11.7	9.7	9.5	9.5	---	---	---
19	---	---	---	12.1	11.3	11.6	9.6	9.4	9.5	---	---	---
20	---	---	---	12.0	11.4	11.7	9.5	9.3	9.4	---	---	---
21	---	---	---	11.8	11.0	11.4	9.5	9.3	9.3	---	---	---
22	---	---	---	11.0	10.0	10.7	9.4	9.2	9.3	---	---	---
23	---	---	---	11.3	9.4	10.5	9.4	8.9	9.2	---	---	---
24	---	---	---	11.3	11.0	11.1	9.2	8.6	9.0	---	---	---
25	---	---	---	11.7	11.0	11.3	9.1	8.6	8.9	---	---	---
26	---	---	---	11.6	11.2	11.4	8.9	8.2	8.7	---	---	---
27	12.0	11.2	11.5	11.5	11.2	11.4	8.9	8.3	8.7	---	---	---
28	11.9	10.6	11.4	11.5	10.5	11.2	8.8	8.4	8.6	---	---	---
29	11.7	11.4	11.6	11.4	10.1	10.8	8.8	8.7	8.8	---	---	---
30	11.8	11.3	11.5	11.5	11.0	11.3	8.9	8.7	8.8	---	---	---
31	11.9	11.6	11.7	---	---	---	8.7	8.4	8.6	---	---	---

WHITE RIVER BASIN

07053600 LAKE TANEYCOMO AT COLLEGE OF THE OZARKS--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	11.1	10.1	10.4	12.0	10.7	11.3	12.3	11.5	11.8
2	---	---	---	11.0	10.1	10.5	12.5	10.6	11.1	14.6	12.2	12.7
3	---	---	---	11.1	10.1	10.5	12.2	10.6	11.3	13.1	11.7	12.1
4	---	---	---	11.2	10.2	10.6	14.3	11.9	12.9	13.3	11.7	12.4
5	---	---	---	11.0	10.3	10.5	14.4	13.4	13.8	15.2	12.9	13.9
6	---	---	---	10.8	10.4	10.6	14.6	13.2	14.0	15.6	14.2	14.7
7	---	---	---	10.8	10.4	10.6	15.2	13.3	14.1	15.0	11.5	13.3
8	---	---	---	11.0	10.4	10.7	15.7	13.7	14.5	11.8	11.5	11.6
9	---	---	---	11.1	10.5	10.7	14.8	10.7	13.0	13.3	11.6	12.1
10	---	---	---	11.2	10.5	10.8	12.9	10.7	11.2	13.7	11.6	12.4
11	---	---	---	11.2	10.6	10.8	12.4	10.6	11.1	14.3	12.6	13.5
12	---	---	---	11.2	10.7	10.8	12.0	10.6	11.0	14.3	11.6	12.8
13	---	---	---	11.3	10.7	10.9	12.0	10.8	11.1	11.9	11.5	11.7
14	---	---	---	11.3	10.8	11.0	13.3	10.8	11.6	12.0	11.5	11.8
15	10.0	8.9	9.3	11.3	10.8	11.0	13.9	11.8	12.2	12.7	11.5	11.9
16	10.1	8.9	9.3	11.4	10.7	11.0	12.4	11.8	12.0	12.9	11.2	11.9
17	9.8	8.7	9.2	13.1	10.9	11.4	12.6	12.0	12.2	14.6	12.3	13.1
18	11.0	8.6	10.0	13.8	10.9	11.5	12.5	12.0	12.2	13.2	12.0	12.7
19	10.0	9.0	9.4	11.3	10.9	11.0	12.6	12.0	12.2	13.6	11.7	12.5
20	10.3	9.3	9.7	11.5	10.8	11.1	12.8	12.0	12.3	12.7	11.6	12.0
21	10.4	9.4	9.7	11.4	10.9	11.1	12.9	12.0	12.2	12.4	11.5	11.8
22	10.3	9.2	9.7	11.6	11.0	11.2	12.7	12.0	12.3	12.4	11.6	11.9
23	10.2	9.2	9.6	11.6	11.0	11.2	13.2	12.1	12.5	12.2	11.8	11.9
24	10.3	9.4	9.7	11.6	11.1	11.3	13.3	12.6	12.8	12.2	11.8	12.0
25	10.5	9.4	9.8	11.7	11.1	11.3	13.2	12.2	12.7	16.0	12.1	13.8
26	10.2	9.3	9.6	12.2	11.2	11.5	13.2	12.1	12.5	14.3	11.5	13.1
27	10.1	9.3	9.6	12.3	11.1	11.5	13.5	12.1	12.6	12.2	11.4	11.7
28	10.2	9.2	9.6	12.0	10.6	11.2	13.9	12.2	12.7	15.0	11.6	12.0
29	10.3	9.3	9.7	11.3	10.6	10.8	13.3	12.2	12.6	14.6	14.4	14.6
30	11.2	9.4	10.2	11.6	10.6	10.9	---	---	---	14.5	12.3	13.4
31	---	---	---	11.5	10.6	10.9	---	---	---	---	---	---

WHITE RIVER BASIN

07053600 LAKE TANEYCOMO AT COLLEGE OF THE OZARKS--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	5.8	3.6	5.0	9.2	3.5	5.8	8.8	6.8	7.5	10.4	9.4	9.8
2	5.6	3.2	4.5	9.5	3.9	7.1	10.0	7.3	8.2	11.0	9.4	10.1
3	8.0	4.5	6.0	5.1	3.3	4.3	8.5	6.8	7.4	10.8	9.8	10.2
4	8.9	5.9	7.0	7.0	4.4	5.9	8.8	6.8	7.9	11.4	10.0	10.7
5	8.4	3.6	6.4	6.9	5.0	6.3	9.0	7.1	7.8	11.1	9.6	10.2
6	5.6	3.1	4.4	6.4	4.7	5.5	8.5	7.1	7.8	10.2	9.6	9.8
7	6.3	2.9	4.4	8.3	5.1	5.8	9.2	7.2	8.4	10.1	9.7	9.9
8	---	---	---	6.2	4.7	5.4	9.7	7.2	8.1	10.2	9.7	10.0
9	---	---	---	7.6	4.7	5.9	9.3	7.7	8.3	10.8	9.5	10.1
10	---	---	---	7.1	5.1	6.3	10.0	7.7	8.7	11.0	9.7	10.2
11	---	---	---	7.2	4.5	5.8	10.3	8.4	8.9	10.7	9.9	10.3
12	---	---	---	9.1	5.3	7.3	10.0	8.2	8.7	10.6	10.0	10.3
13	---	---	---	8.9	5.3	6.8	9.4	8.3	8.7	---	---	---
14	---	---	---	6.9	5.6	6.2	11.2	7.9	9.3	---	---	---
15	---	---	---	7.8	6.2	6.7	10.4	8.4	9.5	---	---	---
16	---	---	---	9.2	5.2	7.3	9.8	8.7	9.2	---	---	---
17	---	---	---	6.6	5.0	6.0	9.3	9.1	9.2	---	---	---
18	---	---	---	7.4	4.7	6.1	9.5	9.2	9.3	---	---	---
19	---	---	---	6.9	4.1	5.1	10.0	9.0	9.3	---	---	---
20	---	---	---	7.4	4.6	5.5	9.6	9.2	9.4	---	---	---
21	---	---	---	6.5	4.3	5.3	9.5	9.2	9.3	---	---	---
22	---	---	---	7.8	6.3	6.9	9.8	9.1	9.4	---	---	---
23	---	---	---	9.6	5.5	7.3	9.8	8.9	9.4	---	---	---
24	---	---	---	5.7	5.2	5.5	11.2	9.0	9.7	---	---	---
25	---	---	---	6.5	5.4	5.8	11.5	9.0	10.0	---	---	---
26	---	---	---	7.0	6.5	6.7	11.2	9.4	9.9	---	---	---
27	7.9	3.8	5.5	6.8	5.8	6.3	10.8	9.3	9.8	---	---	---
28	6.9	3.5	4.9	8.8	5.9	7.5	10.4	9.1	9.8	---	---	---
29	6.1	3.5	4.7	8.7	6.2	7.7	12.0	9.7	10.5	---	---	---
30	7.9	4.2	5.6	8.1	6.2	7.0	11.4	9.6	10.4	---	---	---
31	7.0	2.9	4.8	---	---	---	11.4	9.5	10.0	---	---	---
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	9.4	6.3	7.3	9.6	5.1	7.1	8.4	4.0	6.2
2	---	---	---	8.7	6.2	7.2	11.9	5.7	7.2	10.0	6.6	7.9
3	---	---	---	9.2	6.5	7.6	10.3	5.3	7.3	8.8	5.8	6.8
4	---	---	---	9.5	6.5	7.7	12.0	7.6	9.3	8.0	5.2	6.5
5	---	---	---	8.7	6.7	7.5	10.8	6.7	9.0	10.6	7.0	8.5
6	---	---	---	8.7	5.7	7.0	9.7	6.4	8.1	10.2	7.7	8.6
7	---	---	---	7.6	6.7	7.0	9.8	5.2	7.2	8.6	4.6	6.8
8	---	---	---	7.7	6.3	6.9	11.8	7.4	9.7	6.3	4.0	4.9
9	---	---	---	7.6	6.4	6.8	11.8	5.1	8.3	---	---	---
10	---	---	---	7.5	6.4	6.9	8.8	4.3	6.0	---	---	---
11	---	---	---	7.6	6.5	6.9	8.7	3.7	5.9	---	---	---
12	---	---	---	7.8	6.6	7.0	7.9	4.6	6.2	---	---	---
13	---	---	---	7.9	6.6	7.1	9.5	3.7	5.2	---	---	---
14	---	---	---	7.4	5.7	6.7	9.7	4.5	5.8	---	---	---
15	8.8	5.6	7.0	7.3	5.4	6.4	9.3	4.6	5.8	---	---	---
16	9.1	5.6	7.0	8.0	6.2	7.1	6.6	4.1	5.0	---	---	---
17	8.7	5.6	6.7	9.7	5.2	6.6	7.9	3.4	4.8	10.8	6.2	7.8
18	---	---	---	8.7	5.0	6.4	6.4	3.9	4.7	9.8	6.2	7.3
19	---	---	---	7.8	5.7	6.4	7.7	3.6	4.7	9.4	4.8	6.3
20	---	---	---	7.7	4.8	6.2	7.0	3.5	5.2	6.9	4.4	5.3
21	---	---	---	7.7	5.7	6.3	8.1	4.8	6.0	8.0	4.8	5.7
22	---	---	---	7.3	5.2	5.9	6.6	4.2	5.1	6.6	4.0	5.4
23	---	---	---	7.8	5.3	5.9	8.9	4.2	6.0	6.6	3.6	5.1
24	---	---	---	7.0	4.6	5.5	8.3	5.1	6.3	5.7	4.3	5.1
25	---	---	---	6.5	4.7	5.4	6.9	3.9	5.2	7.4	5.0	6.0
26	---	---	---	8.7	4.4	6.4	9.0	3.9	6.4	5.6	1.5	3.8
27	---	---	---	8.4	5.1	6.4	9.7	4.8	6.9	5.8	2.0	3.7
28	---	---	---	8.3	4.4	6.5	10.2	5.2	6.9	5.5	1.3	3.7
29	---	---	---	8.6	4.8	6.1	9.7	5.7	7.0	4.4	1.6	3.2
30	---	---	---	8.3	4.5	5.7	---	---	---	4.3	1.3	3.2
31	---	---	---	8.4	5.2	6.1	---	---	---	---	---	---

WHITE RIVER BASIN

07057500 NORTH FORK RIVER NEAR TECUMSEH, MO

LOCATION.--Lat 36°37'22", long 92°14'53", in NE ¼ SE ¼ 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	356	386	666	680	833	1030	2200	991	746	632	452	383
2	353	434	635	675	801	1680	1730	970	746	617	454	393
3	349	422	600	688	774	2870	1490	1090	750	608	449	889
4	347	379	574	10700	749	2670	1360	1460	1520	603	438	697
5	341	356	547	9110	726	2210	1440	1360	2600	588	466	558
6	337	339	529	3420	712	1890	1680	1220	1500	583	495	487
7	333	329	516	2580	701	1680	1620	1130	1210	581	477	458
8	334	322	500	2050	692	1520	1540	1070	1070	575	455	531
9	329	319	503	1750	677	1380	1450	1030	979	562	445	563
10	327	331	507	1630	665	1300	1340	1150	992	550	486	529
11	323	361	497	1520	685	1170	1260	1900	1040	546	479	477
12	321	1840	484	1460	709	1110	1180	1900	989	553	482	450
13	322	1930	474	1390	697	1060	1120	1730	924	546	465	441
14	321	1090	474	1290	682	1020	1420	1550	865	542	450	606
15	317	826	4000	1230	712	986	3720	1400	823	550	438	1130
16	314	690	8650	1180	708	1090	3480	1290	784	536	433	789
17	309	615	3160	1130	666	1210	2480	1210	750	522	426	620
18	308	562	2190	1070	639	1200	2040	1210	727	509	421	536
19	304	520	1740	996	639	1250	1860	1180	705	522	418	504
20	306	649	1450	1030	660	2430	1770	1110	714	509	413	734
21	305	2690	1240	1330	730	2220	1550	1040	752	503	409	849
22	305	2650	1120	1440	917	1900	1390	986	733	498	402	680
23	302	2510	1020	1340	1010	1730	1330	954	707	489	409	581
24	304	1610	922	1260	991	1570	1290	943	744	483	448	4060
25	303	1270	874	1140	1030	1450	1210	896	743	477	435	25100
26	306	1060	824	1070	1010	1350	1130	845	728	473	417	10500
27	305	909	780	1030	956	1270	1060	817	716	464	401	3390
28	302	816	748	991	950	1200	1020	801	695	457	394	2390
29	308	752	733	938	---	1150	1010	781	672	451	389	1880
30	314	703	712	872	---	1240	1010	771	646	451	386	1580
31	310	---	699	848	---	3060	---	775	---	447	383	---
MEAN	320	922	1238	1866	776	1577	1606	1147	919	530	436	2093
MAX	356	2690	8650	10700	1030	3060	3720	1900	2600	632	495	25100
MIN	302	319	474	675	639	986	1010	771	646	447	383	383
IN.	.66	1.83	2.54	3.84	1.44	3.24	3.19	2.36	1.83	1.09	.90	4.16

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

MEAN	404	623	720	735	852	1055	1250	1124	776	551	415	428
MAX	1040	2751	2842	2322	2872	2473	3623	2775	2515	1632	889	2093
(WY)	1985	1986	1983	1950	1985	1945	1945	1957	1945	1951	1958	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	713		1119		743	
HIGHEST ANNUAL MEAN					1555	1985
LOWEST ANNUAL MEAN					299	1954
HIGHEST DAILY MEAN	8650	Dec 16	25100	Sep 25	45100	Nov 19 1985
LOWEST DAILY MEAN	302	Oct 23	302	Oct 23	187	Sep 15 1954
INSTANTANEOUS PEAK FLOW	--		52500	Sep 25	133000	Nov 19 1985
INSTANTANEOUS PEAK STAGE	--		22.60	Sep 25	28.10	Nov 19 1985
INSTANTANEOUS LOW FLOW	--		295	Oct 23	187	Sep 14-15 1954
ANNUAL SEVEN-DAY MINIMUM	304	Oct 22	304	Oct 22	188	Sep 12 1954
ANNUAL RUNOFF (INCHES)	17.31		27.08		18.00	
10 PERCENT EXCEEDS	1120		1850		1330	
50 PERCENT EXCEEDS	563		750		501	
90 PERCENT EXCEEDS	340		356		288	

WHITE RIVER BASIN

07061500 BLACK RIVER NEAR ANNAPOLIS, MO

LOCATION.--Lat 37°20'10", long 90°47'19", in SW ¼ NW ¼ 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137	164	381	570	478	430	911	543	338	370	163	164
2	135	185	361	560	403	1080	756	535	321	350	158	168
3	137	206	324	543	386	3210	662	1770	321	335	156	240
4	135	213	305	9150	365	2930	621	3120	391	291	153	275
5	135	219	288	14600	348	1970	710	2060	665	271	151	249
6	133	204	278	4450	333	1480	870	1400	457	255	160	225
7	133	185	270	2060	321	1150	822	1040	390	255	166	203
8	131	175	252	1370	310	980	790	955	359	258	164	212
9	129	170	245	1130	298	821	711	803	349	255	159	203
10	129	181	246	1010	290	706	676	725	300	247	173	204
11	129	400	242	860	297	671	608	1240	310	231	189	200
12	129	4460	236	749	301	553	556	1000	297	219	766	184
13	130	2900	237	758	283	469	535	807	273	204	2950	179
14	131	1300	235	733	275	479	1830	674	262	299	889	183
15	131	854	2260	674	278	449	7600	633	251	460	595	292
16	150	666	13200	631	295	468	5760	512	240	475	444	366
17	146	545	3630	574	276	521	2720	508	230	391	368	308
18	141	455	1820	537	310	519	1830	499	226	320	307	278
19	138	406	1240	490	277	465	1390	480	220	276	269	248
20	138	392	959	549	245	539	1160	437	230	261	276	267
21	139	1870	809	2050	251	625	997	392	266	267	237	295
22	139	2000	693	1690	344	605	811	377	350	270	214	286
23	139	2260	611	1310	462	772	747	338	325	252	199	313
24	140	1310	545	1130	469	938	672	345	319	234	192	620
25	139	945	495	988	443	851	649	383	1270	225	194	7480
26	139	745	444	881	436	775	712	338	2560	212	183	11900
27	139	630	428	735	403	704	621	307	1100	201	173	2670
28	141	535	389	668	408	634	557	293	718	188	167	1610
29	142	462	378	609	---	584	522	287	564	178	164	1130
30	149	426	370	551	---	525	536	438	497	170	162	866
31	150	---	400	513	---	840	---	414	---	166	163	---
MEAN	137	849	1051	1714	342	895	1278	763	480	271	345	1061
MAX	150	4460	13200	14600	478	3210	7600	3120	2560	475	2950	11900
MIN	129	164	235	490	245	430	522	287	220	166	151	164
IN.	.33	1.96	2.50	4.08	.74	2.13	2.95	1.82	1.11	.64	.82	2.45

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

MEAN	266	615	690	610	730	995	1133	861	516	269	208	230
MAX	1151	3619	3913	2509	2091	2903	3467	2928	4263	1800	1289	1061
(WY)	1942	1986	1983	1950	1985	1945	1957	1957	1945	1951	1982	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	493		767		591	
HIGHEST ANNUAL MEAN					1420	1985
LOWEST ANNUAL MEAN					244	1954
HIGHEST DAILY MEAN	13200	Dec 16	14600	Jan 5	44600	Nov 19 1985
LOWEST DAILY MEAN	110	Aug 26	129	Oct 9-12	66	Sep 15 1954
INSTANTANEOUS PEAK FLOW	--		27100	Jan 5	98500	Nov 19 1985
INSTANTANEOUS PEAK STAGE	--		15.37	Jan 5	25.81	Nov 19 1985
INSTANTANEOUS LOW FLOW	--		129	Oct 9-13	65	Aug 16 1965
ANNUAL SEVEN-DAY MINIMUM	112	Aug 20	130	Oct 8	67	Aug 12 1965
ANNUAL RUNOFF (INCHES)	13.86		21.52		16.60	
10 PERCENT EXCEEDS	843		1330		1150	
50 PERCENT EXCEEDS	303		389		271	
90 PERCENT EXCEEDS	123		160		116	

WHITE RIVER BASIN

07061600 BLACK RIVER BELOW ANNAPOLIS, MO
(National water-quality assessment station)

WATER-QUALITY RECORDS

LOCATION.--Lat 37°19'30", long 90°45'50", in SE ¼ NW ¼ sec.31, T.31 N., R.3 E., Reynolds County, Hydrologic Unit 11010007, at bridge on County Highway K, 4.5 mi southwest of Annapolis, 3.0 mi downstream from gaging station.

DRAINAGE AREA.--493 mi^2.

PERIOD OF RECORD.--April 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)
MAY											
12...	1030	1150	15.5	185	7.8	9.4	93	80	82	99	0
JUN											
03...	1230	304	19.5	239	8.0	10.6	115	K7	K5	137	0
JUL											
20...	1130	263	24.5	272	7.9	8.4	99	K11	K6	158	0
AUG											
19...	1030	271	23.5	272	8.0	8.7	101	24	32	150	0
SEP											
27...	1200	2660	16.5	193	7.7	8.1	82	460	340	102	0

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

DATE	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	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, DIS-SOLVED (MG/L AS P) (00671)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
MAY											
12...	81	0.087	<0.010	0.030	<0.20	<0.20	<0.010	<0.010	<0.010	93	19
JUN											
03...	112	0.070	<0.010	0.020	<0.20	<0.20	<0.010	<0.010	<0.010	120	25
JUL											
20...	129	0.110	<0.010	0.040	<0.20	<0.20	<0.010	0.010	<0.010	140	30
AUG											
19...	123	0.130	<0.010	0.040	<0.20	<0.20	<0.010	<0.010	<0.010	140	29
SEP											
27...	83	0.180	<0.010	0.020	<0.20	<0.20	<0.010	<0.010	<0.010	100	22

WHITE RIVER BASIN

07061600 BLACK RIVER BELOW ANNAPOLIS, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SEDIMENT, SUSPENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
MAY										
12...	11	1.9	1.0	12	1.8	0.10	7.2	106	3	30
JUN										
03...	14	2.3	1.0	11	2.5	<0.10	6.4	126	0	0
JUL										
20...	16	2.6	1.1	15	2.6	0.10	8.3	149	15	--
AUG										
19...	16	2.7	1.1	16	4.0	0.10	8.5	140	20	--
SEP										
27...	12	2.1	1.5	12	3.0	<0.10	9.6	104	2	100

DATE	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)	LITHIUM DISSOLVED (UG/L AS LI) (01130)
MAY										
12...	--	--	--	--	--	--	--	10	--	--
JUN										
03...	<1	33	<0.5	2.0	<5	<3	<10	<3	<10	<4
JUL										
20...	--	--	--	--	--	--	--	<3	--	--
AUG										
19...	<1	38	<0.5	3.0	<5	<3	<10	10	<10	<4
SEP										
27...	--	--	--	--	--	--	--	34	--	--

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
MAY										
12...	3	--	--	--	--	--	--	--	1.1	<0.1
JUN										
03...	3	<10	<10	<1	<1.0	33	<6	<3	0.6	0.1
JUL										
20...	3	--	--	--	--	--	--	--	0.8	0.1
AUG										
19...	4	<10	<10	<1	<1.0	38	<6	18	0.7	0.1
SEP										
27...	9	--	--	--	--	--	--	--	2.2	0.1

WHITE RIVER BASIN

07062000 CLEARWATER LAKE NEAR PIEDMONT, MO

LOCATION.--Lat 37°08'00", long 90°46'31", NW ¼ 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 mi^2.

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, 106,000 ac-ft, Jan. 7, elevation, 523.48 ft; minimum contents, 21,000 ac-ft, Dec. 13, elevation, 493.41 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
OBSERVATION AT 24:00

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	494.77	494.14	498.98	494.20	494.33	493.94	494.72	498.15	498.71	500.43	497.63	496.97
2	494.75	494.21	496.46	494.43	494.03	494.61	494.76	498.16	498.19	499.83	497.68	496.84
3	494.72	494.24	494.93	494.68	494.04	497.50	494.67	499.92	497.63	499.45	497.76	496.97
4	494.69	494.21	494.73	509.32	494.09	498.68	494.56	503.76	497.66	499.17	497.81	497.08
5	494.58	494.10	494.58	521.02	494.11	498.72	494.48	505.00	498.19	498.84	497.90	497.17
6	494.37	494.09	494.43	523.31	494.11	497.85	494.45	504.66	498.40	498.55	497.79	497.23
7	494.13	494.05	494.24	523.48	494.08	496.66	494.34	503.93	498.29	498.25	497.47	497.09
8	494.03	494.00	494.05	522.88	494.02	495.49	494.27	503.05	498.03	497.91	497.15	496.80
9	494.11	494.03	494.05	522.08	493.97	494.38	494.27	501.98	497.86	497.71	496.99	496.48
10	494.21	494.13	494.12	521.15	493.96	493.95	494.20	501.59	497.50	497.62	497.12	496.32
11	494.28	494.35	494.02	520.08	494.00	493.95	494.04	502.10	497.41	497.50	497.22	496.33
12	494.36	501.75	493.73	518.91	494.13	494.04	494.03	501.51	497.54	497.29	497.53	496.34
13	494.40	505.37	493.41	517.67	494.36	493.99	494.07	500.44	497.62	497.10	500.00	496.30
14	494.26	505.95	493.48	516.32	494.61	493.91	495.05	499.75	497.83	496.96	500.17	496.31
15	494.15	506.02	496.58	514.91	494.93	493.91	503.88	499.33	497.82	496.98	499.90	496.24
16	494.13	505.65	509.55	513.43	494.72	494.10	508.80	498.81	497.69	497.25	499.43	496.36
17	494.12	504.89	512.49	511.84	494.28	494.15	509.35	498.34	497.70	497.45	498.83	496.40
18	494.13	504.01	512.37	510.12	494.16	494.22	509.04	498.16	497.74	497.56	498.16	496.35
19	494.13	502.97	511.60	508.24	494.15	494.20	508.39	498.10	497.88	497.47	497.59	496.31
20	494.13	502.25	510.51	506.59	494.11	494.26	507.85	498.00	498.00	497.22	497.36	496.27
21	494.14	503.72	509.28	506.11	494.12	494.40	506.73	498.01	497.98	496.98	497.12	496.09
22	494.16	505.72	507.53	505.49	494.25	494.46	505.22	498.07	497.87	496.81	496.83	495.82
23	494.18	507.66	505.63	504.24	494.46	494.45	503.56	498.08	497.80	496.92	496.68	495.62
24	494.19	508.34	503.78	502.71	494.32	494.68	501.84	498.08	497.64	497.01	496.77	496.03
25	494.20	508.22	502.02	500.84	494.45	494.59	500.04	498.03	497.89	497.07	496.85	501.99
26	494.20	507.73	500.13	498.68	494.37	494.50	498.93	497.98	500.61	497.11	496.93	511.08
27	494.13	506.73	498.10	496.60	494.04	494.56	498.46	498.01	501.50	497.21	497.04	512.72
28	494.05	505.20	495.99	495.70	493.88	494.52	498.20	498.16	501.68	497.31	497.14	513.15
29	494.00	503.56	494.35	495.49	---	494.22	498.18	498.35	501.38	497.41	497.22	512.99
30	494.03	501.51	494.01	495.26	---	493.94	498.17	498.60	500.97	497.49	497.26	512.44
31	494.05	---	494.04	494.91	---	494.27	---	498.90	---	497.56	497.12	---
(-)	22000	35900	22000	23400	21700	22400	29200	30600	34700	28100	27200	64700
(=)	-1200	+13900	-13900	+1400	-1700	+700	+6800	+1400	+4100	-6600	-900	+37500
MAX	494.77	508.34	512.49	523.48	494.93	498.72	509.35	505.00	501.68	500.43	500.17	513.15
MIN	494.00	494.00	493.41	494.20	493.88	493.91	494.03	497.98	497.41	496.81	496.68	495.62

CAL YR. 0
WTR YR. . . . .+41500

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

WHITE RIVER BASIN

07062500 BLACK RIVER AT LEEPER, MO

LOCATION.--Lat 37°03'32", long 90°41'12", in NE 1/4 SE 1/4 NE 1/4 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 mi^2.

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.--No estimated daily discharges. Records fair except for period Oct. 1 to Nov. 11, which are poor. 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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	400	378	3120	494	1190	658	1110	985	557	1180	344	240
2	393	392	2950	474	1190	944	1280	992	979	1170	342	241
3	380	388	2020	472	723	1500	1340	1310	994	1010	339	267
4	370	393	715	3630	613	2820	1340	749	835	725	339	268
5	400	393	545	1420	598	2920	1360	978	459	703	335	256
6	425	388	519	1160	585	3130	1330	2690	483	698	339	246
7	410	387	502	2910	575	3070	1610	2730	619	692	396	240
8	377	387	481	3390	573	2820	1520	2680	762	684	412	430
9	350	387	411	3750	564	2330	1330	2630	781	606	399	461
10	330	403	393	3750	535	1900	1210	2490	834	472	364	435
11	310	414	394	3700	517	1190	1280	883	791	450	363	266
12	310	691	461	3700	506	1040	1170	2120	471	450	367	240
13	310	544	471	3660	454	953	957	2490	470	457	370	240
14	350	1340	459	3670	447	961	954	2150	461	429	869	242
15	450	1360	1200	3650	444	947	1350	1500	465	466	1020	250
16	425	1510	512	3590	498	908	1470	1470	537	371	1040	250
17	400	1900	455	3550	839	913	3270	1410	479	363	1040	246
18	390	1870	2540	3540	538	939	3270	1080	470	357	1040	258
19	381	1870	3090	3540	513	947	3310	867	453	378	1010	291
20	381	1850	3050	3530	490	953	3280	828	448	471	560	372
21	375	549	3050	3030	504	949	3160	718	458	489	469	393
22	371	533	3390	3180	511	1030	3220	586	510	478	459	494
23	369	425	3330	3590	514	1220	3360	572	528	368	433	513
24	369	816	3180	3560	669	1260	3150	585	585	363	365	535
25	365	1630	2710	3500	860	1440	3070	631	593	363	322	371
26	363	1890	2620	3520	622	1540	2630	613	496	357	254	360
27	363	2180	2530	3220	903	1220	1760	538	517	352	245	513
28	358	2790	2440	2300	853	1210	1300	459	745	350	245	1280
29	357	2730	1930	1370	---	1260	1120	453	1160	344	240	1570
30	357	2810	1020	1170	---	1350	959	456	1180	339	240	2120
31	357	---	573	1140	---	1150	---	454	---	339	240	---
MEAN	372	1120	1647	2812	637	1467	1916	1261	637	525	477	463
MAX	450	2810	3390	3750	1190	3130	3360	2730	1180	1180	1040	2120
MIN	310	378	393	472	444	658	954	453	448	339	240	240
IN.	.44	1.27	1.92	3.29	.67	1.71	2.17	1.47	.72	.61	.56	.52

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

MEAN	470	681	1009	1155	1211	1492	1694	1460	1095	558	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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	819		1116		976	
HIGHEST ANNUAL MEAN					2219	1985
LOWEST ANNUAL MEAN					431	1954
HIGHEST DAILY MEAN	4900	Apr 20	3750	Jan 9	52900	Mar 11 1935
LOWEST DAILY MEAN	305	Sep 19	240	Aug 29-Sep 1, 7, 12-13	62	Sep 23 1966
INSTANTANEOUS PEAK FLOW	--		7860	Jan 4	78400	May 14 1933
INSTANTANEOUS PEAK STAGE	--		11.57	Jan 4	20.01	May 14 1933
INSTANTANEOUS LOW FLOW	--		240	Aug 29-Sep 2, 7, 11-14	62	Sep 22-23 1966
ANNUAL SEVEN-DAY MINIMUM	311	Sep 13	242	Aug 27	83	Sep 20 1966
ANNUAL RUNOFF (INCHES)	11.30		15.35		13.44	
10 PERCENT EXCEEDS	1950		3060		2400	
50 PERCENT EXCEEDS	504		613		514	
90 PERCENT EXCEEDS	351		348		245	

WHITE RIVER BASIN

07063000 BLACK RIVER AT POPLAR BLUFF, MO

LOCATION.--Lat 36°45'34", long 90°23'17", in SW ¼ NW ¼ 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 mi^2.

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.--Estimated daily discharges: Apr. 27 to May 2 and June 15-21. Records good except for estimated daily discharges, which are poor. 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 ft^3/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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	641	469	3110	1320	1740	1520	1740	1700	782	1380	406	535
2	549	528	3320	1200	1780	2120	1700	2000	899	1380	404	562
3	513	480	3160	1160	1620	3020	1740	2760	1270	1380	390	615
4	500	527	2370	3100	1340	3090	1700	5070	1440	1260	393	617
5	489	587	1460	7980	1220	3480	1710	3000	1240	1060	390	533
6	501	638	1200	7160	1180	3490	1710	2380	870	1030	400	502
7	585	591	1130	3890	1150	3540	1740	3130	858	1010	429	492
8	603	563	1080	3870	1120	3460	1860	3170	1010	1000	684	542
9	567	579	1040	4100	1100	3170	1980	3070	1220	988	703	741
10	424	529	977	4440	1070	2780	1820	3020	1530	930	684	789
11	377	567	855	4440	1030	2260	1700	2900	1400	801	483	731
12	363	1410	850	4340	1010	1780	1640	1980	1610	767	450	549
13	353	1830	966	4310	949	1580	1510	2530	905	778	498	500
14	361	1390	977	4230	829	1470	1410	2750	831	802	639	529
15	542	1730	1500	4180	802	1420	2160	2410	750	785	1100	654
16	763	1760	3580	4140	827	1460	2930	2020	700	830	1240	611
17	556	1900	2340	4060	923	1500	2810	1930	680	699	1290	604
18	462	2120	1720	4000	1190	1400	3550	1840	660	660	1300	614
19	434	2130	2900	3960	1000	1400	3620	1610	660	643	1330	657
20	429	2210	3370	4070	953	1390	3890	1440	655	677	1250	697
21	429	3100	3400	4750	1150	1390	3340	1360	651	828	959	696
22	423	2770	3430	4170	1660	1380	3470	1240	651	862	869	720
23	418	2760	3630	4000	1380	1500	3560	1120	801	846	844	824
24	420	1700	3620	4280	1270	1560	3610	1100	848	647	785	893
25	420	1780	3400	4250	1440	1590	3450	1110	968	555	616	1360
26	419	2190	3110	4130	1460	1770	3360	1100	983	529	520	1320
27	428	2320	2970	4060	1360	1750	2800	1060	815	516	476	738
28	471	2600	2880	3660	1520	1580	2200	989	824	469	430	841
29	486	3000	2830	2690	---	1540	1770	854	1020	438	405	1370
30	478	3020	2340	2010	---	1630	1700	822	1320	411	394	1660
31	445	---	1600	1810	---	1770	---	817	---	402	406	---
MEAN	479	1593	2294	3863	1217	2025	2406	2009	962	818	683	750
MAX	763	3100	3630	7980	1780	3540	3890	5070	1610	1380	1330	1660
MIN	353	469	850	1160	802	1380	1410	817	651	402	390	492
IN.	.44	1.43	2.12	3.58	1.02	1.88	2.16	1.86	.86	.76	.63	.67

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

MEAN	630	967	1407	1650	1690	2060	2268	1977	1297	790	641	604
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1152		1596		1330	
HIGHEST ANNUAL MEAN					2858	1985
LOWEST ANNUAL MEAN					564	1954
HIGHEST DAILY MEAN	6490	Apr 21	7980	Jan 5	43400	Jun 10 1945
LOWEST DAILY MEAN	327	Sep 16	353	Oct 13	186	Sep 25 1966
INSTANTANEOUS PEAK FLOW	--		8980	Jan 5	65600	Dec 4 1982
INSTANTANEOUS PEAK STAGE	--		17.55	Jan 5	21.68	Dec 4 1982
INSTANTANEOUS LOW FLOW	--		345	Oct 14	180	Sep 25-26 1966
ANNUAL SEVEN-DAY MINIMUM	396	Sep 3	398	Jul 31	243	Aug 9 1944
ANNUAL RUNOFF (INCHES)	12.60		17.41		14.51	
10 PERCENT EXCEEDS	2440		3470		3210	
50 PERCENT EXCEEDS	910		1240		781	
90 PERCENT EXCEEDS	440		479		369	

WHITE RIVER BASIN

07065495 JACKS FORK AT ALLEY SPRING, MO

LOCATION.--Lat 37°08'53", long 91°26'35", in SW ¼ SW ¼ SE ¼ sec. 25, T.29 N., R.5 W., Shannon County, Hydrologic Unit 11010008, on downstream end of pier on foot bridge, just downstream of Highway 106 bridge, 0.5 mi upstream from Alley Spring Branch, and 5.5 mi west of Eminence.

DRAINAGE AREA.--298 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1993 to current year.

GAGE.--Water stage recorder. Datum of gage is 652.74 ft above sea level.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,900 ft^3/s, Sept. 25, gage-height, 21.30 ft; minimum discharge, 61 ft^3/s, Aug. 23, 24, 31, and Sept. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	1100	251	123	103	69	64
2	---	---	---	---	---	---	719	255	126	99	69	69
3	---	---	---	---	---	---	516	267	127	95	68	128
4	---	---	---	---	---	---	420	379	143	94	65	248
5	---	---	---	---	---	---	492	418	233	91	66	148
6	---	---	---	---	---	---	775	335	200	89	71	117
7	---	---	---	---	---	---	680	286	166	88	72	101
8	---	---	---	---	---	---	571	257	150	90	69	98
9	---	---	---	---	---	---	513	232	144	88	64	102
10	---	---	---	---	---	---	437	223	145	83	84	116
11	---	---	---	---	---	---	375	401	157	81	87	105
12	---	---	---	---	---	---	316	443	150	79	155	95
13	---	---	---	---	---	---	281	345	140	83	135	89
14	---	---	---	---	---	---	425	286	133	136	107	89
15	---	---	---	---	---	---	1750	244	125	144	94	1250
16	---	---	---	---	---	---	1460	222	117	125	86	408
17	---	---	---	---	---	---	992	202	113	107	80	212
18	---	---	---	---	---	---	740	200	109	97	76	156
19	---	---	---	---	---	---	617	200	105	90	73	132
20	---	---	---	---	---	---	519	185	105	89	69	135
21	---	---	---	---	---	---	409	171	110	206	66	194
22	---	---	---	---	---	---	335	162	116	186	64	166
23	---	---	---	---	---	---	305	155	111	140	62	137
24	---	---	---	---	---	---	291	160	108	129	70	518
25	---	---	---	---	---	376	271	156	120	106	76	16900
26	---	---	---	---	---	329	263	145	139	95	87	4430
27	---	---	---	---	---	290	236	137	139	89	76	1700
28	---	---	---	---	---	262	218	132	124	83	69	1040
29	---	---	---	---	---	242	212	130	116	78	65	722
30	---	---	---	---	---	230	227	130	108	73	63	539
31	---	---	---	---	---	1340	---	126	---	71	62	---
MEAN	---	---	---	---	---	---	549	233	133	103	78.0	1007
MAX	---	---	---	---	---	---	1750	443	233	206	155	16900
MIN	---	---	---	---	---	---	212	126	105	71	62	64

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

MEAN	---	---	---	---	---	---	549	233	133	103	78.0	1007
MAX	---	---	---	---	---	---	549	233	133	103	78.0	1007
(WY)	---	---	---	---	---	---	1993	1993	1993	1993	1993	1993
MIN	---	---	---	---	---	---	549	233	133	103	78.0	1007
(WY)	---	---	---	---	---	---	1993	1993	1993	1993	1993	1993

07065495 JACKS FORK AT ALLEY SPRING, MO--Continued
(National water-quality assessment station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)
APR											
20...	1430	539	13.0	260	7.3	10.1	95	<2	50	144	0
MAY											
11...	1500	524	19.0	299	8.0	9.3	99	20	24	200	0
JUN											
02...	1600	136	21.0	323	8.2	8.3	93	K8	K6	215	0
JUL											
21...	1100	91	25.0	333	8.0	7.6	91	26	58	225	0
AUG											
18...	1100	79	25.5	326	8.0	7.4	90	22	68	225	0
SEP											
25...	1500	11100	17.5	137	7.3	11.7	123	5200	5500	75	0

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

DATE	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	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, DIS-SOLVED (MG/L AS P) (00671)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
APR											
20...	118	0.130	<0.010	0.010	<0.20	<0.20	0.040	0.010	<0.010	130	26
MAY											
11...	164	0.140	<0.010	0.020	<0.20	<0.20	<0.010	<0.010	<0.010	160	34
JUN											
02...	176	0.160	<0.010	0.020	<0.20	<0.20	<0.010	<0.010	<0.010	170	35
JUL											
21...	184	0.110	<0.010	0.050	<0.20	<0.20	<0.010	0.010	<0.010	190	38
AUG											
18...	184	0.110	<0.010	0.030	<0.20	<0.20	<0.010	<0.010	<0.010	170	35
SEP											
25...	61	0.230	<0.010	0.020	0.90	0.30	0.190	0.020	0.030	62	14

WHITE RIVER BASIN

07065495 JACKS FORK AT ALLEY SPRING, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SEDIMENT, SUSPENDED (MG/L) (80154)	SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
APR										
20...	15	1.1	1.0	3.4	2.0	<0.10	5.8	135	23	61
MAY										
11...	19	1.3	1.2	2.8	1.7	<0.10	7.1	171	29	98
JUN										
02...	20	1.4	1.1	2.3	2.0	<0.10	7.4	176	9	0
JUL										
21...	22	1.3	1.2	2.5	1.6	<0.10	10	181	11	--
AUG										
18...	21	1.3	1.1	2.4	1.9	<0.10	10	173	15	--
SEP										
25...	6.5	0.60	2.1	3.1	0.90	<0.10	6.4	73	154	81

DATE	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)	LITHIUM DISSOLVED (UG/L AS LI) (01130)
APR										
20...	<1	23	<0.5	<1.0	<5	<3	<10	11	<10	<4
MAY										
11...	--	--	--	--	--	--	--	4	--	--
JUN										
02...	<1	32	<0.5	<1.0	<5	<3	<10	<3	<10	<4
JUL										
21...	--	--	--	--	--	--	--	<3	--	--
AUG										
18...	<1	33	<0.5	<1.0	<5	<3	<10	<3	<10	<4
SEP										
25...	<1	19	<0.5	<1.0	<5	<3	<10	79	<10	<4

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DISSOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C) (00689)
APR										
20...	2	<10	<10	<1	<1.0	21	<6	<3	1.0	0.6
MAY										
11...	3	--	--	--	--	--	--	--	0.9	0.1
JUN										
02...	3	<10	<10	<1	<1.0	29	<6	5	0.7	0.1
JUL										
21...	3	--	--	--	--	--	--	--	0.8	0.1
AUG										
18...	2	<10	<10	<1	<1.0	30	<6	<3	0.7	0.1
SEP										
25...	6	<10	<10	<1	<1.0	14	<6	8	7.2	>5.0

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 mi^2.

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: Sept. 20-26. 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.--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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	213	219	416	403	470	523	1370	517	311	264	225	199
2	208	233	392	420	451	1050	923	520	312	254	222	201
3	210	242	367	425	432	2580	750	576	315	248	217	354
4	207	254	345	8000	414	2280	667	663	358	245	210	476
5	201	242	326	9160	401	1670	700	706	432	239	213	361
6	195	224	313	2480	389	1280	920	634	450	232	220	292
7	190	210	301	1710	380	1040	906	584	386	234	216	255
8	188	200	293	1330	373	869	828	550	354	234	211	245
9	187	194	291	1110	365	756	780	519	339	228	205	248
10	183	196	295	991	352	685	725	509	346	224	229	264
11	182	352	300	894	365	622	670	632	367	218	254	247
12	180	3070	298	821	403	576	616	718	351	214	422	223
13	178	2390	286	784	412	545	578	639	327	220	424	209
14	176	1030	279	745	397	523	688	580	311	456	326	279
15	177	750	2730	702	394	500	2180	531	297	370	286	1250
16	177	609	9020	671	403	521	2130	500	284	328	261	614
17	174	531	2240	636	378	562	1400	464	273	285	245	420
18	172	475	1350	593	353	567	1070	456	268	260	239	339
19	169	429	1030	554	345	564	921	456	265	243	230	295
20	170	422	830	591	351	869	819	435	284	239	221	350
21	172	1380	703	1010	406	923	711	411	302	477	215	385
22	164	2300	630	1070	572	786	635	394	295	691	211	330
23	160	2370	573	875	673	757	602	375	282	454	207	300
24	161	1140	519	780	611	726	586	377	273	456	219	954
25	160	847	483	691	603	676	563	373	304	354	219	18300
26	160	697	458	633	577	631	544	354	336	308	236	9620
27	160	588	433	605	519	597	514	338	334	282	220	2570
28	160	523	416	580	495	569	492	327	309	262	210	1600
29	163	481	407	544	---	546	484	323	305	247	202	1110
30	163	445	398	502	---	528	492	330	279	237	199	873
31	163	---	399	479	---	1460	---	315	---	228	197	---
MEAN	178	768	875	1316	439	864	842	487	322	298	239	1439
MAX	213	3070	9020	9160	673	2580	2180	718	450	691	424	18300
MIN	160	194	279	403	345	500	484	315	265	214	197	199
IN.	.52	2.15	2.53	3.81	1.15	2.50	2.36	1.41	.90	.86	.69	4.03

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

MEAN	222	395	457	477	550	702	838	726	467	257	206	206
MAX	1092	1786	2462	2065	1906	1944	2920	2168	2745	1682	984	1439
(WY)	1985	1974	1983	1949	1985	1945	1927	1950	1928	1951	1927	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	451		672		457	
HIGHEST ANNUAL MEAN					1072	1985
LOWEST ANNUAL MEAN					154	1954
HIGHEST DAILY MEAN	9020	Dec 16	18300	Sep 25	24100	Feb 23 1985
LOWEST DAILY MEAN	155	Sep 17	160	Oct 23, 25-28	67	Sep 16 1956
INSTANTANEOUS PEAK FLOW	--		44100	Sep 25	55800	Nov 19 1985
INSTANTANEOUS PEAK STAGE	--		16.32	Sep 25	17.58	Nov 19 1985
INSTANTANEOUS LOW FLOW	--		158	Oct 26, 27	64	Aug 28 1936
ANNUAL SEVEN-DAY MINIMUM	159	Sep 13	161	Oct 23	70	Sep 16 1956
ANNUAL RUNOFF (INCHES)	15.42		22.93		15.60	
10 PERCENT EXCEEDS	626		1030		885	
50 PERCENT EXCEEDS	305		403		241	
90 PERCENT EXCEEDS	177		206		123	

WHITE RIVER BASIN

07066110 JACKS FORK ABOVE TWO RIVERS
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

LOCATION.--Lat 37°10'53", long 91°17'36", in sec.20, T.29 N., R.3 W., Shannon County, Hydrologic Unit 11010008, at Shawnee Campground 4.5 mi downstream from the Eminence sewage disposal pond.

DRAINAGE AREA.--425 mi^2.

PERIOD OF RECORD.--April 1973 to current year.

REMARKS.--Ozark National Scenic Riverways station since April 1973 and ambient water-quality monitoring network station since November 1993.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPERATURE WATER (DEG C) (00010)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L) (00340)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
12...	1100	2200	12.0	204	7.5	9.9	91	<10	5200	K10600	108
DEC											
08...	1030	344	6.0	264	8.0	12.7	100	--	33	30	147
JAN											
22...	1030	1200	6.0	294	8.0	12.3	97	<10	50	69	B177
FEB											
24...	1315	726	5.0	293	7.8	13.6	104	<10	2	350	B127
MAR											
18...	1030	656	6.0	265	7.9	13.2	103	<10	K5	27	B183
APR											
07...	1000	1100	13.0	356	8.0	--	--	<10	52	K9	200
14...	0745	702	14.0	346	7.9	8.8	85	--	200	K26	229
MAY											
17...	1015	500	15.5	289	7.5	9.1	90	<10	39	22	B179
JUN											
03...	1230	366	17.0	311	7.6	9.2	94	<10	30	28	168
JUL											
09...	0940	274	22.0	320	8.0	8.9	100	76	35	130	B171
AUG											
10...	1150	--	20.0	336	8.1	7.8	85	12	K2300	K1600	197
SEP											
22...	1000	418	18.5	343	7.7	9.0	94	<10	K65	72	172

K--Results based on colony count outside the acceptable range (non-ideal colony count).
B--Based on the action/anion balance, this value is considered suspect.

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	PHOSPHORUS ORTHO TOTAL (MG/L AS P) (70507)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)
NOV										
12...	0.200	0.020	0.030	0.70	0.130	0.080	110	24	13	0.80
DEC										
08...	0.510	0.040	0.020	<0.20	0.010	--	150	29	18	1.3
JAN										
22...	0.290	<0.010	0.020	0.23	0.020	0.010	160	32	19	1.2
FEB										
24...	0.290	<0.010	0.010	<0.20	<0.020	<0.010	160	31	19	1.4
MAR										
18...	0.260	<0.010	0.010	<0.20	<0.020	<0.010	140	28	17	1.2
APR										
07...	0.130	<0.010	0.010	<0.20	0.050	<0.010	--	--	--	--
14...	--	--	--	<0.20	0.020	--	--	--	--	--
MAY										
17...	0.240	<0.010	<0.010	<0.20	<0.020	0.010	150	32	18	1.6
JUN										
03...	0.330	<0.010	0.010	<0.20	0.030	<0.010	--	--	--	--
JUL										
09...	0.340	<0.010	0.020	0.25	<0.020	0.010	180	36	21	1.5
AUG										
10...	0.320	<0.010	0.030	0.27	0.030	0.020	--	--	--	--

WHITE RIVER BASIN

07066110 JACKS FORK ABOVE TWO RIVERS--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	COPPER, DISSOLVED (UG/L AS CU) (01040)
NOV											
12...	2.6	4.0	1.7	<0.10	124	15	--	--	<1	<1.0	2
DEC											
08...	1.1	3.6	2.2	<0.10	143	--	--	--	<1	<1.0	2
JAN											
22...	1.0	4.4	2.4	<0.10	154	10	130	10	<1	<1.0	<1
FEB											
24...	0.90	4.2	2.5	<0.10	155	<1	40	10	<1	<1.0	<1
MAR											
18...	0.90	3.6	1.9	<0.10	154	<1	80	<10	<1	<1.0	<1
APR											
07...	--	--	--	--	218	9	30	<10	--	--	--
MAY											
17...	1.0	3.0	2.2	<0.10	160	7	40	30	<1	<1.0	1
JUN											
03...	--	--	--	--	146	3	50	20	--	--	--
JUL											
09...	1.0	2.8	2.4	<0.10	178	6	70	60	<1	<1.0	<1
AUG											
10...	--	--	--	--	198	12	170	<10	--	--	--
SEP											
22...	--	--	--	--	170	<1	70	10	--	--	--

DATE	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	SIMAZINE, WATER, DISS, REC (UG/L) (04035)	PROMETRYN, WATER, DISS, REC (UG/L) (04036)
NOV										
12...	110	2	<1	80	6	--	<10	--	<0.05	<0.05
DEC										
08...	6	<1	<1	20	3	0.20	30	<3	<0.05	<0.05
JAN										
22...	10	2	<1	<10	2	0.30	<10	5	<0.05	<0.05
FEB										
24...	4	<1	1	<10	2	0.10	<10	<3	--	--
MAR										
18...	<3	1	<1	20	2	<0.10	<10	3	--	--
MAY										
17...	5	<1	<1	<10	5	<0.10	<10	--	<0.05	<0.05
JUL										
09...	32	<1	<1	10	11	0.10	<10	<3	<0.05	<0.05

DATE	PROMETON, WATER, DISS, REC (UG/L) (04037)	DEISOPROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L) (04040)	CYANAZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROPAZINE WATER DISS REC (UG/L) (38535)	METOLACHLOR WATER DISSOLV (UG/L) (39415)	ATRAZINE, WATER, DISS, REC (UG/L) (39632)	ALACHLOR, WATER, DISS, REC, (UG/L) (46342)	METRIBUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV										
12...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DEC										
08...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN										
22...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAY										
17...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JUL										
09...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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 mi^2.

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1130	1100	2120	2100	2420	2370	4170	2350	1930	2190	1490	1240
2	1110	1260	1970	2070	2360	3560	3480	2360	1910	2050	1490	1280
3	1100	1270	1900	2090	2290	6700	3120	2680	1940	1930	1480	1590
4	1090	1310	1810	13900	2220	7960	2890	3710	2090	1810	1480	1800
5	1070	1270	1730	31300	2160	6590	2920	3780	2090	1740	1480	1740
6	1060	1210	1660	14000	2100	5410	3180	3520	2100	1680	1540	1550
7	1050	1160	1610	7590	2060	4670	3450	3240	2010	1670	1530	1430
8	1040	1130	1560	6070	2030	4180	3420	3050	1920	1650	1510	1400
9	1040	1120	1550	5230	1990	3790	3320	2900	1880	1590	1480	1470
10	1030	1150	1580	4770	1960	3470	3190	2770	1900	1550	1450	1440
11	1020	1550	1540	4310	1950	3200	3030	3080	1930	1520	1500	1410
12	1010	8410	1510	3990	2020	2970	2870	3230	1900	1540	1610	1360
13	1010	11300	1470	3750	2020	2790	2720	3170	1870	1560	2820	1340
14	1020	7730	1450	3530	1970	2660	3060	2960	1790	1890	2240	1370
15	1020	6000	6390	3350	1980	2560	10900	2770	1740	2050	1910	2020
16	1040	2930	20100	3210	2010	2620	10600	2620	1700	1910	1730	2750
17	1020	2630	13300	3070	1930	2640	7250	2510	1660	1770	1610	2140
18	1010	2340	6610	2930	1850	2610	5700	2450	1630	1650	1520	1830
19	1010	2110	5200	2760	1820	2610	4940	2420	1620	1580	1510	1670
20	1010	2030	4340	2870	1820	2780	4450	2360	1690	1540	1540	1660
21	1020	2850	3720	4050	1940	3390	3970	2270	1920	1560	1440	1860
22	1020	5610	3320	4570	2380	3340	3560	2190	2150	2140	1390	1930
23	1010	7970	3030	4150	2690	3400	3290	2130	1910	2160	1360	1790
24	1000	5640	2770	3860	2650	3390	3120	2150	1800	1930	1360	2080
25	1000	4280	2570	3460	2640	3270	2970	2160	1810	1830	1390	11900
26	1010	3520	2420	3200	2610	3120	2790	2050	1940	1710	1350	35600
27	1010	3050	2300	3040	2410	2980	2610	1980	2040	1640	1320	11900
28	1000	2710	2200	2930	2320	2840	2460	1940	1950	1590	1300	6750
29	1010	2460	2150	2790	---	2730	2380	1910	2020	1550	1270	5170
30	1050	2280	2100	2610	---	2640	2390	1990	2380	1520	1270	4340
31	1050	---	2050	2490	---	2890	---	2020	---	1500	1260	---
MEAN	1035	3313	3485	5163	2164	3553	3940	2604	1907	1742	1536	3860
MAX	1130	11300	20100	31300	2690	7960	10900	3780	2380	2190	2820	35600
MIN	1000	1100	1450	2070	1820	2370	2380	1910	1620	1500	1260	1240
IN.	.72	2.22	2.41	3.57	1.35	2.46	2.64	1.80	1.28	1.21	1.06	2.58

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

MEAN	1072	1655	1924	2014	2218	2780	3397	3023	2116	1312	1089	1026
MAX	4087	6473	10740	7357	6764	7148	11730	8256	9761	6465	3581	3860
(WY)	1985	1986	1983	1950	1985	1945	1927	1957	1928	1951	1927	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	2140		2860		1965	
HIGHEST ANNUAL MEAN					4811	1985
LOWEST ANNUAL MEAN					799	1954
HIGHEST DAILY MEAN	26000	Apr 20	35600	Sep 26	63000	Mar 12 1935
LOWEST DAILY MEAN	1000	Oct 24-25, 28	1000	Oct 24-25, 28	476	Oct 8 1956
INSTANTANEOUS PEAK FLOW	--		43700	Sep 26	125000	Aug 21 1915
INSTANTANEOUS PEAK STAGE	--		18.64	Sep 26	25.9	Aug 21 1915
INSTANTANEOUS LOW FLOW	--		995	Oct 18-19, 23-29	473	Oct 7 1956
ANNUAL SEVEN-DAY MINIMUM	1010	Oct 23	1010	Oct 23	479	Oct 6 1956
ANNUAL RUNOFF (INCHES)	17.47		23.29		16.02	
10 PERCENT EXCEEDS	3160		4380		3720	
50 PERCENT EXCEEDS	1550		2080		1230	
90 PERCENT EXCEEDS	1060		1190		691	

WHITE RIVER BASIN

07067500 BIG SPRING NEAR VAN BUREN, MO

LOCATION.--Lat 36°57'05", long 90°59'36", in SW ¼ NE ¼ 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.--All daily discharges considered estimates, except days when USGS personnel visited gage (Nov. 16, Jan. 20, Mar. 8, Apr. 13, 28, June 8, Aug. 9, 11, and Sept. 22). Records poor. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	344	330	490	540	580	510	530	500	450	440	426	388
2	344	335	480	540	570	560	530	500	450	440	426	386
3	344	340	470	600	560	650	530	500	450	440	426	384
4	344	340	460	800	550	700	530	500	460	440	426	382
5	341	340	450	950	540	700	530	530	470	440	426	382
6	341	335	445	930	535	680	530	530	460	440	426	380
7	341	335	440	910	530	670	530	520	450	440	426	380
8	338	335	435	890	525	650	530	515	450	440	426	378
9	338	330	430	870	520	640	525	510	450	440	426	375
10	338	330	425	850	515	630	525	505	450	440	426	372
11	336	340	420	830	515	620	525	500	450	435	424	369
12	336	450	420	810	510	610	525	495	450	435	424	366
13	334	500	415	790	510	600	525	490	450	435	422	366
14	334	500	415	770	510	590	525	485	450	435	422	364
15	332	490	600	750	510	580	550	480	450	435	420	362
16	332	475	680	730	505	570	600	475	450	435	420	362
17	330	460	700	710	505	560	590	475	450	435	418	360
18	330	445	700	690	505	550	580	470	450	435	416	360
19	330	430	690	680	505	540	570	470	450	435	414	358
20	330	420	670	670	505	540	560	465	450	435	412	358
21	330	420	650	690	505	540	550	465	445	430	410	357
22	330	500	630	680	500	550	540	460	445	430	408	357
23	330	550	620	670	500	560	530	460	445	430	406	355
24	330	560	610	660	500	560	520	460	445	430	404	372
25	330	550	600	650	500	550	515	460	445	430	402	500
26	330	540	590	640	510	545	510	455	445	430	400	800
27	330	530	580	630	520	540	505	455	445	430	398	850
28	330	520	570	620	510	540	505	455	445	430	396	825
29	330	510	560	610	---	535	500	455	445	430	394	800
30	330	500	550	600	---	535	500	455	445	430	392	780
31	330	---	540	590	---	530	---	455	---	430	390	---
MEAN	334	435	540	721	520	585	534	482	450	435	415	448
MAX	344	560	700	950	580	700	600	530	470	440	426	850
MIN	330	330	415	540	500	510	500	455	445	430	390	355
IN.	3.86	4.85	6.23	8.31	5.41	6.75	5.96	5.56	5.02	5.01	4.78	5.00

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

MEAN	343	384	413	441	463	521	577	559	483	412	375	349
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	438		491		443	
HIGHEST ANNUAL MEAN					648	1950
LOWEST ANNUAL MEAN					289	1936
HIGHEST DAILY MEAN	800**	Apr 22	950	Jan 5	2000	Dec 3 1982
LOWEST DAILY MEAN	326	Sep 28	330	Oct 17-Nov 1, Nov 9-10	236	Oct 6 1956
ANNUAL SEVEN-DAY MINIMUM	330	Oct 17	330	Oct 17	238	Oct 1 1956
10 PERCENT EXCEEDS	543		650		690	
50 PERCENT EXCEEDS	428		460		391	
90 PERCENT EXCEEDS	340		341		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 mi^2.

WATER-DISCHARGE RECORDS

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.--Estimated daily discharges: Nov. 1 and 2. Records good. 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 ft^3/s, from rating curve extended above 60,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1450	1350	2510	2530	3280	3040	4810	3340	2380	2640	1750	1530
2	1420	1420	2350	2530	3180	3970	4780	3430	2350	2460	1730	1540
3	1400	1530	2220	2530	3070	6840	4240	4440	2340	2370	1700	1780
4	1380	1510	2100	8280	2960	9320	3910	5150	2380	2260	1680	2020
5	1360	1520	1990	29200	2860	8670	3740	5160	2610	2180	1670	2100
6	1340	1460	1900	38600	2760	7220	3830	4840	2490	2120	1700	1990
7	1320	1400	1830	13500	2680	6200	4130	4440	2460	2090	1710	1830
8	1310	1360	1770	8810	2620	5560	4240	4140	2390	2080	1660	1740
9	1300	1340	1740	7430	2560	5050	4150	3890	2360	2050	1620	1740
10	1290	1360	1730	6650	2500	4620	4010	3710	2370	2010	1610	1760
11	1280	1450	1710	6040	2500	4270	3840	3790	2370	1980	1670	1720
12	1270	4050	1670	5570	2480	3970	3660	3990	2380	1960	1840	1670
13	1260	11000	1630	5180	2470	3710	3480	4030	2320	2070	2310	1650
14	1260	8910	1600	4860	2440	3520	3420	3840	2250	2260	2880	1670
15	1260	5080	2910	4610	2470	3370	7000	3590	2190	2450	2350	1840
16	1300	3970	13900	4400	2480	3400	13500	3410	2140	2370	2160	2700
17	1280	3310	24300	4220	2380	3430	10300	3260	2130	2250	2030	2640
18	1260	2890	11600	4040	2280	3390	7610	3140	2180	2130	1940	2280
19	1250	2570	7240	3830	2200	3370	6490	3050	2140	2050	1850	2090
20	1250	2830	5930	3800	2170	3400	5960	2970	2150	2000	1880	2030
21	1250	2760	5020	4900	2280	3800	5370	2860	2210	2000	1830	2030
22	1250	5380	4420	5770	2870	4140	4890	2740	2490	2070	1740	2180
23	1240	7070	4000	5680	3300	4110	4530	2640	2410	2540	1820	2170
24	1240	7450	3660	5200	3470	4150	4300	2640	2300	2330	1850	2210
25	1240	5200	3380	4780	3470	4070	4140	2610	2270	2220	1740	5500
26	1240	4310	3160	4430	3380	3950	3930	2540	2280	2110	1700	19000
27	1240	3740	2970	4170	3220	3770	3720	2440	2390	2020	1650	40000
28	1240	3310	2810	3990	3050	3620	3530	2400	2390	1970	1610	11700
29	1250	2990	2720	3810	---	3480	3430	2360	2340	1900	1570	7320
30	1270	2720	2630	3610	---	3410	3390	2360	2540	1830	1560	5970
31	1290	---	2560	3410	---	3780	---	2410	---	1790	1590	---
MEAN	1290	3508	4192	6979	2764	4471	4944	3407	2333	2147	1819	4547
MAX	1450	11000	24300	38600	3470	9320	13500	5160	2610	2640	2880	40000
MIN	1240	1340	1600	2530	2170	3040	3390	2360	2130	1790	1560	1530
IN.	.73	1.92	2.37	3.95	1.41	2.53	2.71	1.93	1.28	1.21	1.03	2.49

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

MEAN	1621	2313	2719	2893	3086	3810	4605	4102	2976	1968	1677	1578
MAX	4596	7343	16210	9054	7971	9260	16140	10430	12610	7676	5001	4547
(WY)	1985	1986	1983	1949	1985	1935	1927	1957	1928	1951	1927	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	2680		3537		2775	
HIGHEST ANNUAL MEAN					5856	1985
LOWEST ANNUAL MEAN					1326	1954
HIGHEST DAILY MEAN	39100	Apr 21	40000	Sep 27	90000	Mar 12 1935
LOWEST DAILY MEAN	1240	Sep 18-19, Oct 23-28	1240	Oct 23-28	852	Oct 8-19 1956
INSTANTANEOUS PEAK FLOW	--		47900	Apr 16	122000	Dec 3 1982
INSTANTANEOUS PEAK STAGE	--		16.05	Apr 16	25.49	Dec 3 1982
INSTANTANEOUS LOW FLOW	--		1240	Oct 20, 23-28	852	Oct 8-19 1956
ANNUAL SEVEN-DAY MINIMUM	1240	Oct 22	1240	Oct 22	852	Oct 8 1956
ANNUAL RUNOFF (INCHES)	17.91		23.56		18.50	
10 PERCENT EXCEEDS	3870		5560		4960	
50 PERCENT EXCEEDS	2060		2530		1910	
90 PERCENT EXCEEDS	1310		1440		1170	

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

WHITE RIVER BASIN

07068000 CURRENT RIVER AT DONIPHAN, MO--Continued
(Ambient water-quality monitoring network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1969 to July 1975, October 1979 to September 1980, October 1981 to September 1982, October 1983 to June 1989, November 1992 to current year.

REMARKS.--Ambient water-quality monitoring network station since November 1992.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)
NOV											
12...	0800	2270	12.5	300	8.4	10.2	95	<10	K380	K660	172
DEC											
08...	1300	1760	7.0	267	8.0	12.4	99	<10	K5	K3	145
JAN											
22...	0800	5850	7.0	228	7.9	10.6	85	13	56	K1300	126
FEB											
24...	1030	3730	6.0	286	8.0	12.0	93	<10	K10	K500	B87
MAR											
17...	1630	3420	9.5	248	7.9	14.2	119	<10	K0	K1300	B159
APR											
07...	0725	4220	13.0	236	7.8	--	--	<10	K10	K11	135
MAY											
17...	1300	3250	17.0	270	7.7	8.6	86	<10	K13	350	140
JUN											
03...	1000	2320	18.0	295	7.7	8.8	92	<10	K7	45	161
JUL											
08...	1430	2080	25.0	290	8.3	9.8	115	19	K3	73	161
AUG											
10...	1500	1620	22.0	295	8.3	9.2	102	<10	8	29	178
SEP											
22...	0730	2150	19.5	338	7.8	8.3	88	<10	43	40	171

K--Results based on colony count outside the acceptable range (non-ideal colony count).
B--Based on cation/anion balance, this value is considered suspect.

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	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)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV											
12...	0.240	0.020	0.020	0.30	0.020	0.020	170	34	20	1.6	0.90
DEC											
08...	0.450	0.030	<0.010	<0.20	<0.010	<0.010	140	30	17	1.4	0.80
JAN											
22...	0.350	<0.010	0.020	0.20	0.040	0.020	120	24	14	1.4	1.0
FEB											
24...	0.230	<0.010	<0.010	<0.20	<0.020	<0.010	160	32	19	1.6	0.80
MAR											
17...	0.260	<0.010	<0.010	<0.20	<0.020	<0.010	130	26	15	1.3	0.80
APR											
07...	0.240	<0.010	0.020	<0.20	0.020	<0.010	--	--	--	--	--
MAY											
17...	0.200	<0.010	<0.010	<0.20	<0.020	0.010	140	29	17	1.4	0.80
JUN											
03...	0.240	<0.010	0.010	<0.20	<0.020	<0.010	--	--	--	--	--
JUL											
08...	0.200	<0.010	0.020	0.25	<0.020	0.010	160	34	18	2.2	1.0
AUG											
10...	0.170	<0.010	0.020	0.25	0.020	0.010	--	--	--	--	--
SEP											
22...	--	--	--	<0.20	<0.010	--	--	--	--	--	--

WHITE RIVER BASIN

07068000 CURRENT RIVER AT DONIPHAN, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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-PENDED (MG/L) (00530)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	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)
NOV										
12...	3.0	2.3	<0.10	168	1	--	--	<1	<1.0	12
DEC										
08...	3.7	2.1	<0.10	153	3	--	--	<1	<1.0	<1
JAN										
22...	4.5	2.1	<0.10	119	<1	190	40	<1	<1.0	<1
FEB										
24...	4.2	2.4	<0.10	172	<1	50	<10	<1	<1.0	1
MAR										
17...	3.8	1.8	<0.10	136	2	140	<10	<1	<1.0	<1
APR										
07...	--	--	--	161	18	80	<10	--	--	--
MAY										
17...	3.8	1.9	<0.10	138	7	90	30	<1	<1.0	4
JUN										
03...	--	--	--	158	<1	70	20	--	--	--
JUL										
08...	3.2	2.4	<0.10	171	11	100	<10	<1	<1.0	<1
AUG										
10...	--	--	--	177	7	80	<10	--	--	--
SEP										
22...	--	--	--	172	<1	60	<10	--	--	--

DATE	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)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)
NOV										
12...	16	19	4	40	6	--	<10	--	<0.05	<0.05
DEC										
08...	4	<1	<1	30	3	0.20	30	<3	<0.05	<0.05
JAN										
22...	33	3	<1	10	5	0.20	<10	4	<0.05	<0.05
FEB										
24...	<3	<1	<1	<10	3	0.10	<10	4	--	--
MAR										
17...	8	2	<1	30	5	0.10	<10	<3	--	--
MAY										
17...	<3	3	<1	10	5	0.10	<10	--	<0.05	<0.05
JUL										
08...	7	8	<1	30	18	C3.8	<10	4	<0.05	<0.05

DATE	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV										
12...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DEC										
08...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN										
22...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MAY										
17...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JUL										
08...	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

C--This value may be the result of sample contamination; therefore, use value with caution.

WHITE RIVER BASIN

07071000 GREER SPRING AT GREER, MO

LOCATION.--Lat 36°47'11", long 91°20'53", in SE ¼ SW ¼ 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 mi^2 included in records.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	247	233	355	444	453	434	465	459	400	390	336	312
2	247	239	350	442	448	482	462	459	400	386	333	314
3	247	237	342	484	443	550	457	468	404	385	333	324
4	247	236	337	697	438	569	454	476	439	381	332	331
5	244	236	332	749	433	559	453	473	477	377	329	329
6	244	233	325	709	426	537	453	469	477	373	329	324
7	244	230	321	693	415	523	457	467	469	372	329	318
8	244	229	316	675	413	504	458	463	462	368	329	316
9	246	229	313	661	409	488	459	458	454	367	329	312
10	258	230	312	644	404	473	462	454	452	364	329	309
11	251	245	308	631	402	459	459	457	448	363	329	308
12	244	308	304	624	409	450	457	458	443	363	340	305
13	240	348	300	611	407	447	449	457	438	360	355	306
14	237	341	313	592	404	438	451	453	433	359	354	315
15	236	329	449	587	404	429	474	448	428	359	347	320
16	236	317	598	576	401	426	497	443	423	359	345	320
17	233	309	616	559	400	432	499	437	419	358	341	316
18	233	304	626	540	400	429	495	429	418	355	338	313
19	233	297	617	506	400	428	494	428	414	355	336	312
20	232	299	601	518	400	429	497	427	410	354	333	312
21	230	346	587	547	402	436	489	424	409	351	329	312
22	229	397	572	542	420	439	479	423	405	350	328	309
23	229	428	557	530	427	442	473	423	404	350	325	312
24	229	423	533	520	429	442	472	419	400	350	324	356
25	226	413	516	510	429	442	470	414	399	350	321	548
26	229	400	504	500	432	443	477	410	396	346	320	601
27	229	390	489	493	431	442	477	409	395	346	317	606
28	229	381	477	484	424	437	469	409	395	345	316	599
29	229	372	464	477	---	430	464	404	395	342	316	589
30	229	363	458	467	---	435	462	400	391	341	313	582
31	230	---	452	458	---	449	---	400	---	338	312	---
MEAN	237	311	440	564	418	462	469	439	423	360	331	371
MAX	258	428	626	749	453	569	499	476	477	390	355	606
MIN	226	229	300	442	400	426	449	400	391	338	312	305
IN.	2.74	3.48	5.08	6.50	4.35	5.33	5.24	5.07	4.72	4.15	3.81	4.14

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

MEAN	255	280	304	329	345	391	444	443	401	334	294	267
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	319		402		340	
HIGHEST ANNUAL MEAN					566	1928
LOWEST ANNUAL MEAN					174	1956
HIGHEST DAILY MEAN	672	Apr 20	749	Jan 5	1010	Dec 3 1982
LOWEST DAILY MEAN	226	Oct 25	226	Oct 25	104	Nov 16 1956
INSTANTANEOUS PEAK FLOW	--		852	Jan 4	1770	Dec 3 1982
INSTANTANEOUS PEAK STAGE	--		1.80	Jan 4	2.97	Dec 3 1982
INSTANTANEOUS LOW FLOW	--		226	Oct 25	104	Nov 16 1956
ANNUAL SEVEN-DAY MINIMUM	229	Oct 22	229	Oct 22	105	Nov 13 1956
ANNUAL RUNOFF (INCHES)	43.38		54.60		46.24	
10 PERCENT EXCEEDS	400		531		547	
50 PERCENT EXCEEDS	302		405		319	
90 PERCENT EXCEEDS	247		247		168	

WHITE RIVER BASIN

07071500 ELEVEN POINT RIVER NEAR BARDLEY, MO

LOCATION.--Lat 36°38'55", long 91°12'03", in NE ¼ SE ¼ 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 mi^2.

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 ft^3/s, from rating curve extended above 25,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	386	322	641	809	1080	1080	1390	1040	811	749	581	508
2	382	326	620	798	1050	1580	1300	1080	819	732	576	505
3	379	331	595	800	1020	2360	1230	1290	813	722	572	546
4	378	322	579	5450	995	2340	1190	1570	1100	711	567	568
5	371	315	558	12600	972	2060	1190	1450	1570	699	573	540
6	365	308	546	3650	954	1840	1170	1340	1270	691	578	529
7	364	303	538	2550	937	1700	1180	1280	1130	682	569	522
8	363	301	524	2130	920	1600	1200	1300	1050	676	560	530
9	358	302	527	1890	900	1490	1200	1180	1020	667	554	535
10	355	307	524	1780	885	1410	1180	1190	981	660	559	519
11	352	322	511	1670	900	1330	1160	1340	1100	655	572	507
12	347	647	499	1600	948	1260	1130	1280	1040	651	581	503
13	346	895	492	1540	931	1220	1100	1230	966	648	702	507
14	345	712	488	1440	904	1180	1110	1170	934	656	633	514
15	341	625	1780	1390	922	1150	1390	1130	936	645	599	511
16	349	573	5420	1350	910	1180	1560	1100	886	639	583	515
17	340	539	2510	1310	864	1190	1450	1070	855	632	573	513
18	334	515	1830	1250	837	1160	1380	1050	832	633	564	508
19	330	496	1590	1200	829	1170	1350	1020	811	626	556	505
20	332	508	1420	1240	841	1170	1330	995	802	626	551	527
21	329	648	1310	1820	899	1180	1280	970	914	645	545	515
22	324	925	1230	1740	1170	1200	1220	945	870	778	541	506
23	322	1230	1150	1600	1180	1220	1190	932	821	683	537	502
24	322	1020	1070	1510	1130	1210	1170	938	812	641	533	577
25	319	915	1020	1390	1150	1190	1150	908	813	625	527	2380
26	319	837	975	1320	1120	1180	1100	880	803	615	522	6140
27	318	776	928	1280	1060	1160	1050	864	784	606	517	2040
28	313	734	899	1230	1050	1140	1030	853	768	602	513	1510
29	314	698	877	1180	---	1120	1030	841	828	593	512	1300
30	314	668	848	1130	---	1110	1030	837	773	586	514	1190
31	309	---	830	1100	---	1310	---	828	---	582	509	---
MEAN	343	581	1075	1992	977	1371	1215	1094	930	657	560	902
MAX	386	1230	5420	12600	1180	2360	1560	1570	1570	778	702	6140
MIN	309	301	488	798	829	1080	1030	828	768	582	509	502
IN.	.50	.82	1.56	2.90	1.28	1.99	1.71	1.59	1.31	.95	.81	1.27

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

MEAN	417	566	716	802	840	1058	1318	1155	897	611	487	431
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	723		975		774	
HIGHEST ANNUAL MEAN					1782	1985
LOWEST ANNUAL MEAN					310	1981
HIGHEST DAILY MEAN	11300	Apr 20	12600	Jan 5	26800	Apr 14 1927
LOWEST DAILY MEAN	301	Nov 8	301	Nov 8	155	Jan 26 1956
INSTANTANEOUS PEAK FLOW	--		17100	Jan 5	49800	Dec 3 1982
INSTANTANEOUS PEAK STAGE	--		13.90	Jan 5	21.64	Dec 3 1982
INSTANTANEOUS LOW FLOW	--		297	Nov 8, 9	152	Jan 27 1956
ANNUAL SEVEN-DAY MINIMUM	308	Nov 4	308	Nov 4	157	Jan 21 1956
ANNUAL RUNOFF (INCHES)	12.42		16.70		13.26	
10 PERCENT EXCEEDS	932		1440		1420	
50 PERCENT EXCEEDS	619		855		550	
90 PERCENT EXCEEDS	365		365		264	

ARKANSAS RIVER BASIN

07186000 SPRING RIVER NEAR WACO, MO

LOCATION.--Lat 37°14'44", long 94°33'58", on line between SE ¼ sec.7 and NE ¼ 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 mi^2.

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.--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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	421	316	1410	977	886	3840	1510	784	1210	2860	506	233
2	376	505	1290	931	857	4100	1820	751	958	4260	766	224
3	345	435	1180	958	827	3600	1490	907	872	2540	556	305
4	321	673	1100	2970	812	2410	1280	858	907	1360	503	284
5	304	707	1030	3690	962	1700	2480	813	1890	1150	703	259
6	292	592	977	2440	1030	1450	2420	728	1200	1580	2830	240
7	285	444	942	1420	926	1280	1590	663	918	3420	1550	232
8	289	374	893	1260	832	1140	1340	655	899	5640	935	227
9	293	331	2840	1250	774	1050	1200	6440	1920	3170	721	227
10	270	309	7520	1700	737	976	1100	5960	2540	1560	625	224
11	253	2360	4500	1680	1030	910	1010	3460	3340	1320	565	215
12	242	12000	2200	2890	1920	855	921	1890	4510	1200	517	208
13	231	11700	1710	5240	1310	809	868	1660	3250	1050	475	262
14	222	7070	18200	3300	1000	774	971	1340	1640	1690	445	4970
15	215	2250	25500	1690	904	755	3890	1050	1270	2890	412	6850
16	207	1370	23700	1400	906	781	3910	923	1100	1340	385	3430
17	201	1150	20400	1510	877	827	2010	1060	981	984	368	1150
18	196	3950	9890	1430	831	774	1470	18500	3130	859	348	787
19	193	7180	3380	1190	808	1080	1400	16200	5390	1450	330	658
20	189	8970	2400	4650	1060	2260	1230	6930	7260	1550	312	1540
21	187	14500	1990	9280	6660	2000	1070	2820	7720	1320	302	1320
22	185	20000	1760	5680	4970	3530	976	1530	5690	929	291	911
23	182	27700	1580	2790	2640	7150	918	5130	1910	928	280	678
24	178	21200	1420	1750	1450	3990	892	5100	4550	791	268	15100
25	177	13900	1310	1450	1330	1890	3000	2550	11500	677	262	108000
26	175	6610	1240	1280	1490	1400	2290	1360	17300	622	257	98800
27	175	3390	1160	1180	1690	1220	1310	1100	10800	579	253	34700
28	175	2120	1120	1110	2490	1120	983	977	3260	543	247	18500
29	178	1740	1090	1030	---	1040	876	894	3800	533	244	5220
30	186	1550	1070	958	---	1050	825	1160	2170	523	239	2010
31	183	---	1030	911	---	1450	---	1660	---	493	236	---
MEAN	236	5847	4704	2258	1500	1846	1568	3092	3796	1607	540	10260
MAX	421	27700	25500	9280	6660	7150	3910	18500	17300	5640	2830	108000
MIN	175	309	893	911	737	755	825	655	872	493	236	208
IN.	.23	5.61	4.66	2.24	1.34	1.83	1.50	3.06	3.64	1.59	.53	9.84

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

MEAN	652	901	727	705	914	1217	1417	1474	1389	710	457	599
MAX	6997	6726	4704	3222	6372	5809	7542	11640	5521	4323	7812	10260
(WY)	1942	1986	1993	1973	1985	1973	1927	1943	1928	1976	1927	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1695		3093		923	
HIGHEST ANNUAL MEAN					3093	1993
LOWEST ANNUAL MEAN					61.4	1954
HIGHEST DAILY MEAN	27700	Nov 23	108000	Sep 25	108000	Sep 25 1993
LOWEST DAILY MEAN	143	Sep 5	175	Oct 26-28	4.5	Aug 28 1954
INSTANTANEOUS PEAK FLOW	--		151000*	Sep 26	151000*	Sep 26 1993
INSTANTANEOUS PEAK STAGE	--		34.06	Sep 26	34.06	Sep 26 1993
INSTANTANEOUS LOW FLOW	--		172	Oct 27, 28	4.2	Jul 28 1954
ANNUAL SEVEN-DAY MINIMUM	157	Aug 30	177	Oct 23	5.0	Sep 2 1954
ANNUAL RUNOFF (INCHES)	19.82		36.08		10.77	
10 PERCENT EXCEEDS	4070		5800		1810	
50 PERCENT EXCEEDS	385		1150		293	
90 PERCENT EXCEEDS	183		258		64	

*From rating curve extended above 85,000 ft^3/s.

ARKANSAS RIVER BASIN

07186475 CENTER CREEK BELOW CARL JUNCTION, MO

LOCATION.--Lat 37°09'39", long 94°34'51", in NE ¼ SE ¼ SE ¼ sec.12, T.28 N., R.34 W., Jasper County, Hydrologic Unit 11070207, on the downstream end of left bridge pier on State Highway JJ, 2.4 mi upstream from Spring River and 1 mi southwest of Carl Junction.

DRAINAGE AREA.--299 mi^2.

PERIOD OF RECORD.--April 1993 to current year.

GAGE.--Water stage recorder. Datum of gage is 829.52 ft above sea level.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,200 ft^3/s, Sept. 25, gage-height 17.84 ft; minimum discharge, 130 ft^3/s, Sept. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	328	457	1020	252	154
2	---	---	---	---	---	---	---	316	414	802	247	156
3	---	---	---	---	---	---	---	318	393	673	229	192
4	---	---	---	---	---	---	---	308	408	585	221	166
5	---	---	---	---	---	---	---	299	569	537	557	162
6	---	---	---	---	---	---	---	281	414	2010	2240	159
7	---	---	---	---	---	---	---	270	372	3180	626	156
8	---	---	---	---	---	---	---	268	420	6220	454	153
9	---	---	---	---	---	---	---	1320	701	1530	392	151
10	---	---	---	---	---	---	---	1110	1590	950	345	149
11	---	---	---	---	---	---	---	823	995	774	312	143
12	---	---	---	---	---	---	---	673	1110	677	287	134
13	---	---	---	---	---	---	368	594	752	609	267	167
14	---	---	---	---	---	---	387	515	586	629	252	772
15	---	---	---	---	---	---	638	462	515	904	238	879
16	---	---	---	---	---	---	577	426	461	592	225	450
17	---	---	---	---	---	---	496	452	429	509	214	356
18	---	---	---	---	---	---	513	3060	974	462	203	307
19	---	---	---	---	---	---	500	1570	1310	476	193	277
20	---	---	---	---	---	---	462	888	1460	483	185	454
21	---	---	---	---	---	---	429	710	1420	417	179	421
22	---	---	---	---	---	---	405	623	807	407	174	337
23	---	---	---	---	---	---	390	788	702	370	178	298
24	---	---	---	---	---	---	386	638	1090	343	173	2140
25	---	---	---	---	---	---	605	521	3320	322	170	18900
26	---	---	---	---	---	---	449	462	5080	306	166	16100
27	---	---	---	---	---	---	406	422	1140	292	163	2300
28	---	---	---	---	---	---	379	393	863	279	161	1160
29	---	---	---	---	---	---	360	370	2880	271	160	914
30	---	---	---	---	---	---	342	503	3730	262	158	794
31	---	---	---	---	---	---	---	608	---	250	156	---
MEAN	---	---	---	---	---	---	---	655	1179	876	315	1630
MAX	---	---	---	---	---	---	---	3060	5080	6220	2240	18900
MIN	---	---	---	---	---	---	---	268	372	250	156	134

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

MEAN	---	---	---	---	---	---	---	655	1179	876	315	1630
MAX	---	---	---	---	---	---	---	655	1179	876	315	1630
(WY)	---	---	---	---	---	---	---	1993	1993	1993	1993	1993
MIN	---	---	---	---	---	---	---	655	1179	876	315	1630
(WY)	---	---	---	---	---	---	---	1993	1993	1993	1993	1993

ARKANSAS RIVER BASIN

07186480 CENTER CREEK NEAR SMITHFIELD, MO
(National water-quality assessment station)

WATER-QUALITY RECORDS

LOCATION.--Lat 37°09'20", long 94°36'10", NE ¼ SW ¼ NE ¼ sec.14, T.28 N., R.34 W., Jasper County, Hydrologic Unit 11070207, at bridge on county road, 1 mi south of Smithfield, and 1 mi above mouth.

DRAINAGE AREA.--303 mi^2.

PERIOD OR RECORD.--October 1968 to July 1975; July 1977 to June 1989; April 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)
APR											
27...	1630	406	17.5	345	7.9	10.2	106	K67	K62	154	0
MAY											
18...	1730	3550	16.5	208	7.4	8.3	85	K21000	K32000	85	0
JUN											
22...	0930	838	19.5	273	7.4	8.3	90	1900	1400	132	0
JUL											
12...	1400	680	21.0	306	7.8	11.4	128	580	760	149	0
AUG											
23...	1400	178	25.0	348	8.1	8.2	99	90	66	168	0
SEP											
15...	1540	771	16.0	252	7.7	8.9	90	27000	50000	103	0

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

DATE	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	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, DIS-SOLVED (MG/L AS P) (00671)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
APR											
27...	126	2.60	0.010	0.020	0.30	0.20	0.040	0.050	0.030	170	62
MAY											
18...	70	1.10	0.020	0.090	1.1	0.50	0.310	0.150	0.120	87	32
JUN											
22...	108	2.00	<0.010	0.030	0.50	0.20	0.180	0.100	0.090	120	46
JUL											
12...	122	2.30	<0.010	0.030	<0.20	0.30	0.080	0.070	0.060	140	52
AUG											
23...	138	2.70	<0.010	0.020	<0.20	<0.20	0.080	0.060	0.080	160	60
SEP											
15...	84	2.20	0.020	0.180	0.70	0.50	0.250	0.220	0.190	110	40

ARKANSAS RIVER BASIN

07186480 CENTER CREEK NEAR SMITHFIELD, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

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)	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)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
APR										
27...	2.5	6.3	1.5	34	8.4	0.20	7.2	215	27	67
MAY										
18...	1.7	2.9	2.6	24	4.1	0.20	8.4	140	176	99
JUN										
22...	2.3	4.5	2.9	22	6.3	0.20	12	176	294	99
JUL										
12...	2.5	4.3	1.8	22	5.8	0.20	12	194	53	99
AUG										
23...	3.0	6.0	1.8	23	7.9	0.10	9.0	201	33	--
SEP										
15...	2.0	3.6	4.0	26	5.4	0.10	9.0	141	136	--

DATE	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)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
APR										
27...	<1	58	<0.5	2.0	<5	<3	<10	4	<10	<4
MAY										
18...	--	--	--	--	--	--	--	140	--	--
JUN										
22...	<1	67	<0.5	<1.0	<5	<3	<10	68	<10	<4
JUL										
12...	--	--	--	--	--	--	--	9	--	--
AUG										
23...	<1	69	<0.5	<1.0	<5	<3	<10	7	<10	<4
SEP										
15...	--	--	--	--	--	--	--	60	--	--

DATE	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)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)
APR										
27...	27	<10	<10	<1	2.0	65	<6	270	1.3	0.3
MAY										
18...	21	--	--	--	--	--	--	--	6.3	>2.5
JUN										
22...	17	<10	<10	<1	<1.0	55	<6	160	3.6	1.2
JUL										
12...	25	--	--	--	--	--	--	--	1.3	0.4
AUG										
23...	16	<10	<10	<1	<1.0	67	<6	110	1.1	0.1
SEP										
15...	19	--	--	--	--	--	--	--	4.6	1.6

ARKANSAS RIVER BASIN

07187000 SHOAL CREEK ABOVE JOPLIN, MO

LOCATION.--Lat 37°01'23", long 94°30'58", in SE ¼ NE ¼ NE ¼ 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 mi^2.

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.--Estimated daily discharges: Jan. 2-6. Records fair. Several observations of water temperature and specific conductance were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	211	138	1090	901	747	1160	939	686	1080	1980	619	260
2	194	120	1010	900	710	1140	870	666	977	1660	651	263
3	182	132	940	920	680	1110	826	675	923	1470	582	296
4	174	137	877	950	655	1050	837	754	1890	1330	554	274
5	165	131	806	980	646	982	1060	697	2550	1250	888	250
6	156	116	759	960	611	927	1180	617	1540	6270	1370	242
7	150	108	721	956	584	879	1160	589	1320	13200	921	238
8	158	102	672	894	560	837	1120	579	1380	7230	749	238
9	154	95	893	931	537	792	1050	1540	2500	3240	678	243
10	141	92	1370	1220	520	753	989	1880	5430	2440	612	234
11	134	312	1260	1250	553	703	933	1730	4040	2020	564	221
12	127	3260	1160	1210	627	668	871	1540	2440	1760	523	219
13	122	3120	1210	1150	641	638	828	1390	1980	1610	486	237
14	115	1470	7780	1070	627	611	836	1260	1670	1530	459	828
15	112	1200	7380	1010	639	586	1090	1150	1480	1620	433	3030
16	107	1020	8040	966	652	591	1180	1070	1330	1400	402	1130
17	104	894	4290	917	589	579	1120	1140	1230	1250	390	863
18	104	784	2890	875	558	543	1180	1550	1290	1170	369	725
19	98	714	2410	822	543	790	1210	1420	1400	1100	353	646
20	95	880	2060	987	568	1330	1190	1130	1790	1090	346	1150
21	93	2090	1820	1410	1200	1320	1120	1020	2020	1040	330	1120
22	93	5690	1660	1390	1430	1440	1030	974	1610	1000	324	935
23	90	5930	1510	1310	1270	1560	976	1020	1410	939	311	770
24	87	2690	1380	1220	1160	1400	945	1010	1510	881	297	1840
25	86	2170	1300	1130	1150	1280	960	972	2320	834	288	16100
26	83	1810	1220	1060	1180	1180	889	907	2220	787	280	13000
27	81	1570	1150	994	1170	1100	817	849	1670	749	272	4090
28	76	1410	1100	945	1170	1030	779	805	1480	710	269	2730
29	77	1280	1050	880	---	968	747	770	2710	684	265	2160
30	82	1170	1010	820	---	932	714	1020	3860	661	260	1820
31	84	---	955	781	---	954	---	1290	---	629	261	---
MEAN	120	1354	1993	1026	785	962	982	1055	1968	2049	487	1872
MAX	211	5930	8040	1410	1430	1560	1210	1880	5430	13200	1370	16100
MIN	76	92	672	781	520	543	714	579	923	629	260	219
IN.	.33	3.54	5.38	2.77	1.91	2.60	2.57	2.85	5.14	5.54	1.32	4.89

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

MEAN	286	394	360	322	381	552	652	701	555	352	221	260
MAX	1709	2034	1993	1145	1233	1961	3281	4691	1969	2049	2337	1872
(WY)	1960	1986	1993	1973	1968	1973	1945	1943	1957	1993	1950	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	519		1221		419	
HIGHEST ANNUAL MEAN					1221	1993
LOWEST ANNUAL MEAN					77.8	1954
HIGHEST DAILY MEAN	8040	Dec 16	16100	Sep 25	36700	May 18 1943
LOWEST DAILY MEAN	76	Oct 28	76	Oct 28	15	Sep 7 1954
INSTANTANEOUS PEAK FLOW	--		19900	Sep 25	62100**	May 18 1943
INSTANTANEOUS PEAK STAGE	--		16.84	Sep 25	16.8**	May 18 1943
INSTANTANEOUS LOW FLOW	--		76	Oct 28, 29	12	Sep 7 1954
ANNUAL SEVEN-DAY MINIMUM	81	Oct 25	81	Oct 25	16	Sep 1 1954
ANNUAL RUNOFF (INCHES)	16.55		38.83		13.35	
10 PERCENT EXCEEDS	1110		2000		858	
50 PERCENT EXCEEDS	250		940		230	
90 PERCENT EXCEEDS	117		162		84	

**Former site and datum.

ARKANSAS RIVER BASIN

07189000 ELK RIVER NEAR TIFF CITY, MO

LOCATION.--Lat 36°37'53", long 94°35'12", in NE ¼ NE ¼ 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 mi^2.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 927: 1940. WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 750.61 ft above sea level (levels by U.S. Army Corps of Engineers). Sept. 6, 1960 to Aug. 25, 1961, at site 100 ft downstream.

REMARKS.--Estimated daily discharges: May 29-31. Records good. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	331	243	1140	926	923	2600	1400	943	1240	3470	500	137
2	313	331	1080	878	852	2190	1270	956	1000	2360	481	143
3	292	354	1000	843	794	1970	1190	1010	1000	1820	431	171
4	273	337	931	1040	751	1740	1210	967	1450	1490	402	190
5	256	332	852	2250	726	1560	2170	935	2180	1240	455	188
6	233	300	757	2130	659	1400	2990	881	1520	12800	704	166
7	214	292	664	1830	632	1290	2710	827	1240	16300	727	151
8	204	282	610	1600	586	1220	2270	787	1200	5710	618	151
9	198	259	742	1610	559	1120	1930	3160	2030	3780	713	220
10	188	246	2330	2920	542	1040	1650	8480	6960	2780	691	228
11	181	318	2720	3270	578	975	1490	7660	6280	2210	602	154
12	170	3550	2170	2720	804	918	1330	4530	3790	1850	535	138
13	158	4160	1990	2250	881	868	1210	3140	2580	1660	479	147
14	146	2310	14100	1920	874	829	1270	2380	1960	1520	430	7500
15	136	1620	21000	1680	882	794	3010	1920	1590	1700	400	10000
16	133	1260	20800	1510	900	815	3940	1670	1300	1510	362	3540
17	127	1040	8880	1360	841	832	3160	3330	1140	1310	329	2250
18	127	873	5910	1270	784	831	3640	5200	1020	1170	298	1640
19	121	762	4460	1170	752	1560	3900	3770	1020	1050	273	1290
20	113	859	3460	1720	764	5480	3190	2780	2080	1040	250	1140
21	107	4580	2750	3260	1560	4340	2480	2230	2130	956	235	1100
22	104	11400	2290	3320	3050	3210	2030	1790	1580	909	220	873
23	97	10800	1970	2760	2830	2910	1780	1530	1340	881	201	742
24	86	4930	1730	2280	2280	2480	1600	1360	1170	815	185	733
25	82	3350	1550	1900	3110	2170	1450	1140	1390	753	169	8390
26	117	2420	1460	1650	5830	1880	1310	989	5630	698	154	11000
27	130	1910	1330	1480	4540	1680	1200	851	2830	642	154	4790
28	114	1610	1240	1330	3270	1520	1100	744	1920	603	149	3420
29	132	1420	1170	1200	---	1390	1050	700	5160	562	146	2510
30	146	1280	1100	1100	---	1340	1000	800	7550	529	137	1810
31	151	---	1010	999	---	1330	---	1000	---	502	138	---
MEAN	167	2114	3651	1812	1484	1751	1998	2208	2443	2407	373	2164
MAX	331	11400	21000	3320	5830	5480	3940	8480	7550	16300	727	11000
MIN	82	243	610	843	542	794	1000	700	1000	502	137	137
IN.	.22	2.71	4.83	2.40	1.77	2.32	2.56	2.92	3.13	3.18	.49	2.77

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

MEAN	431	704	777	678	864	1309	1625	1542	947	488	272	307
MAX	2938	4094	3651	2509	2971	5020	6119	8964	4160	2565	2418	2164
(WY)	1942	1975	1993	1985	1951	1945	1945	1943	1974	1976	1950	1993
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 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1013		1881		828	
HIGHEST ANNUAL MEAN					1881	1993
LOWEST ANNUAL MEAN					135	1954
HIGHEST DAILY MEAN	21000	Dec 15	21000	Dec 15	68600	Apr 19 1941
LOWEST DAILY MEAN	82	Oct 25	82	Oct 25	5.1	Sep 5 1954
INSTANTANEOUS PEAK FLOW	--		36500	Jul 6	137000*	Apr 19 1941
INSTANTANEOUS PEAK STAGE	--		21.14	Jul 6	28.40**	Apr 19 1941
INSTANTANEOUS LOW FLOW	--		82	Oct 25	5.1	Sep 5 1954
ANNUAL SEVEN-DAY MINIMUM	101	Oct 20	101	Oct 20	5.6	Sep 2 1954
ANNUAL RUNOFF (INCHES)	15.81		29.29		12.90	
10 PERCENT EXCEEDS	1980		3770		1730	
50 PERCENT EXCEEDS	404		1190		336	
90 PERCENT EXCEEDS	172		177		84	

*From rating curve extended above 60,000 ft^3/s on basis of slope-area measurement of peak flow.
**From flood mark.

ARKANSAS RIVER BASIN

07189000 ELK RIVER NEAR TIFF CITY, MO--Continued
(Ambient water-quality monitoring network)
(National water-quality assessment station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1962 to June 1963, November 1965 to July 1975, October 1980 to September 1981, October 1982 to June 1990, November 1992 to current year.

REMARKS.--Reestablished ambient water-quality monitoring network station and national water-quality assessment program station since April 1993.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER-ATURE WATER (DEG C) (00010)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)
NOV												
18...	1530	858	15.0	301	7.8	9.6	94	<10	110	180	--	--
DEC												
02...	1300	1080	8.5	275	8.2	11.5	97	<10	K36	K36	--	--
JAN												
13...	1000	2170	6.0	245	7.5	12.0	94	<10	140	720	--	--
FEB												
09...	1230	567	9.5	242	8.2	15.6	134	<10	K1	K4	--	--
MAR												
09...	1700	1110	11.0	258	8.2	12.7	115	<10	K20	K5800	--	--
APR												
13...	1400	1210	13.5	255	8.2	11.7	112	<10	K26	340	--	--
27...	1200	1200	14.5	258	8.1	10.7	120	--	K21	K4	146	0
MAY												
04...	1730	947	18.0	242	8.3	15.8	166	14	42	1500	--	--
18...	1400	5310	15.0	230	7.7	8.2	81	--	2200	7400	120	0
JUN												
21...	1530	2050	21.0	253	8.0	9.1	117	16	440	180	142	0
JUL												
13...	1600	1640	22.0	268	8.0	8.5	97	<10	72	110	151	0
AUG												
24...	1000	182	26.0	299	8.0	6.2	76	<10	56	60	168	0
SEP												
15...	1200	8350	17.5	215	7.6	7.2	74	21	K4400	13000	117	0

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

DATE	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	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)
NOV											
18...	--	126	2.30	--	0.060	--	<0.010	--	<0.20	--	0.060
DEC											
02...	--	132	2.50	--	0.020	--	0.020	--	<0.20	--	0.080
JAN											
13...	--	114	1.90	--	<0.010	--	0.010	--	<0.20	--	0.050
FEB											
09...	--	112	--	--	--	--	--	--	--	--	--
MAR											
09...	--	137	1.90	--	<0.010	--	0.010	--	0.25	--	0.040
APR											
13...	--	117	1.40	--	0.010	--	0.020	--	0.25	--	0.060
27...	120	--	--	1.40	--	<0.010	--	<0.010	<0.20	<0.20	0.040
MAY											
04...	--	116	1.10	--	0.010	--	0.010	--	0.20	--	0.030
18...	98	--	--	1.10	--	<0.010	--	0.030	0.40	0.20	0.100
JUN											
21...	116	--	1.30	1.20	<0.010	<0.010	0.010	0.020	<0.20	<0.20	0.060
JUL											
13...	124	--	1.60	1.60	<0.020	<0.010	0.050	0.030	<0.20	<0.20	0.050
AUG											
24...	138	--	1.40	1.30	<0.010	<0.010	0.020	0.030	<0.20	<0.20	0.040
SEP											
15...	96	--	1.60	1.70	0.010	<0.010	0.030	0.030	0.32	0.20	0.160

ARKANSAS RIVER BASIN

07189000 ELK RIVER NEAR TIFF CITY, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
NOV											
18...	--	0.040	--	140	50	2.8	3.9	2.0	6.5	6.1	<0.10
DEC											
02...	--	0.060	--	140	50	2.8	3.6	1.7	6.1	5.4	<0.10
JAN											
13...	--	0.040	--	120	45	2.6	3.0	1.4	6.6	4.9	<0.10
MAR											
09...	--	0.040	--	120	44	2.3	3.1	1.5	5.5	5.1	<0.10
APR											
13...	--	0.040	--	--	--	--	--	--	--	--	--
27...	0.040	--	0.030	130	47	2.3	3.1	1.4	5.9	4.4	<0.10
MAY											
04...	--	0.020	--	120	45	2.2	3.3	1.5	5.9	4.7	<0.10
18...	0.070	--	0.050	100	38	2.0	2.3	1.5	5.2	3.1	<0.10
JUN											
21...	0.050	0.040	0.050	120	45	2.3	3.0	1.9	19	4.3	0.10
JUL											
13...	0.050	0.050	0.050	130	49	2.4	3.0	1.8	5.0	3.9	<0.10
AUG											
24...	0.030	0.060	0.060	150	54	2.6	4.4	2.2	5.2	6.1	<0.10
SEP											
15...	0.120	0.150	0.100	100	37	2.1	2.3	2.6	5.1	3.0	0.20

DATE	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	SEDIMENT, SUSPENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)
NOV											
18...	--	166	10	--	--	--	--	--	--	--	<1
DEC											
02...	--	161	<1	--	--	--	--	--	--	--	<1
JAN											
13...	--	144	<1	--	--	106	18	--	--	--	<1
FEB											
09...	--	141	11	--	--	40	<10	--	--	--	--
MAR											
09...	--	150	3	--	--	30	30	--	--	--	<1
APR											
13...	--	140	<1	--	--	60	<10	--	--	--	--
27...	6.7	152	--	18	69	--	--	<1	34	<0.5	--
MAY											
04...	--	135	8	--	--	50	<10	--	--	--	<1
18...	8.6	138	--	83	94	--	--	--	--	--	--
JUN											
21...	9.5	153	3	43	98	140	<10	<1	40	<0.5	<1
JUL											
13...	11	157	4	33	99	70	<10	--	--	--	--
AUG											
24...	12	174	<1	26	--	30	<10	<1	48	<0.5	--
SEP											
15...	10	122	101	138	--	1000	--	<1	34	<0.5	--

ARKANSAS RIVER BASIN

07189000 ELK RIVER NEAR TIFF CITY, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	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, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
NOV											
18...	<1.0	--	--	<1	3	<1	<1	--	20	2	--
DEC											
02...	<1.0	--	--	<1	4	<1	<1	--	<10	3	C1.4
JAN											
13...	<1.0	--	--	<1	10	<1	<1	--	13	2.3	0.10
MAR											
09...	<1.0	--	--	<1	<3	<1	<1	--	10	3	0.10
APR											
27...	<1.0	<5	<3	<10	8	--	<10	<4	--	3	--
MAY											
04...	<1.0	--	--	<1	15	<1	<1	--	<10	2	0.10
18...	--	--	--	--	19	--	--	--	--	4	--
JUN											
21...	<1.0	<5	<3	<10	4	<1	<10	<4	20	<1	<0.10
JUL											
13...	--	--	--	--	3	--	--	--	--	4	--
AUG											
24...	<1.0	<5	<3	<10	<3	--	<10	<4	--	3	--
SEP											
15...	<1.0	<5	<3	<10	22	--	<10	<4	--	6	--

C--Value may have resulted from sample contamination; therefore, it should be used with caution.

DATE	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, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
NOV											
18...	--	--	--	--	--	--	<10	<3	--	--	<0.05
DEC											
02...	--	--	--	--	--	--	<10	3	--	--	<0.05
JAN											
13...	--	--	--	--	--	--	<10	<3	--	--	<0.05
MAR											
09...	--	--	--	--	--	--	<10	<3	--	--	--
APR											
27...	<10	<10	<1	<1.0	41	<6	--	<3	1.2	0.2	--
MAY											
04...	--	--	--	--	--	--	<10	12	--	--	--
18...	--	--	--	--	--	--	--	--	1.8	0.7	--
JUN											
21...	10	<10	<1	<1.0	44	<6	<10	<3	1.3	0.2	--
JUL											
13...	--	--	--	--	--	--	--	--	0.8	0.1	<0.05
AUG											
24...	<10	<10	<1	<1.0	53	<6	--	<3	0.8	0.1	--
SEP											
15...	<10	<10	<1	<1.0	34	<6	--	3	2.8	1.4	--

ARKANSAS RIVER BASIN

07189000 ELK RIVER NEAR TIFF CITY, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	PROP-AZINE WATER DISS REC (UG/L) (38535)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)
NOV											
18...	<0.05	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
DEC											
02...	<0.05	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JAN											
13...	<0.05	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
JUL											
13...	<0.05	<0.05	<0.05	<0.05	<0.20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

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 1992 TO SEPTEMBER 1993

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)
			07064400 MONTAUK SPRINGS AT MONTAUK, MO					
APR 29...	1210	92	206	7.2	12.0	8.3	77	K13
			07064440 CURRENT RIVER BELOW MONTAUK STATE PARK					
APR 29...	1115	173	232	7.6	13.0	12.6	119	K18
			07064530 WELCH SPRING NEAR AKERS MO					
APR 29...	0945	274	224	7.4	12.0	9.6	88	K9
			07064555 PULLTITE SPRING NEAR ROUND SPRING, MO					
APR 13...	1000	124	230	7.7	12.5	10.2	94	K3
			07065000 ROUND SPRING AT ROUND SPRING MO					
APR 14...	1100	214	233	7.4	13.5	9.7	93	K20
			07065500 ALLEY SPRING AT ALLEY MO					
APR 14...	0900	204	197	7.2	13.0	9.7	92	42
			07066110 JACKS FORK ABOVE TWO RIVERS					
APR 14...	0745	702	346	7.9	14.0	8.8	85	200
			07066510 CURRENT RIVER ABOVE POWDER MILL					
APR 13...	1800	3500	272	8.0	14.5	11.5	112	K2
			07066550 BLUE SPRING NEAR EMINENCE, MO					
APR 13...	1630	184	200	7.4	11.5	11.4	103	K7
			07067500 BIG SPRING NEAR VAN BUREN MO					
APR 13...	1500	509	288	7.3	13.5	9.1	86	K3
			07067800 CURRENT RIVER BELOW HAWES CAMPGROUND					
APR 13...	1300	3470	265	7.9	14.0	10.8	103	K2

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

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)	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, MO								
APR 29...	K12	98	<0.20	0.020	<1	<1	<1	<10
07064440 CURRENT RIVER BELOW MONTAUK STATE PARK								
APR 29...	K14	99	0.32	0.020	<1	<1	<1	<10
07064530 WELCH SPRING NEAR AKERS MO								
APR 29...	K11	101	<0.20	<0.020	<1	1	<1	<10
07064555 PULLTITE SPRING NEAR ROUND SPRING, MO								
APR 13...	K2	114	<0.20	0.040	<1	<1	<1	<10
07065000 ROUND SPRING AT ROUND SPRING MO								
APR 14...	K5	134	<0.20	0.040	<1	<1	<1	<10
07065500 ALLEY SPRING AT ALLEY MO								
APR 14...	K18	104	<0.20	0.030	<1	<1	<1	<10
07066110 JACKS FORK ABOVE TWO RIVERS								
APR 14...	K26	228	<0.20	0.020	<1	<1	<1	<10
07066510 CURRENT RIVER ABOVE POWDER MILL								
APR 13...	K1	148	<0.20	0.030	<1	<1	<1	<10
07066550 BLUE SPRING NEAR EMINENCE, MO								
APR 13...	K1	78	<0.20	0.02	<1	<1	<1	<10
07067500 BIG SPRING NEAR VAN BUREN MO								
APR 13...	K0	153	<0.20	0.030	<1	<1	<1	<10
07067800 CURRENT RIVER BELOW HAWES CAMPGROUND								
APR 13...	K1	146	<0.20	0.030	<1	<1	<1	<10

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

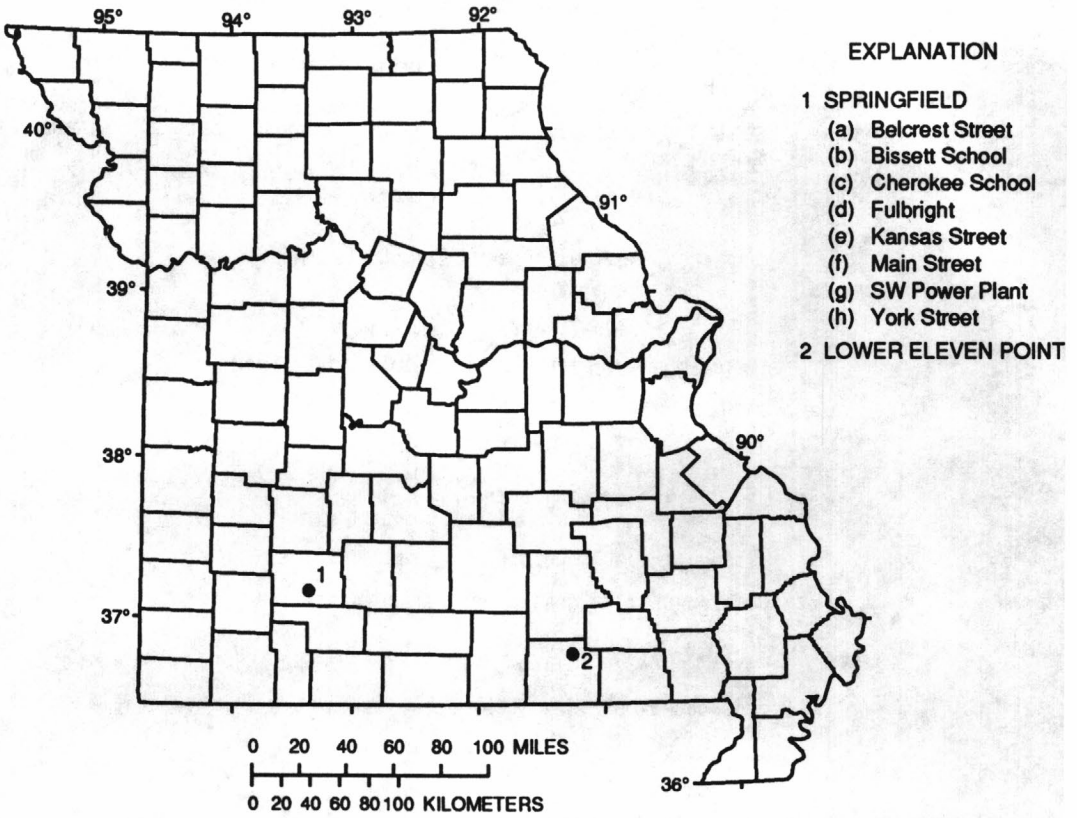


Figure 8. Ground-water monitoring wells.

Hydrographers measuring the Missouri River overflow on Highway 19 on July 30, 1993.

1a-Belcrest Street

COUNTY--Greene

WELL INDENTIFICATION NUMBER--371250093140101

LOCATION--Lat 37°12'50", long 93°14'01", T.29 N., R.21 W., 16dcc, 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.

REMARKS--Several days missing when recorder did not operate.

PERIOD OF RECORD--October 20, 1989 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84.46	84.44	---	---	84.63	84.37	83.76	83.55	83.79	84.37	84.20	84.11
2	84.47	84.34	---	---	84.62	84.26	83.77	83.54	83.80	84.40	84.18	84.13
3	84.47	84.32	---	---	84.60	84.16	83.80	83.49	83.81	84.39	84.17	84.14
4	84.45	84.32	---	---	84.59	84.12	83.84	83.45	83.73	84.38	84.17	84.15
5	84.45	84.35	---	---	84.59	84.10	83.84	83.44	83.67	84.36	84.17	84.16
6	84.46	84.43	---	---	84.59	84.10	83.83	83.47	83.70	84.35	84.13	84.18
7	84.47	84.48	---	---	84.58	84.09	83.81	83.47	83.73	84.33	84.09	84.19
8	84.44	84.50	---	---	84.53	84.08	83.75	83.46	83.75	84.33	84.08	84.20
9	84.43	84.50	---	---	84.49	84.08	83.71	83.45	83.77	84.33	84.07	84.21
10	84.43	84.50	---	---	84.47	84.07	83.69	83.44	83.80	84.35	84.06	84.22
11	84.43	84.50	---	---	84.43	84.09	83.66	83.42	83.83	84.36	84.04	84.23
12	84.44	84.43	---	---	84.37	84.12	83.65	83.41	83.87	84.37	84.02	84.24
13	84.44	84.40	---	84.58	84.36	84.13	83.64	83.38	83.91	84.36	83.99	84.25
14	84.44	84.42	---	84.64	84.37	84.13	83.62	83.37	83.95	84.35	83.97	84.17
15	84.44	84.44	---	84.65	84.41	84.13	83.54	83.35	84.01	84.35	83.96	83.92
16	84.45	84.45	---	84.64	84.40	84.11	83.51	83.34	84.06	84.34	83.94	83.93
17	84.49	84.45	---	84.61	84.45	84.11	83.52	83.32	84.10	84.34	83.93	83.96
18	84.53	84.45	---	84.61	84.53	84.16	83.55	83.31	84.14	84.33	83.91	84.00
19	84.58	---	---	84.64	84.54	84.16	83.51	83.28	84.17	84.34	83.90	84.02
20	84.59	---	---	84.64	84.48	84.14	83.46	83.30	84.20	84.33	83.91	84.02
21	84.59	---	---	84.60	84.31	84.13	83.51	83.34	84.21	84.31	83.93	84.03
22	84.62	---	---	84.57	84.25	84.08	83.56	83.40	84.22	84.29	83.96	84.04
23	84.67	---	---	84.52	84.26	84.03	83.56	83.43	84.22	84.27	83.97	84.05
24	84.68	---	---	84.49	84.34	84.01	83.50	83.46	84.23	84.24	83.98	84.03
25	84.68	---	---	84.52	84.35	83.99	83.47	83.51	84.24	84.23	83.99	83.36
26	84.65	---	---	84.56	84.33	83.98	83.51	83.58	84.26	84.21	84.01	82.93
27	84.60	---	---	84.55	84.35	83.98	83.55	83.63	84.29	84.20	84.04	83.02
28	84.58	---	---	84.55	84.38	83.95	83.57	83.66	84.29	84.18	84.06	83.18
29	84.56	---	---	84.55	---	83.93	83.57	83.70	84.31	84.19	84.08	83.32
30	84.53	---	---	84.62	---	83.89	83.56	83.74	84.34	84.21	84.09	83.45
31	84.52	---	---	84.63	---	83.80	---	83.76	---	84.21	84.10	---
MEAN	84.52	---	---	---	84.45	84.08	83.63	83.47	84.01	84.31	84.04	83.93
MAX	84.68	---	---	---	84.63	84.37	83.84	83.76	84.34	84.40	84.20	84.25
MIN	84.43	---	---	---	84.25	83.80	83.46	83.28	83.67	84.18	83.90	82.93

1b-Bissett School

COUNTY--Greene

WELL INDENTIFICATION 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.

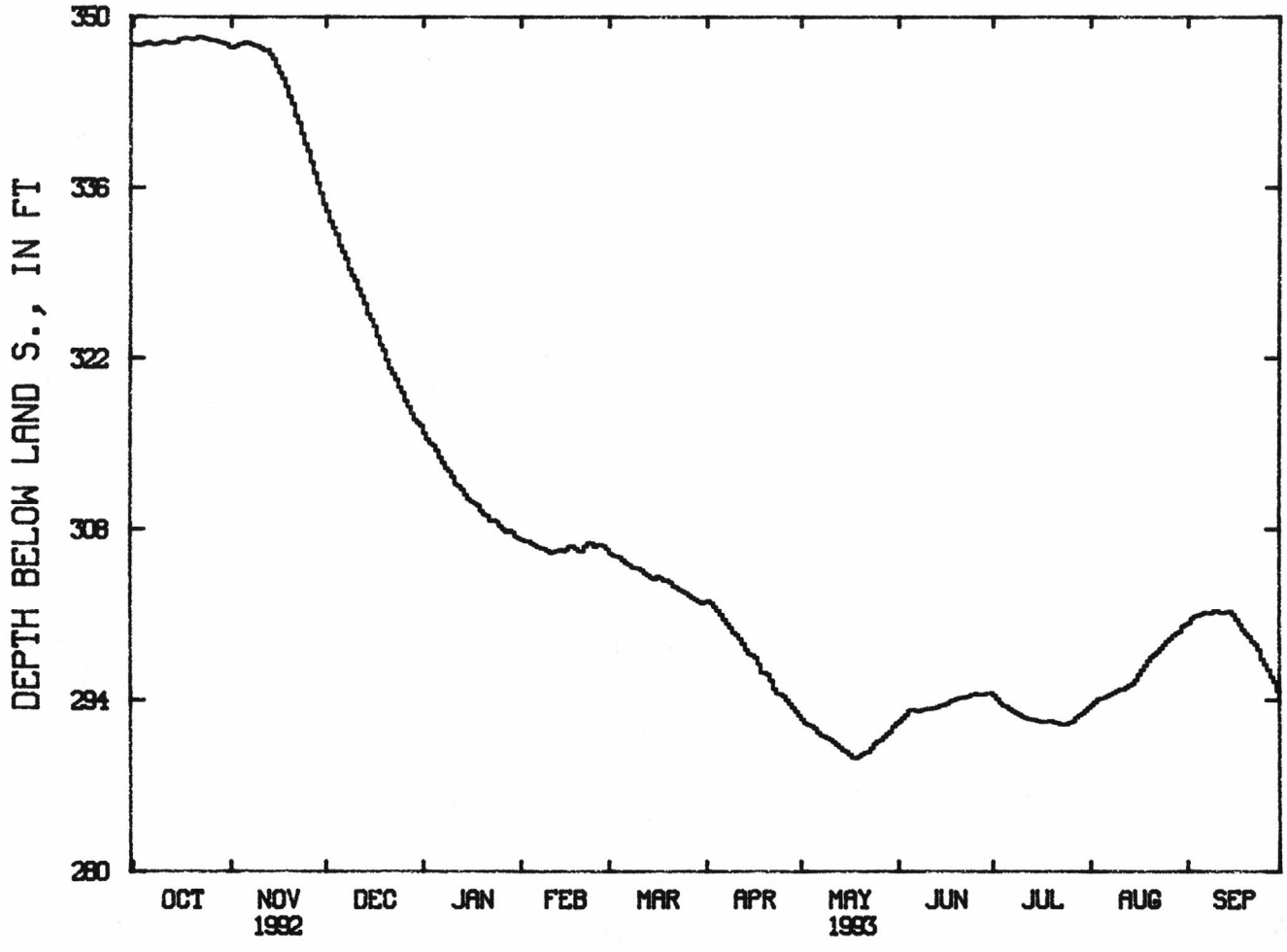
INSTRUMENTATION--Digital recorder.

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	347.75	347.50	334.61	316.51	307.22	306.38	302.08	292.74	292.16	294.64	293.41	300.26
2	347.70	347.48	334.02	315.88	307.10	305.98	302.17	292.43	292.31	294.37	293.63	300.38
3	347.68	347.60	333.21	315.38	307.00	305.84	301.94	292.14	292.56	294.08	293.86	300.75
4	347.72	347.78	332.66	315.05	306.99	305.77	301.66	292.00	292.83	293.80	294.12	300.95
5	347.88	347.81	332.15	314.90	306.80	305.72	301.35	291.91	293.21	293.59	294.20	301.00
6	347.95	347.93	331.22	314.48	306.67	305.46	301.02	291.70	293.23	293.49	294.26	301.12
7	347.77	347.84	330.71	313.91	306.49	305.23	300.61	291.36	293.16	293.28	294.39	301.23
8	347.71	347.72	330.14	313.48	306.43	305.10	300.27	291.12	293.11	293.11	294.51	301.18
9	347.81	347.63	329.29	313.02	306.37	304.89	299.96	291.04	293.23	292.96	294.66	301.18
10	347.90	347.57	328.77	312.78	306.23	304.86	299.57	290.91	293.31	292.85	294.81	301.38
11	347.99	347.42	328.37	312.32	306.04	304.81	299.36	290.79	293.34	292.67	294.92	301.34
12	347.91	347.24	327.67	311.69	306.16	304.65	299.03	290.58	293.36	292.56	294.90	301.18
13	347.85	347.28	327.10	311.56	306.23	304.41	298.61	290.36	293.39	292.47	295.07	301.19
14	347.86	346.88	326.47	311.27	306.31	304.26	298.14	290.16	293.50	292.44	295.25	301.28
15	347.95	346.50	325.64	310.83	306.15	304.03	297.78	289.92	293.61	292.40	295.37	301.33
16	348.20	345.92	325.19	310.44	306.36	303.93	297.70	289.79	293.64	292.31	295.68	300.99
17	348.24	345.40	324.64	310.28	306.62	304.19	297.48	289.55	293.77	292.28	296.13	300.62
18	348.28	344.91	323.84	310.15	306.62	304.00	296.93	289.31	293.94	292.29	296.52	300.21
19	348.24	344.25	323.12	309.96	306.39	303.81	296.26	289.27	294.04	292.32	296.88	299.77
20	348.14	343.44	322.66	309.50	306.17	303.84	296.24	289.43	294.14	292.30	297.26	299.45
21	348.27	342.86	321.88	309.22	306.17	303.65	296.10	289.62	294.23	292.22	297.58	299.21
22	348.39	341.88	321.19	309.09	306.66	303.37	295.58	289.75	294.26	292.16	297.76	298.81
23	348.35	341.28	320.77	308.68	306.90	303.26	294.93	289.80	294.28	292.08	297.98	298.54
24	348.24	340.40	320.33	308.77	306.86	303.06	294.56	290.10	294.36	292.03	298.27	298.12
25	348.15	339.56	319.60	308.60	306.52	302.95	294.51	290.47	294.52	292.11	298.56	297.36
26	348.09	338.99	319.17	308.26	306.77	302.79	294.35	290.68	294.58	292.21	298.87	296.92
27	348.08	338.09	318.51	307.99	306.74	302.59	294.01	290.79	294.48	292.29	299.09	296.48
28	348.00	337.18	318.08	307.75	306.62	302.40	293.71	291.04	294.48	292.59	299.33	295.92
29	347.92	336.37	317.51	307.92	---	302.26	293.38	291.30	294.54	292.82	299.54	295.49
30	347.84	335.54	316.98	307.73	---	302.07	293.06	291.48	294.60	292.96	299.65	294.77
31	347.77	---	316.76	307.35	---	301.93	---	291.89	---	293.17	300.11	---
MEAN	347.99	344.27	325.23	311.12	306.56	304.11	297.74	290.76	293.67	292.80	296.34	299.61
MAX	348.39	347.93	334.61	316.51	307.22	306.38	302.17	292.74	294.60	294.64	300.11	301.38
MIN	347.68	335.54	316.76	307.35	306.04	301.93	293.06	289.27	292.16	292.03	293.41	294.77



371321093201401 BISSETT SCHOOL WELL IN SPRINGFIELD, MO.
MEAN DAILY DEPTH BELOW LAND S. (FT)

1c-Cherokee School

COUNTY--Greene

WELL INDENTIFICATION 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 days missing when recorder did not operate.

PERIOD OF RECORD--June 21, 1989 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	256.20	249.78	243.13	238.03	232.20	223.10	228.48	228.72	---	242.54
2	---	---	255.91	249.50	242.94	237.39	232.09	223.12	228.82	228.40	---	242.15
3	---	---	255.47	249.28	242.87	237.05	231.85	223.43	227.80	---	---	240.96
4	---	---	255.23	249.11	242.80	236.76	231.52	225.13	227.42	---	---	240.92
5	---	---	255.18	248.90	242.57	236.51	231.01	224.42	227.25	---	---	241.46
6	---	---	254.65	248.53	242.41	236.10	230.47	225.80	227.08	---	---	240.45
7	---	---	254.47	248.10	242.16	235.78	229.90	224.92	226.75	---	---	240.16
8	---	---	254.31	247.94	242.02	235.62	229.42	224.69	226.66	---	---	240.34
9	---	---	253.88	247.83	241.90	235.42	229.06	224.85	226.58	---	---	240.00
10	---	---	253.66	247.96	241.71	235.43	228.62	224.77	226.38	---	---	239.04
11	---	---	253.63	247.84	241.44	235.50	228.36	224.67	226.02	---	---	238.88
12	---	---	253.33	247.58	241.47	235.47	228.01	224.61	225.74	---	---	238.55
13	---	---	253.17	247.60	241.45	235.42	227.60	224.56	225.70	---	---	238.37
14	---	---	252.91	247.43	241.40	235.39	227.09	224.69	225.65	---	---	238.12
15	---	---	252.41	247.14	241.02	235.24	226.50	224.96	225.83	---	---	237.47
16	---	---	252.02	246.91	241.05	235.15	226.12	225.25	227.08	---	---	236.69
17	---	---	251.60	246.88	241.03	235.39	225.67	225.32	226.84	---	---	236.12
18	---	---	251.02	246.79	240.74	235.22	224.99	225.40	226.93	---	---	235.84
19	---	266.26	250.59	246.62	240.21	235.02	224.19	224.55	226.71	---	238.40	235.48
20	---	265.46	250.56	246.18	239.74	234.84	224.14	223.74	226.51	---	238.50	235.11
21	---	264.26	250.22	245.83	239.52	234.42	224.09	224.01	226.28	---	238.67	234.94
22	---	262.77	249.99	245.54	239.66	233.99	223.69	224.19	226.06	---	239.36	234.64
23	---	261.75	250.05	245.07	239.61	233.82	223.19	224.29	226.06	---	239.76	234.34
24	---	260.67	250.12	245.11	239.41	233.69	223.02	224.47	226.07	---	240.04	234.15
25	---	259.72	249.81	244.83	238.96	233.68	223.17	226.25	226.29	---	240.38	232.93
26	---	259.27	249.82	244.43	239.09	233.63	223.23	227.45	226.28	---	239.54	231.74
27	---	258.60	249.57	244.12	238.92	233.53	223.03	228.14	226.34	---	240.44	231.12
28	---	257.92	249.53	243.89	238.58	233.34	222.95	228.58	226.39	---	240.76	230.79
29	---	257.46	249.38	244.04	---	233.07	223.14	227.68	226.70	---	240.13	230.79
30	---	256.86	249.29	243.79	---	232.69	223.13	227.35	227.04	---	241.30	230.58
31	---	---	249.56	243.35	---	232.32	---	227.22	---	---	241.84	---
MEAN	---	---	252.18	246.71	240.99	235.00	226.71	225.21	226.66	---	---	236.82
MAX	---	---	256.20	249.78	243.13	238.03	232.20	228.58	228.82	---	---	242.54
MIN	---	---	249.29	243.35	238.58	232.32	222.95	223.10	225.65	---	---	230.58

1d-Fulbright

COUNTY--Greene

WELL INDENTIFICATION 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.

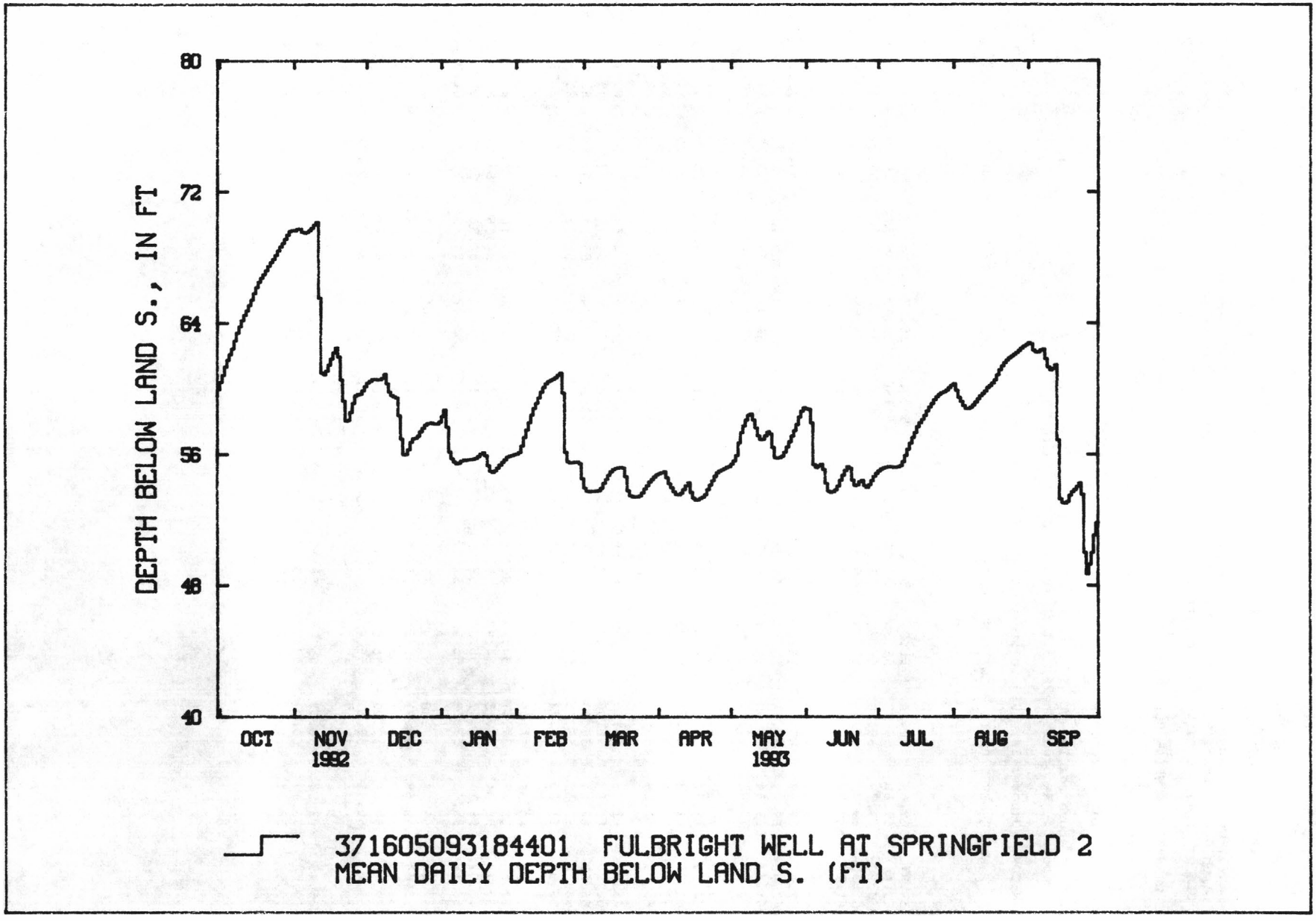
INSTRUMENTATION--Digital recorder.

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59.97	69.69	60.14	58.03	56.02	54.53	54.78	55.27	58.86	54.86	60.21	62.71
2	60.44	69.66	60.37	58.35	56.06	53.95	54.86	55.42	58.77	54.99	60.31	62.82
3	60.90	69.79	60.50	58.72	56.16	53.77	54.91	55.62	58.76	55.11	59.88	62.73
4	61.36	69.77	60.62	57.65	56.56	53.74	54.95	55.95	57.91	55.17	59.46	62.35
5	61.77	69.57	60.62	56.16	57.05	53.77	54.56	56.72	55.36	55.22	59.23	62.25
6	62.12	69.52	60.58	55.74	57.50	53.77	54.21	57.35	55.20	55.26	58.97	62.27
7	62.47	69.58	60.59	55.55	57.97	53.78	53.97	57.75	55.31	55.24	58.80	62.39
8	62.96	69.69	60.71	55.44	58.43	53.81	53.72	58.10	55.40	55.22	58.80	62.43
9	63.43	69.84	60.93	55.48	58.83	53.97	53.55	58.41	55.05	55.23	58.89	61.82
10	63.83	70.03	60.25	55.63	59.14	54.27	53.54	58.46	54.24	55.26	59.04	61.33
11	64.19	70.17	59.80	55.67	59.47	54.51	53.65	58.07	53.76	55.32	59.20	61.17
12	64.50	65.54	59.60	55.66	59.81	54.76	53.88	57.61	53.68	55.58	59.40	61.27
13	64.78	61.02	59.51	55.70	60.08	54.96	54.12	57.13	53.75	55.95	59.58	61.47
14	65.11	60.91	59.45	55.71	60.32	55.11	54.29	56.91	53.86	56.33	59.72	56.89
15	65.44	61.14	58.38	55.73	60.48	55.17	53.66	56.94	54.08	56.70	59.87	53.28
16	65.83	61.48	56.95	55.79	60.56	55.20	53.32	57.16	54.44	57.04	60.06	53.04
17	66.20	61.87	56.00	55.90	60.65	55.22	53.21	57.39	54.74	57.36	60.19	53.03
18	66.52	62.24	56.03	56.05	60.75	55.18	53.24	57.24	55.03	57.69	60.36	53.15
19	66.76	62.53	56.33	56.13	60.87	54.66	53.34	56.42	55.25	57.94	60.59	53.53
20	66.99	61.95	56.78	55.91	60.99	53.78	53.41	55.80	55.15	58.15	60.89	53.74
21	67.23	60.56	56.99	55.30	59.72	53.48	53.56	55.79	54.43	58.39	61.18	53.87
22	67.50	59.26	57.01	54.98	56.16	53.42	53.87	55.82	54.10	58.66	61.40	54.06
23	67.73	58.04	57.15	54.92	55.56	53.42	54.14	55.91	54.15	58.91	61.61	54.27
24	67.92	58.11	57.42	55.04	55.50	53.42	54.43	56.17	54.36	59.12	61.77	53.54
25	68.17	58.60	57.62	55.20	55.52	53.50	54.68	56.48	54.43	59.35	61.91	50.04
26	68.44	59.14	57.80	55.37	55.54	53.68	54.89	56.80	54.07	59.52	62.01	48.72
27	68.68	59.59	57.91	55.54	55.55	53.92	54.99	57.12	53.98	59.66	62.12	49.34
28	68.91	59.67	57.94	55.70	55.42	54.12	55.07	57.47	54.17	59.75	62.23	50.05
29	69.16	59.69	57.90	55.87	---	54.34	55.14	57.83	54.43	59.82	62.36	51.08
30	69.41	59.91	57.87	55.92	---	54.49	55.22	58.30	54.68	59.92	62.49	51.83
31	69.64	---	57.87	55.96	---	54.66	---	58.65	---	60.05	62.62	---
MEAN	65.43	63.95	58.63	55.96	58.10	54.21	54.17	56.97	55.05	57.19	60.49	56.68
MAX	69.64	70.17	60.93	58.72	60.99	55.22	55.22	58.65	58.86	60.05	62.62	62.82
MIN	59.97	58.04	56.00	54.92	55.42	53.42	53.21	55.27	53.68	54.86	58.80	48.72


DEPTH BELOW LAND S., IN FT
80
72
64
56
48
40
OCT
NOV
1992
DEC
JAN
FEB
MAR
APR
MAY
1993
JUN
JUL
AUG
SEP
371605093184401 FULBRIGHT WELL AT SPRINGFIELD 2
MEAN DAILY DEPTH BELOW LAND S. (FT)

1e-Kansas Street

COUNTY--Greene

WELL INDENTIFICATION 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.

PERIOD OF RECORD--October 23, 1989 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.67	34.12	14.28	18.51	17.81	16.68	17.13	17.89	27.59	14.35	32.27	35.28
2	24.85	31.51	15.20	18.79	18.04	14.31	17.36	18.27	28.83	15.02	32.88	35.37
3	26.29	31.44	15.84	18.98	17.97	14.17	17.69	17.82	29.88	15.66	33.21	32.81
4	27.58	31.52	16.37	11.56	18.21	14.17	17.57	18.04	25.07	16.14	33.53	31.15
5	28.86	31.71	16.93	10.65	18.53	14.11	15.62	18.52	18.63	16.59	33.08	32.17
6	29.92	32.14	17.30	11.96	18.89	14.16	14.64	18.84	19.30	16.71	23.59	33.15
7	30.66	32.49	17.77	12.77	19.17	14.37	14.77	19.08	19.67	16.69	22.23	33.82
8	31.26	32.80	18.18	13.49	19.41	14.97	15.19	19.36	19.92	16.84	24.02	28.37
9	31.71	33.07	18.28	13.81	19.69	15.60	15.70	19.36	19.89	17.32	26.46	23.70
10	32.05	33.29	16.96	13.77	19.98	16.13	16.05	18.57	18.48	17.68	28.25	25.51
11	32.38	33.39	17.03	13.91	20.49	16.62	16.47	18.10	18.95	18.01	26.83	27.46
12	32.68	14.42	17.18	14.09	21.13	17.06	16.79	17.95	19.36	18.37	27.07	29.27
13	32.94	13.40	17.39	14.47	21.92	17.41	17.15	18.42	19.63	18.51	28.61	30.55
14	33.15	14.38	17.49	15.02	22.76	17.75	14.74	18.79	19.87	18.75	30.15	12.69
15	33.34	15.57	12.03	15.39	23.46	18.11	8.08	19.04	20.11	19.04	31.34	8.27
16	33.54	16.12	5.81	15.75	24.46	17.71	7.88	19.29	20.63	19.35	32.19	11.47
17	33.71	16.71	6.54	16.18	25.41	17.94	10.05	19.34	21.63	19.60	32.78	13.05
18	33.82	17.18	8.07	16.61	26.31	18.33	11.42	18.91	22.48	19.84	33.24	13.91
19	33.91	17.68	10.44	16.99	27.11	16.45	12.28	19.07	20.70	19.18	33.64	14.47
20	34.00	15.11	12.05	14.94	27.64	12.48	13.27	19.34	15.52	18.24	33.98	13.98
21	34.13	7.31	12.96	13.62	24.69	12.67	13.93	19.58	13.39	18.98	34.24	15.00
22	34.26	5.79	13.59	13.90	20.02	13.17	14.36	19.75	14.40	19.43	34.42	15.76
23	34.34	4.98	14.15	14.14	19.48	13.67	14.82	19.88	15.12	19.75	34.57	16.36
24	34.39	6.05	14.92	14.50	19.37	14.11	15.52	20.05	14.83	20.24	33.89	8.22
25	34.45	7.74	15.57	15.19	19.33	14.53	15.65	20.40	9.35	21.51	33.49	3.21
26	34.51	10.20	16.12	15.61	19.28	15.22	16.16	21.11	7.65	23.03	33.72	4.07
27	34.61	11.72	16.60	16.01	19.03	15.71	16.58	22.04	10.25	24.58	34.05	4.80
28	34.68	12.63	17.09	16.37	18.40	16.13	16.93	23.03	11.97	26.49	34.39	6.06
29	34.75	13.31	17.45	16.86	---	16.56	17.28	23.99	13.06	28.31	34.68	8.31
30	34.74	13.85	17.90	17.21	---	16.97	17.57	25.19	13.82	29.97	34.94	11.04
31	34.72	---	18.28	17.48	---	16.96	---	26.40	---	31.31	35.15	---
MEAN	32.25	19.72	15.02	15.11	21.00	15.62	14.95	19.85	18.33	19.85	31.51	19.31
MAX	34.75	34.12	18.28	18.98	27.64	18.33	17.69	26.40	29.88	31.31	35.15	35.37
MIN	23.67	4.98	5.81	10.65	17.81	12.48	7.88	17.82	7.65	14.35	22.23	3.21

1f-Main Street

COUNTY--Greene

WELL INDENTIFICATION 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.

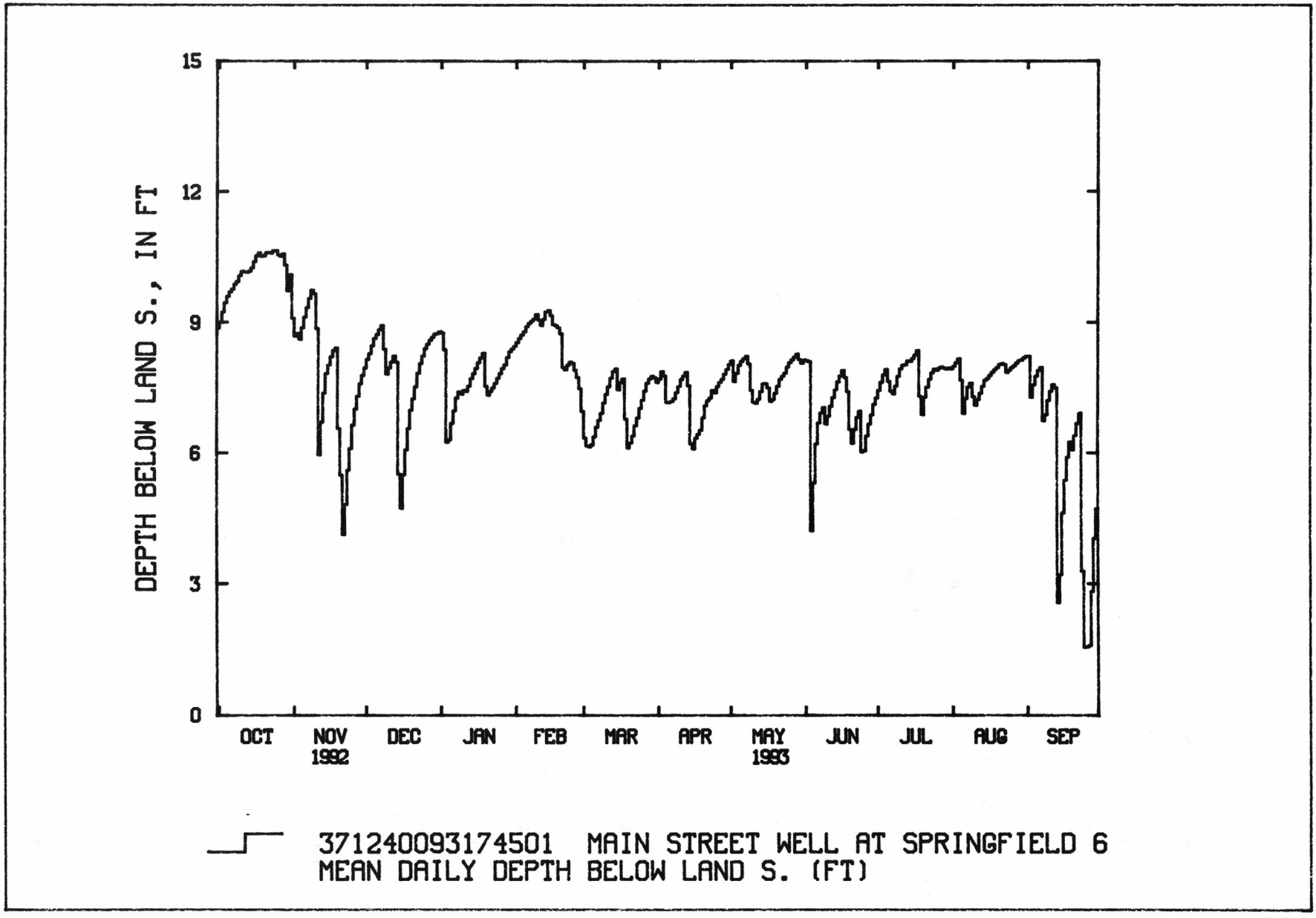
INSTRUMENTATION--Digital recorder.

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 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.88	9.10	7.96	8.80	8.46	6.97	7.62	8.04	8.15	7.27	7.93	8.23
2	9.02	8.69	8.16	8.76	8.54	6.35	7.71	8.12	8.12	7.44	8.00	8.23
3	9.25	8.76	8.29	8.37	8.64	6.17	7.88	7.64	8.10	7.63	8.08	7.28
4	9.46	8.61	8.47	6.26	8.72	6.15	7.77	7.84	4.23	7.80	8.17	7.58
5	9.60	8.89	8.64	6.32	8.80	6.21	7.17	8.02	5.32	7.92	7.67	7.77
6	9.71	9.14	8.73	6.70	8.91	6.39	7.17	8.11	6.22	7.64	6.93	7.90
7	9.77	9.35	8.84	6.98	8.99	6.59	7.20	8.17	6.70	7.42	7.26	7.97
8	9.88	9.56	8.94	7.27	9.04	6.78	7.26	8.23	6.94	7.36	7.52	6.75
9	9.94	9.75	8.38	7.41	9.09	6.93	7.40	8.04	7.05	7.55	7.61	6.90
10	10.08	9.65	7.82	7.35	9.19	7.15	7.54	7.44	6.66	7.77	7.29	7.21
11	10.18	8.86	7.97	7.45	9.05	7.35	7.70	7.17	6.87	7.94	7.10	7.42
12	10.16	5.97	8.09	7.42	8.93	7.53	7.78	7.15	7.08	8.02	7.24	7.58
13	10.15	6.74	8.24	7.55	9.09	7.73	7.86	7.25	7.28	8.03	7.38	7.49
14	10.19	7.38	8.08	7.72	9.26	7.88	7.54	7.42	7.46	8.12	7.54	2.58
15	10.26	7.83	5.52	7.83	9.28	7.94	6.22	7.60	7.64	8.11	7.68	3.23
16	10.40	8.03	4.74	7.95	9.16	7.45	6.10	7.60	7.78	8.18	7.72	4.63
17	10.54	8.22	5.51	8.08	8.95	7.63	6.36	7.49	7.90	8.26	7.79	5.38
18	10.60	8.36	6.08	8.19	8.93	7.71	6.44	7.19	7.73	8.36	7.86	5.90
19	10.51	8.42	6.56	8.30	8.88	6.80	6.53	7.24	7.41	7.30	7.92	6.26
20	10.54	6.56	7.00	7.53	8.74	6.12	6.84	7.38	6.54	6.90	7.97	6.07
21	10.61	5.50	7.25	7.33	7.97	6.25	7.09	7.54	6.23	7.29	8.04	6.41
22	10.61	4.14	7.53	7.43	7.92	6.40	7.21	7.70	6.55	7.52	8.06	6.68
23	10.60	4.83	7.84	7.51	8.03	6.63	7.27	7.77	6.85	7.70	8.03	6.94
24	10.66	5.61	8.06	7.61	8.09	6.84	7.44	7.84	6.97	7.85	7.85	3.30
25	10.66	6.11	8.24	7.73	8.06	7.04	7.38	7.98	6.02	7.93	7.91	1.56
26	10.55	6.65	8.41	7.83	7.90	7.22	7.54	8.08	6.06	7.90	7.97	1.57
27	10.52	7.02	8.51	7.95	7.74	7.43	7.63	8.15	6.40	7.96	8.01	1.60
28	10.58	7.31	8.60	8.03	7.48	7.61	7.70	8.21	6.67	7.98	8.07	2.83
29	10.31	7.60	8.67	8.20	---	7.71	7.82	8.28	6.90	7.95	8.13	4.05
30	9.73	7.79	8.74	8.34	---	7.77	7.93	8.14	7.12	7.93	8.14	4.72
31	10.11	---	8.75	8.40	---	7.73	---	8.06	---	7.96	8.19	---
MEAN	10.13	7.68	7.83	7.70	8.64	7.05	7.30	7.77	6.90	7.77	7.78	5.73
MAX	10.66	9.75	8.94	8.80	9.28	7.94	7.93	8.28	8.15	8.36	8.19	8.23
MIN	8.88	4.14	4.74	6.26	7.48	6.12	6.10	7.15	4.23	6.90	6.93	1.56


DEPTH BELOW LAND S., IN FT
15
12
9
6
3
0
OCT
NOV
1992
DEC
JAN
FEB
MAR
APR
MAY
1993
JUN
JUL
AUG
SEP
371240093174501 MAIN STREET WELL AT SPRINGFIELD 6
MEAN DAILY DEPTH BELOW LAND S. (FT)

1g-Southwest Power Plant

COUNTY--Greene

WELL INDENTIFICATION 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 recorder did not operate.

PERIOD OF RECORD--March 8, 1990 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113.11	116.35	---	---	130.31	124.66	121.60	121.00	118.18	108.49	---	133.56
2	115.83	112.40	---	---	129.22	124.53	121.20	121.02	117.76	108.29	---	133.53
3	116.99	112.11	---	---	129.08	124.22	120.99	121.01	116.13	---	---	122.09
4	118.63	112.56	---	---	128.96	124.15	120.97	121.03	115.68	---	---	120.73
5	119.92	112.80	---	---	128.82	124.08	120.87	121.06	115.12	---	---	127.05
6	120.74	116.72	---	---	128.72	123.97	120.81	121.08	114.87	---	---	130.65
7	121.63	119.91	---	---	128.67	123.88	120.74	121.13	114.61	---	---	131.70
8	121.35	121.28	---	---	128.58	123.82	120.67	121.18	114.36	---	---	124.25
9	121.70	121.86	---	---	128.48	123.71	120.65	121.14	114.10	---	---	121.15
10	121.64	121.64	---	---	128.42	122.51	120.65	121.03	113.85	---	---	121.67
11	122.69	115.93	---	---	128.30	122.51	120.65	121.02	113.59	---	---	125.50
12	122.94	107.71	---	131.55	127.99	124.45	120.66	121.02	113.34	---	---	128.24
13	112.44	110.52	---	131.08	127.92	124.33	120.68	121.04	113.08	---	---	129.11
14	116.98	111.51	---	129.68	127.98	123.46	120.69	121.06	112.83	---	---	---
15	123.53	111.46	---	129.58	126.44	124.09	121.12	121.06	112.57	---	---	---
16	123.46	111.61	---	131.02	127.54	123.97	121.40	121.07	112.32	---	---	---
17	122.60	111.70	---	132.34	127.68	123.87	121.42	121.07	112.06	---	---	---
18	123.43	111.72	---	132.21	127.53	123.76	121.47	121.03	111.81	---	---	---
19	123.63	111.73	---	132.10	126.37	123.10	121.54	120.99	111.55	---	130.72	---
20	123.78	111.64	---	130.89	127.81	122.00	121.20	120.76	111.30	---	131.01	---
21	123.78	---	---	130.38	126.75	121.77	120.66	120.52	111.04	---	130.91	---
22	123.60	---	---	130.25	126.31	121.60	120.70	120.28	110.79	---	132.39	---
23	123.84	---	---	130.19	126.16	121.49	120.78	120.04	110.53	---	131.73	---
24	123.91	---	---	130.11	125.99	121.45	120.81	119.79	110.28	---	125.23	---
25	122.04	---	---	129.15	125.84	121.35	120.81	119.54	110.02	---	127.05	---
26	120.63	---	---	128.15	125.70	121.26	120.83	119.35	109.77	---	131.01	---
27	120.56	---	---	130.87	125.55	119.33	120.88	118.60	109.51	---	131.85	---
28	123.67	---	---	130.74	125.89	120.17	120.89	119.83	109.26	---	131.96	---
29	122.66	---	---	130.64	---	122.01	120.91	119.66	109.00	---	132.00	---
30	113.67	---	---	130.52	---	121.88	120.98	118.74	108.75	---	124.49	---
31	120.15	---	---	130.44	---	121.75	---	118.15	---	---	131.13	---
MEAN	120.82	---	---	---	127.61	122.88	120.94	120.49	112.60	---	---	---
MAX	123.91	---	---	---	130.31	124.66	121.60	121.18	118.18	---	---	---
MIN	112.44	---	---	---	125.55	119.33	120.65	118.15	108.75	---	---	---

1h-York Street

COUNTY--Greene

WELL INDENTIFICATION 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.

REMARKS--Several days missing when recorder did not operate.

PERIOD OF RECORD--October 18, 1989 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38.55	58.29	---	---	21.57	20.61	19.97	22.22	22.34	21.73	35.78	64.37
2	40.01	52.26	---	---	21.60	19.61	19.98	22.25	22.37	21.83	38.09	64.67
3	41.72	49.73	---	---	21.65	19.49	19.98	21.60	22.38	21.94	40.69	59.47
4	43.78	43.93	---	---	21.74	19.63	19.74	21.94	20.10	22.03	43.50	56.39
5	46.21	43.57	---	---	21.80	19.77	19.01	22.05	19.63	22.13	41.68	57.43
6	48.42	44.69	---	---	21.83	19.88	18.82	22.17	20.38	22.03	23.26	58.97
7	49.90	46.08	---	---	21.85	20.01	19.55	22.21	20.92	21.93	22.98	60.40
8	50.86	47.32	---	---	21.88	20.18	20.65	22.26	21.34	21.98	23.35	48.73
9	52.23	48.46	---	---	21.92	20.34	20.89	22.06	21.61	22.11	25.63	38.26
10	53.87	49.93	---	---	21.91	20.47	21.06	21.76	21.50	22.23	27.72	40.35
11	55.52	44.17	---	---	21.89	20.60	21.27	21.66	21.62	22.37	26.72	43.81
12	56.99	20.57	---	22.92	21.90	20.71	21.46	21.36	21.72	22.45	29.57	46.85
13	58.07	20.90	---	23.04	21.92	20.81	21.64	21.41	21.81	22.49	33.19	48.22
14	59.19	21.63	---	23.11	21.92	20.91	21.28	21.55	21.87	22.58	36.94	---
15	60.50	22.05	---	23.15	21.92	20.92	20.37	21.73	21.97	22.66	40.63	---
16	61.79	22.33	---	23.18	21.96	20.68	20.43	21.81	22.04	22.75	44.09	---
17	62.83	22.52	---	23.29	21.95	20.85	20.59	21.74	22.08	22.89	46.82	---
18	63.59	22.60	---	23.38	21.92	20.87	20.65	21.23	22.10	23.13	49.26	---
19	64.10	22.65	---	23.43	21.90	20.03	20.80	21.33	21.81	23.24	51.35	---
20	64.26	---	---	22.32	21.84	18.95	21.04	21.58	20.72	21.96	53.20	---
21	64.50	---	---	21.98	21.22	19.04	21.24	21.74	20.64	22.21	54.86	---
22	64.85	---	---	22.26	21.23	19.13	21.43	21.87	21.01	22.37	56.06	---
23	65.19	---	---	22.34	21.26	19.26	21.59	21.94	21.36	22.56	57.39	---
24	65.44	---	---	22.57	21.25	19.43	21.75	22.00	21.57	22.67	58.83	---
25	65.62	---	---	22.74	21.15	19.62	21.85	22.11	20.10	22.79	59.98	---
26	65.81	---	---	22.87	21.15	19.82	21.95	22.17	19.95	22.98	60.80	---
27	65.99	---	---	22.99	21.01	19.90	21.99	22.21	20.47	23.23	61.41	---
28	66.11	---	---	22.75	20.87	19.98	22.04	22.26	20.93	24.79	62.05	---
29	66.21	---	---	21.45	---	20.05	22.13	22.31	21.36	27.55	62.73	---
30	65.72	---	---	21.42	---	20.08	22.18	22.28	21.60	30.25	63.38	---
31	65.61	---	---	21.42	---	20.03	---	22.29	---	33.09	64.02	---
MEAN	57.85	---	---	---	21.64	20.05	20.91	21.91	21.31	23.26	45.03	---
MAX	66.21	---	---	---	21.96	20.92	22.18	22.31	22.38	33.09	64.02	---
MIN	38.55	---	---	---	20.87	18.95	18.82	21.23	19.63	21.73	22.98	---

2-Lower Eleven Point

COUNTY--Oregon

WELL INDENTIFICATION 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.

REMARKS--Several days missing when recorder did not operate.

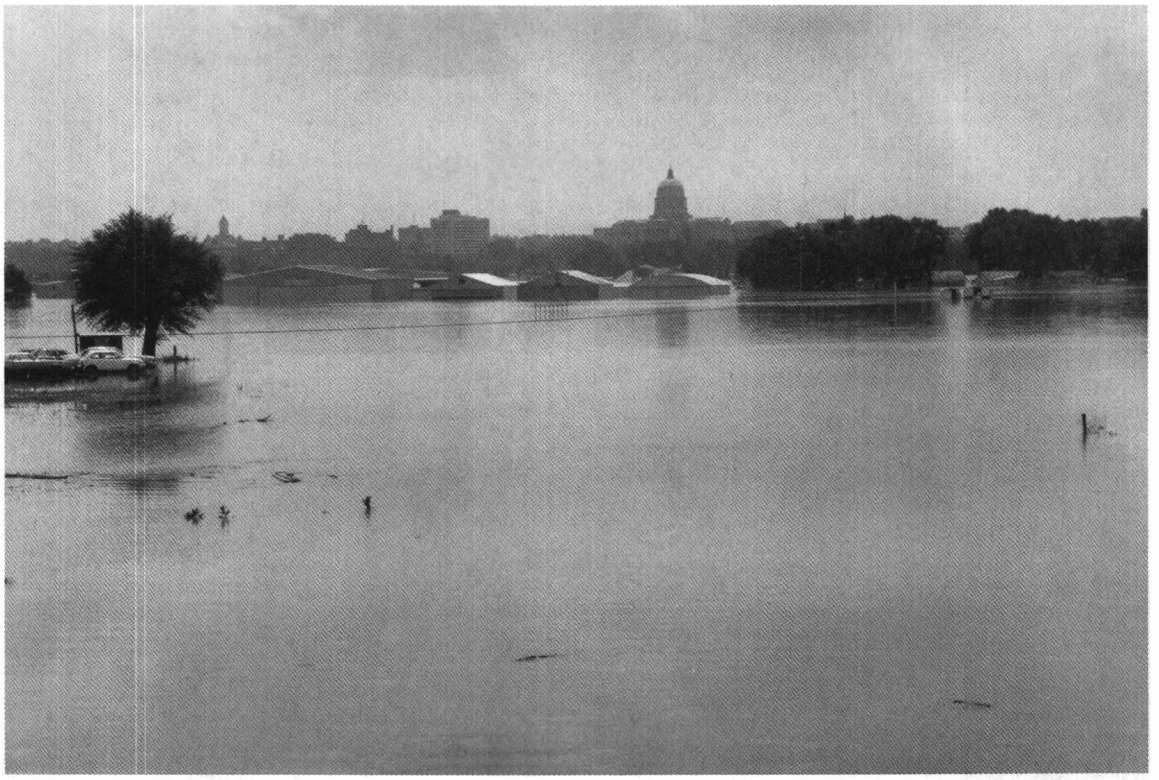
PERIOD OF RECORD--October 19, 1989 to present.

WATER LEVEL DEPTH BELOW LAND SURFACE (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	326.86	329.11	320.35	---	304.30	---	301.18	301.05	---	308.63	313.93	317.79
2	326.87	329.19	320.88	---	304.69	---	301.46	301.23	---	308.81	314.14	317.83
3	326.94	329.40	321.31	---	305.16	---	301.49	301.42	---	308.98	314.42	317.98
4	327.07	329.62	321.81	---	305.73	---	301.47	301.50	305.43	309.18	314.69	318.12
5	327.36	329.67	322.48	---	306.06	---	---	301.41	305.48	309.40	314.74	318.15
6	327.51	329.84	322.64	---	306.48	---	---	301.06	304.99	309.74	314.80	318.29
7	327.45	329.82	322.84	---	306.84	---	---	300.58	304.45	309.99	315.04	318.43
8	327.41	329.79	323.17	---	307.32	---	---	300.28	304.18	310.20	315.30	318.38
9	327.61	329.82	---	---	307.82	---	---	300.19	304.28	310.48	315.43	318.40
10	327.75	329.85	---	---	308.13	---	---	300.15	304.48	310.75	315.45	318.72
11	327.95	329.75	---	---	308.30	---	---	300.13	304.70	310.89	315.57	318.86
12	327.94	329.40	---	---	308.79	---	---	299.93	304.88	311.05	315.61	318.78
13	328.00	328.92	---	---	309.23	---	---	299.71	305.10	311.27	315.71	318.91
14	328.09	327.73	---	301.48	309.61	298.31	---	299.71	305.34	311.55	315.76	319.02
15	328.22	326.76	---	301.56	309.78	298.61	---	299.66	305.63	311.71	315.66	319.41
16	328.44	325.79	---	301.76	310.05	298.88	---	---	305.84	311.83	315.60	319.48
17	328.59	325.23	---	302.26	310.65	299.48	---	---	306.08	312.01	315.60	319.56
18	328.65	325.03	---	302.74	---	299.79	---	---	306.37	312.19	315.67	319.57
19	328.72	324.94	---	303.09	---	299.92	300.67	---	306.57	312.41	315.79	319.56
20	328.64	324.81	---	303.23	---	300.20	300.36	---	306.85	312.57	315.87	319.58
21	328.87	325.02	---	303.40	---	300.44	300.39	---	307.06	312.65	316.10	319.85
22	329.04	324.55	---	303.24	---	300.46	300.17	---	307.19	312.71	316.19	319.89
23	329.00	324.08	---	302.81	---	300.56	299.77	---	307.30	312.75	316.32	319.92
24	328.87	322.87	---	302.93	---	300.67	299.49	---	307.51	312.82	316.52	---
25	328.89	321.74	---	302.85	---	300.77	299.71	---	307.74	312.95	316.80	---
26	328.89	321.10	---	302.70	---	300.82	300.05	---	307.92	313.08	317.00	---
27	329.03	320.50	---	302.74	---	300.84	300.10	---	307.97	313.17	317.07	---
28	329.13	320.11	---	302.90	---	300.89	300.26	---	308.17	313.38	317.16	---
29	329.19	320.09	---	303.48	---	300.93	300.45	---	308.33	313.63	317.27	---
30	329.21	320.19	---	303.74	---	300.94	300.77	---	308.48	313.76	317.42	---
31	329.33	---	---	303.81	---	300.98	---	---	---	313.89	317.61	---
MEAN	328.24	326.16	---	---	---	---	---	---	---	311.56	315.81	---
MAX	329.33	329.85	---	---	---	---	---	---	---	313.89	317.61	---
MIN	326.86	320.09	---	---	---	---	---	---	---	308.63	313.93	---

Hydrographers measuring discharge of the Missouri River at U.S. Highway 370 Bridge at St. Charles, Missouri, on August 2, 1993.

Upstream view of the Martin Luther King Bridge on July 22, 1993, from Eads Bridge at St. Louis, Missouri.



Missouri River at Jefferson City, Missouri, on July 15, 1993 (courtesy of Greg Sawyer).

Flags directly in front of the Gateway Arch on July 18, 1993, downstream from the Poplar Street Bridge at St. Louis, Missouri (courtesy of Greg Sawyer).

☆ U.S. GOVERNMENT PRINTING OFFICE: 1994—557-791

CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
	Length	
inch (in.)	2.54×10^{1}	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^{0}	kilometer
	Area	
acre	4.047×10^{3}	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi^2)	2.590×10^{0}	square kilometer
	Volume	
gallon (gal)	3.785×10^{0}	liter
	3.785×10^{0}	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^{3}	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft^3)	2.832×10^{1}	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic–foot–per–second day [(ft^3/s) d]	2.447×10^{3}	cubic meter
	2.447×10^{-3}	cubic hectometer
acre–foot (acre–ft)	1.233×10^{3}	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
	Flow	
cubic foot per second (ft^3/s)	2.832×10^{1}	liter per second
	2.832×10^{1}	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^{1}	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
	Mass	
ton (short)	9.072×10^{-1}	megagram or metric ton

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

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