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

Water Resources Data
Missouri
Water Year 2003

Water-Data Report MO-03-1

U.S. Department of the Interior
U.S. Geological Survey

CALENDAR FOR WATER YEAR 2003

2002

OCTOBER

S	M	T	W	T	F	S
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NOVEMBER

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2003

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28	29	30				

Water Resources Data
Missouri
Water Year 2003

By H.S. Hauck and C.D. Nagel

Prepared in cooperation with the State of Missouri
and with other agencies.

Water-Data Report MO-03-1

U.S. Department of the Interior
U.S. Geological Survey

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U.S. Geological Survey
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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 ensuring 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 and C. Shane Barks, Hydrologic Surveillance Section Chief and Michael E. Slifer, District Chief, Missouri.

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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 the water years, constitute a valuable data base for developing an improved understanding of the water resources of Missouri.

Water-resources data for the 2003 water year for Missouri consist of records of stage, discharge, and water quality of streams; elevation, contents, and water quality of lakes and reservoirs. This volume contains discharge records for 171 gaging stations; elevation at 12 lakes and reservoirs; water quality at 106 sampling stations (including 2 lakes); data for 39 crest-stage stations; data for 9 water-quality partial-record stations; and water-level records for 8 ground-water monitoring wells.

14. SUBJECT TERMS
Missouri, Hydrologic data, Surface-water, Quality-water, Ground-water, Gaging stations, Streamflow, Flow rates, Lakes, Reservoirs, Chemical analysis, Sediment, Water temperature, Water analysis, Water levels, Data collection

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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/or contents]

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FOR WHICH RECORDS ARE PUBLISHED IN THIS VOLUME

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Saline Creek:		
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Wilson Creek near Springfield (d)	07052100	577
South Creek near Springfield (d)	07052120	579
Wilson Creek near Brookline (d,c,m)	07052152	581
Wilson Creek near Battlefield (d,c,m)	07052160	585
James River near Boaz (d,c,m)	07052250	591
Finley Creek below Riverdale (d,c,m)	07052345	596
James River at Galena (d,c,m)	07052500	602
Flat Creek at Jenkins (c,m)	07052800	607

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

	Station Number	Page
LOWER MISSISSIPPI RIVER BASIN--Continued		
WHITE RIVER BASIN--Continued		
Table Rock Lake near Branson (e)	07053400	609
White River below Table Rock Dam near Branson (c,t)	07053450	611
Lake Taneycomo at College of the Ozarks (c,t)	07053600	614
Lake Taneycomo at Branson (c,m)	07053700	617
Bull Creek near Walnut Shade (d)	07053810	620
Swan Creek near Swan (c,m)	07053900	622
Beaver Creek at Bradleyville (d)	07054080	624
North Fork River near Tecumseh (d,c,m)	07057500	626
Bryant Creek below Evans (c,m)	07057750	630
Bryant Creek near Tecumseh (d)	07058000	632
Black River:		
West Fork Black River at Centerville (c,m)	07061150	634
East Fork Black River near Ironton (c,m)	07061260	636
Black River near Annapolis (d)	07061500	638
Black River below Annapolis (c,m)	07061600	640
Logan Creek at Ellington (d)	07061900	642
Clearwater Lake near Piedmont (e)	07062000	644
Black River at Poplar Bluff (d)	07063000	646
Current River above Akers (d)	07064533	648
Jacks Fork near Mountain View (d)	07065200	650
Jacks Fork above Alley Spring (c,m)	370857091265901	652
Jacks Fork at Alley Spring (d)	07065495	653
Alley Spring below Alley (c,m)	370901091262001	655
Jacks Fork at Eminence (d,c,m)	07066000	656
Jacks Fork above 2nd Unnamed Hollow below Eminence (c,m)	370905091204001	659
Jacks Fork above Lick Log Hollow below Eminence (c,m)	371014091201301	660
Jacks Fork above Two Rivers (c,m)..	07066110	662
Jacks Fork above Powell Spring above Two Rivers (c,m)	371026091183301	664
Shawnee Creek above Two Rivers (c,m)	371019091180101	665
Jacks Fork above Little Shawnee Creek above Two Rivers (c,m)	371020091174101	666
Jacks Fork below 3rd Unnamed Hollow above Two Rivers (c,m)	371054091173501	667
Current River at Van Buren (d)	07067000	668
Big Spring near Van Buren (d,c,m)	07067500	670
Current River at Doniphan (d,c,m)	07068000	674
Little Black River below Fairdealing (c,m)	07068510	679
Eleven Point River:		
Greer Spring at Greer (d,c,m)	07071000	684
Eleven Point River near Bardley (d,c,m)	07071500	686
ARKANSAS RIVER BASIN		
Arkansas River:		
Neosho River:		
Spring River near Carthage (d)	07185765	690
Spring River near Waco (d)	07186000	692
Center Creek near Smithfield (c,m)	07186480	694
Turkey Creek near Joplin (c,m)	07186600	696
Shoal Creek at Pioneer (d)	07186690	698
Shoal Creek above Joplin (d)	07187000	700
Big Sugar Creek near Powell (d)	07188653	702
Indian Creek near Lanagan (d)	07188885	704
Patterson Creek near Tiff City (c,m)	07188950	706
Elk River near Tiff City (d,c,m)	07189000	708
Buffalo Creek at Tiff City (d)	07189100	713

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

	Station Number	Page
IRON COUNTY		
Viburnum Trend Well 1	374252091065401	728
Viburnum Trend Well 2	373905091071001	730
Viburnum Trend Well 3	373628091064801	732
REYNOLDS COUNTY		
Viburnum Trend Well 4	373307091074001	734
Viburnum Trend Well 5	373056091063801	736
Viburnum Trend Well 6	372853091061801	738
Viburnum Trend Well 7	372608091063301	740
Viburnum Trend Well 8	371910091081101	742

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. 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	Type of record	Station number	Drainage area (mi^2)	Period of record
Middle Fabius River near Baring	(d)	05497500	185	1930-1961
North River at Bethel	(d)	05500500	58.0	1930-1973
Oak Dale Branch near Emden	(d)	05503000	2.64	1955-1975
North Fork Salt River near Hunnewell	(d)	05503500	626	1931-1940, 1979-1988
Youngs Creek near Mexico	(d)	05506000	67.4	1930-1982
Middle Fork Salt River at Duncan's Bridge	(d)	05506190	200	1980-1982
Elk Fork Salt River near Paris	(d)	05507000	262	1930-1954, 1980-1982
Salt River near Monroe City	(d)	05507500	2,230	1939-1981
Calumet Creek near Clarksville	(d)	05509700	15.7	1965-1972
Tarkio River at Fairfax	(d)	06813000	508	1922-1990
Mill Creek at Oregon	(d)	06816000	4.90	1950-1976
Nodaway River near Burlington Junction	(d)	06817500	1,240	1922-1983
Platte River at Ravenwood	(d)	06818900	486	1921-1923, 1924-1925, 1928-1932, 1958-1971
White Cloud Creek near Maryville	(d)	06820000	6.06	1948-1970
Jenkins Branch at Gower	(d)	06821000	2.72	1950-1976
Line Creek at Riverside	(d)	06821280	19.2	1975-1981
Brush Creek at Main Street in Kansas City	(d)	06893560	14.8	1970-1979
Rock Creek at Independence	(d)	06893600	5.20	1967-1974
Shoal Creek at Claycomo	(d)	06893670	29.8	1975-1981
L. Blue River bl Longview Dam at Kansas City	(d)	06893793	50.3	1966-1999
East Fork L. Blue River near Blue Springs	(d)	06893890	34.4	1974-1999
East Fork Fishing River at Excelsior Spring	(d)	06894500	20.0	1950-1972
Sni-A-Bar Creek near Tarsney	(d)	06894680	29.1	1970-1979
Crooked River near Richmond	(d)	06895000	159	1948-1970
Wakenda Creek at Carrollton	(d)	06896000	248	1948-1970
Thompson Branch near Albany	(d)	06896500	5.58	1955-1972
Thompson River at Mount Moriah	(d)	06898100	891	1960-1977
Weldon River near Mercer	(d)	06898500	246	1939-1959
Weldon River at Mill Grove	(d)	06899000	494	1929-1972
Shoal Creek near Braymer	(d)	06899700	391	1957-1977
Medicine Creek near Galt	(d)	06900000	225	1921-1975, 1977-1990
West Yellow Creek near Brookfield	(d)	06902200	135	1959-1977
Hamilton Branch near New Boston	(d)	06902500	2.51	1955-1972
Mussel Fork near Musselfork	(d)	06906000	267	1948-1951, 1962-1990
Thomas Hill Lake near Thomas Hill	(e)	06906350	147	1966-1974
Middle Fork Chariton River below Salisbury	(d)	06906470	201	1964-1970
Burge Branch near Arrow Rock	(d)	06906600	0.33	1959-1973
Flat Creek near Sedalia	(d)	06906700	148	1958-1967
Lamine River at Clifton City	(d)	06907000	598	1922-1971
South Fork Blackwater near Elm	(d)	06907500	16.6	1954-1979
Blackwater River at Valley City	(d)	06907700	547	1958-1973
Shiloh Branch near Marshall	(d)	06908500	2.87	1952-1965
Moniteau Creek near Fayette	(d)	06909500	81	1948-1969
Petite Saline Creek near Boonville	(d)	06910000	182	1948-1967
Hinkson Creek at Columbia	(d)	06910230	44.8	1964-1976, 1986-1991

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

Station name	Type of record	Station number	Drainage area (mi^2)	Period of record
Cedar Creek near Columbia	(d)	06910410	70.2	1966-1982, 1987-1991
Chesapeake Spring at Chesapeake	(d)	06918444	--	1926,1932 1936,1954 1963-1968
Oak Grove Branch near Brighton	(d)	06918700	1.30	1956-1975
Little Sac River at Aldrich	(d)	06918800	304	1967-1968
S. Fork Dry Sac River near Springfield	(d)	06918493	13.7	1996-2002
Pomme de Terre River near Bolivar	(d)	06921000	225	1950-1969
Pomme de Terre River at Hermitage	(d)	06921500	655	1921-1965
South Grand River at Archie	(d)	06921590	356	1969-1986
South Grand River at Urich	(d)	06921600	670	1960-1969
Big Creek at Blairstown	(d)	06921720	414	1960-1974
Brushy Creek near Blairstown	(d)	06921740	1.15	1960-1975
South Grand River near Brownington	(d)	06922000	1,660	192l-1971
Osage River bl Harry S. Truman Dam at Warsaw	(d)	06922450	11,500	1978-2002
Big Buffalo Creek near Stover	(d)	06922800	24.2	1965-1977
Niangua River near Windyville	(d)	06923250	338	1991-1996
Bennett Spring at Bennett Springs	(d)	06923500	--	1916-1920, 1928-1941, 1965-1995
Niangua River near Decaturville	(d)	06924000	627	1929-1969
Starks Creek at Preston	(d)	06925200	4.18	1956-1976
Van Cleve Branch near Meta	(d)	06926200	0.75	1956-1972
Osage River near St. Thomas	(d)	06926500	14,500	1931-1996
Big Hollow near Fulton	(d)	06927200	4.05	1957-1972
Osage Fork Gasconade River at Drynob	(d)	06927800	404	1962-1981
Laquey Branch near Hazlegreen	(d)	06928200	1.58	1958-1972
Gasconade River near Waynesville	(d)	06928500	1,680	1914-1971
Beeler Branch near Cabool	(d)	06928700	7.78	1967-1976
Little Beaver Creek near Rolla	(d)	06931500	6.45	1947-1975
Loutre River at Mineola	(d)	06935500	202	1947-1967
Coldwater Creek near Hazelwood	(d)	06936200	12.1	1996-2001
Coldwater Creek near St. Louis	(d)	06936500	43.6	1959-1965
Meramec River at Cook Station	(d)	07010350	199	1965-1981
Maramec Spring near St. James	(d)	07010500	--	1903-1906, 1921-1929, 1965-1986
Green Acre Branch near Rolla	(d)	07011500	0.62	1947-1975
Bourbeuse River near St. James	(d)	07015000	21.3	1947-1981
Lanes Fork near Rolla	(d)	07015500	0.225	1952-1971
Bourbeuse River near Spring Bluff	(d)	07016000	608	1943-1981
Dry Branch near Bonne Terre	(d)	07017500	3.35	1955-1975
Sandy Creek near Pevely	(d)	07019690	32.5	1966-1968, 1969-1972
Plattin Creek at Plattin	(d)	07019790	65.8	1965-1972
Saline Creek near Minnith	(d)	07020270	82.6	1968-1981
Brewers Creek near Ironton	(d)	07033800	2.19	1964-1966
St. Francis River near Roselle	(d)	07034000	234	1983-1997
Little St. Francis River at Fredericktown	(d)	07035000	90.5	1983-1997
Barnes Creek near Fredericktown	(d)	07035500	3.35	1955-1975
St. Francis River near Saco	(d)	07036100	664	1983-1997
Clark Creek near Piedmont	(d)	07037700	4.39	1956-1976
Little River Ditch 81 near Kennett	(d)	07041000	111	1926-1979
Little River Ditch 1 near Kennett	(d)	07042000	235	1926-1979
Little River Ditch 251 near Lilbourn	(d)	07042500	235	1945-1991
Castor River at Aquilla	(d)	07043000	175	1945-1981
Little River Ditch 251 near Kennett	(d)	07044000	883	1926-1979

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

Station name	Type of record	Station number	Drainage area (mi^2)	Period of record
Little River Ditch 66 near Kennett	(d)	07045000	--	1926-1979
Little River Ditch 66-A near Kennett	(d)	07045500	--	1927-1965
Little River Ditch 259 near Kennett	(d)	07046000	89.0	1926-1979
Roaring River Spring near Cassville	(d)	07050150	--	1965-1968
James River near Strafford	(d)	07050580	165	1973-1986
Wilson Creek below Springfield	(d)	07052150	47.2	1967-1972
White River near Branson	(d)	07053500	4,022	1952-2002
Hodgson Mill Spring at Sycamore	(d)	07057800	--	1965-1968
Taum Sauk Creek near Lesterville	(d)	07061280	10.1	2001-2002
East Fork L. Black River near Lesterville	(d)	07061300	94.5	1960-1990
Black River near Leeper	(d)	07062500	987	1921-1994
Fudge Hollow near Licking	(d)	07064300	1.72	1956-1976
Montauk Springs at Montauk	(d)	07064400	--	1964-1968
Big Creek near Yukon	(d)	07064500	8.36	1949-1975, 1960-1990
Round Spring at Round Spring	(d)	07065000	--	1928-1939, 1965-1979
Alley Spring at Alley	(d)	07065500	--	1928-1939, 1965-1979
Current River near Eminence	(d)	07066500	1,272	1921-1975
Middle Fork Little Black River at Grandin	(d)	07068250	6.85	1980-1984
North Prong Little Black River near Grandin	(d)	07068300	39.4	1980-1984
Little Black River near Grandin	(d)	07068380	79.5	1980-1984
Little Black River below Fairdealing	(d)	07068510	194	1980-1986
Logan Creek at Oxly	(d)	07068540	37.5	1980-1984
Little Black River at Success, AR	(d)	07068600	386	1980-1986
Fourche River near Poynor	(d)	07068863	87.2	1976-1983
Eleven Point River near Thomasville	(d)	07070500	361	1950-1976
Stahl Creek near Miller	(d)	07185500	3.86	1950-1976
Spring River at La Russell	(d)	07185700	306	1947-1981
Center Creek near Carterville	(d)	07186400	232	1962-1991
Center Creek below Carl Junction	(d)	07186475	299	1993-1995
Turkey Creek near Joplin	(d)	07186600	41.8	1963-1972

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
Mississippi River at Canton	05495150	--	C,T	1969-1975
Middle Fabius River near Monticello	05498000	393	S	1980-1986
North River at Palmyra	05501000	373	C	1972-1975
Mississippi River at Hannibal	05501600	--	C,M	1982-1989
North Fork Salt River near Shelbina	05502500	481	S	1988-1994
North Fork Salt River near Hunnewell	05503500	626	S	1980-1988
Middle Fork Salt River at Paris	05506500	356	S	1980-1997
Salt River near New London	05508000	2,480	C,M,T	1967-1975, 1977-1990
			S	1980-1997
Mississippi River at Alton, IL	05587500	171,500	S	1980-1985, 1986-1989
Mississippi River below Alton, IL	05587550	171,500	C,M	1975-1989
Nodaway River near Oregon	06817800	--	C,M	1968-1975, 1977-1989
Platte River at Platte City	06821200	--	C	1967-1975
Missouri River at Sibley	06894100	--	C,T	1972-1975
Thompson River near Chillicothe	06899620	--	C,M	1968-1975, 1983-1987
East Fork Little Chariton River near Macon	06906200	112	C	1971-1974
Middle Fork L. Chariton R. below Salisbury	06906470	201	C,M	1983-1986
Burge Branch near Arrow Rock	06906600	0.33	S	1961-1964
Lamine River near Blackwater	06908800	2,610	B,C,M,T	1979-1986
Missouri River at Boonville	06909000	505,700	T	1953-1959, 1960-1964
Hinkson Creek at Columbia	06910230	70.2	T	1987-1991
Cedar Creek near Columbia	06910410	44.8	C,M	1987-1991
Cedar Creek near Ashland	06910414	--	C,M	1983-1989
Marais Des Cygnes River near Worland	06916650	3,230	C,M	1962-1963, 1972-1975, 1977-1981
East Fork Drywood Creek at Prairie State Park	06917630	--	C,M	1994-1997
Sac River near Dadeville	06918440	257	C,M,T	1974-1978, 1980-1982, 1983-1987
Stockton Lake near Stockton	06918990	1,160	T	1974-1977
Pomme de Terre River near Hermitage	06921350	615	T	1974-1977
Pomme de Terre River at Hermitage	06921500	615	T	1970-1978
South Grand River at Urich	06921600	670	C,M	1983-1987
South Grand River near Clinton	06921760	1,270	S	1991-1999
West Fork Tebo Creek near Lewis	06922190		C,M	1983-1991
Trib. to Middle Fork Tebo Creek nr Leeton	06922075	--	C	1989-1992
Tebo Creek at Leesville	06922200	--	B,C,M,T	1978-1983
Osage River at Warsaw	06922500	11,500	T	1969-1978
Big Buffalo Creek near Stover	06922800	24.2	T	1965-1977
Big Buffalo Creek at Big Buffalo Wildlife Area	06922850	24.5	C,M	1994-1997
Dousinbury Creek near Wall Street	06923150	39.5	C,M	1993-1997
Niangua River near Windyville	06923250	338	C,M	1991-1995
Bennett Spring at Bennett Springs	06923500	--	C,M	1991-1993
Ha Ha Tonka Spring at Ha Ha Tonka State Park	06924500	--	C,M	1994-1996
Coakley Hollow Spr. Br. at Lake of the Ozarks	06925445	--	C,M	1994-1996
Gasconade River near Hooker	06928600	--	C,M	1977-1986
Missouri River near St. Louis	06935840	--	C,T	1969-1974
Paddy Creek above Slabtown Springs	06929318	338	C,M	1991-1995
Shanghai Spring near Waynesville	06930400		C,M	1994-1997

DISCONTINUED SURFACE-WATER-QUALITY STATIONS--Continued

Station name	Station number	Drainage area (mi^2)	Tye of record	Period of record
Mississippi River at East St. Louis, IL	07001000	--	C	1969-1973
Crooked Creek near Dillard	07013050	--	C	1982-1988
Coonville Creek at St. Francis State Park	07017605		C,M	1993-1997
Meramec River near Eureka	07019000	3,788	C,M	1978-1994
Pickle Creek at Hawn State Park	07020200	--	C,M	1994-1997
Mississippi River at Cape Girardeau	07020850	--	C,T	1969-1974
Headwater Diversion Channel near Allenville	07021800	--	C	1969-1975
Big Creek at Chloride	07036940	--	C	1969-1975, 1983-1990
St. Francis River at St. Francis, AR	07040100	--	C	1969-1975
Little River Ditch 1 near Morehouse	07043500	450	C,M	1996-1997
Little River Ditches near Kennett	07046001	--	C,M	1969-1970, 1972-1973, 1977-1989, 1992-1993
Roaring River at Roaring River State Park	07050152	--	C,M	1991-1993
James River near Nixa	07050750	273	T	1966-1975, 1977-1980
James River near Wilson Creek	07051600	--	C,M	1967-1982, 1983-1987
Wilson Creek near Springfield	07052100	31.4	C,T	1972-1982
Wilson Creek below Springfield	07052150	47.2	C,T	1967-1970, 1970-1972
James River west of Nixa	07052200	440	C	1962-1963, 1965-1967
Finley Creek at Riverdale	07052340	--	C	1967-1975
Double Spring near Dora	07057475	--	C,M	1994-1997
Black River at Poplar Bluff	07063000	1,245	C,M	1983-1987
Black River below Poplar Bluff	07063050	--	C	1969-1975
Main Ditch near Neelyville	07063300	--	C	1969-1975
Middle Fork Little Black River at Grandin	07068250	6.85	T	1980-1984
North Prong Little Black River near Grandin	07068300	39.4	C,M	1980-1984
Little Black River near Grandin	07068380	79.5	C,M,S,T	1980-1984
Logan Creek at Oxly	07068540	37.5	C,M,S,T	1980-1984
Little Black River near Naylor	07068550	--	C	1969-1975
Little Black River at Success, AR	07068600	386	C,M,S,T	1980-1986
Fourche River near Poynor	07068863	87.2	T	1976-1983
Fourche River near Middlebrook, AR	07068867	--	C	1969-1975
Spring River near Thayer	07069170	--	C	1969-1975
Mammoth Spring at Mammoth Spring, AR	07069200	--	C,M	1994-1996
Eleven Point River below Bardley	07071900	--	C	1969-1975
Spring River near Waco	07186000	1,164	C	1965-1975, 1977-1978, 1980-1981
Center Creek near Carterville	07186400	232	C,M	1980-1989
Shoal Creek above Joplin	07187000	427	C,M	1968-1968, 1979-1982
Shoal Creek near Galena, KS	07187560	--	C	1968-1975
Lost Creek at Seneca	07188500	42	C	1967-1975
Little Sugar Creek at Caverna	07188820	--	C	1967-1975
Buffalo Creek at Tiff City	07189100	--	C	1967-1975

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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 171 gaging stations; elevation at 12 lakes and reservoirs; water quality at 106 sampling stations (including 2 lakes); data for 39 crest-stage stations; data for 9 water-quality partial-record stations; and water-level records for 8 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, Information Services, Federal Center, Box 25286, 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-03-1."

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.

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 (573) 308-3667.

COOPERATION

The U.S. Geological Survey and State and local agencies and organizations in 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 published in this report through cooperative agreements are:

City of Columbia
City of Perryville
City Utilities of Springfield
Holt County
Kansas City Water Service Department
Metropolitan St. Louis Sewer Disttrict
Missouri Department of Conservation
Missouri Department of Natural Resources
  Geological Survey and Resource Assessment Division
  Water Protection and Soil Conservation Division
  Water Pollution Control Program
Missouri Department of Transportation
St. Charles County Rivers and Streams Project

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

Ameren UE Company of Missouri
National Park Service, Midwest Region
Sho-Me Power Electric Cooperative
U.S. Army Corps of Engineers
U.S. Department of Agriculture
  U.S. Forest Service
U.S. Department of the Army
U.S. Department of Commerce
  National Oceanic and
    Atmospheric Administration
  National Weather Service
U.S. Fish and Wildlife Service

WATER USE--2000

Listed below are general water-use facts for the state of Missouri. The major water uses and percentage of surface water and ground water for the 2000 calendar year are shown in figure 1.

MISSOURI WATER USE FACT SHEET

1. Total water use in Missouri was 8,240 million gallons per day (Mgal/d).

2. Total population was 5.60 million, an increase of 5.3 percent from 1995.

3. Per capita water use for all uses was 1,470 gallons per person per day.

4. Surface-water withdrawals totalled 6,450 Mgal/d, about 78.3 percent of the total use. The largest use was in the St. Louis and Kansas City metropolitan areas.

5. Ground-water withdrawals totalled 1,790 Mgal/d, about 21.7 percent of total use. The largest ground-water use was for irrigation in southeastern Missouri.

6. The largest overall use of water was for thermoelectric power generation, about 5,640 Mgal/d to produce 76,700 gigawatt-hours of electricity.

7. Surface water accounts for 5,620 Mgal/d (99.8 percent) of the thermoelectric power generation use. About 5,200 Mgal/d of surface water was used by plants with once-through cooling water systems; the remainder was used by plants with recirculating cooling water systems.

8. The largest use of ground water was 1,380 Mgal/d for irrigation. Total irrigation water use was 1,430 Mgal/d.

9. Water withdrawals by public suppliers was 872 Mgal/d; 68.1 percent surface water and 31.9 percent ground water.

10. Domestic water use was 491 Mgal/d; 11 percent self-supplied and 89 percent public-supplied. Per capita domestic water use was 87.8 gallons per person per day.

11. Commercial water use was 87.0 Mgal/d; 14 percent self-supplied and 86 percent public-supplied.

12. Industrial and mining water use was 200 Mgal/d; 40 percent self-supplied and 60 percent public-supplied.

13. Public use and losses were 238 Mgal/d, calculated from the total water withdrawals for public supply minus deliveries to domestic, commercial, industrial, and thermoelectric uses.

14. Non-irrigation agriculture water use was 156 Mgal/d for livestock and aquaculture use. About 83.3 Mgal/d is used for fish farms and in-stream fish hatcheries.

15. Water use for in-stream and off-stream hydroelectric power generation was 10,900 Mgal/d to produce 408 gigawatt-hours of electricity. These values are not included in the withdrawal totals, as the water was left in or returned to the stream with no appreciable losses.

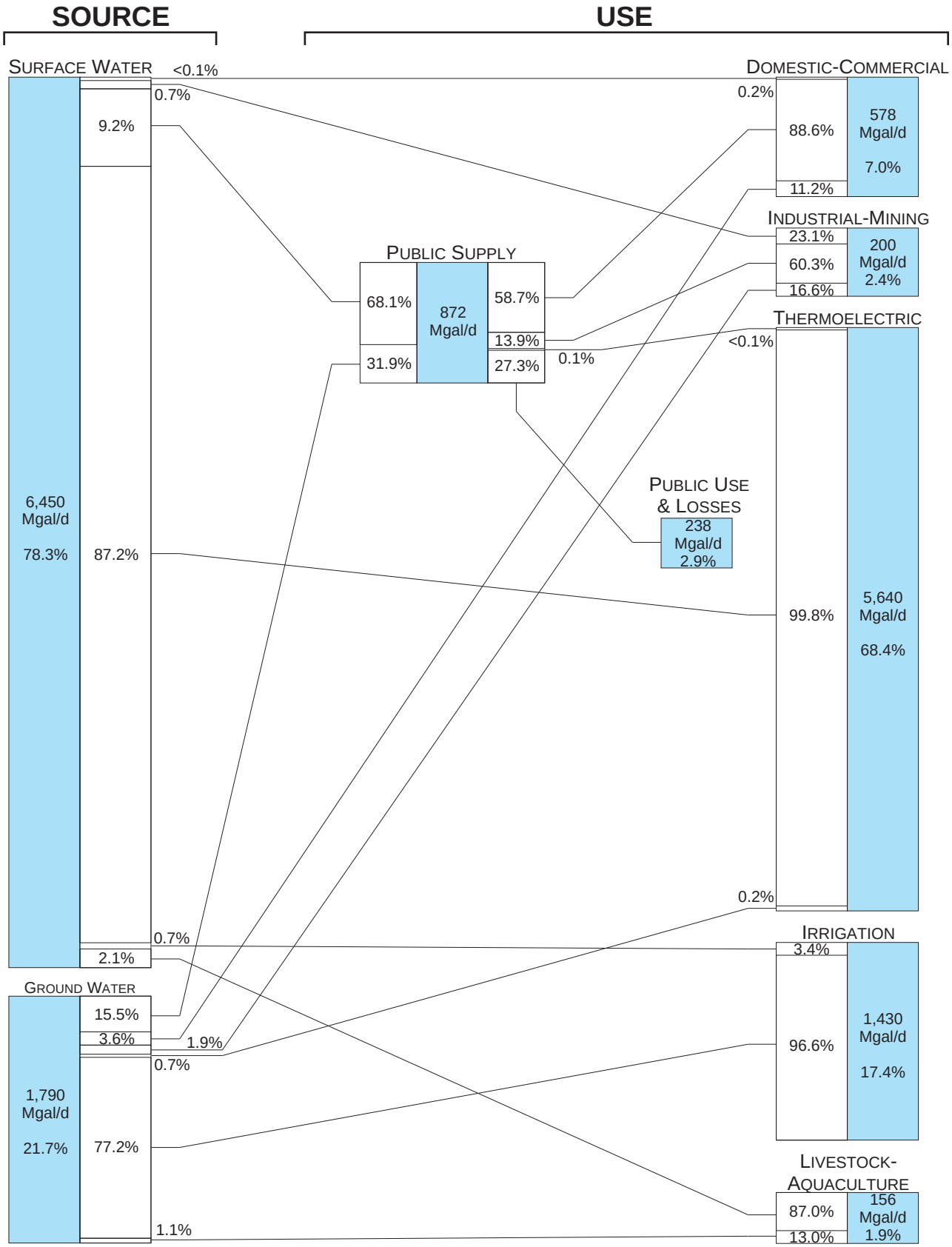


Figure 1. Source and use values and percentages for major offstream water-use categories in Missouri during the 2000 calendar year.

PHYSIOGRAPHY

Missouri has three distinct physiographic areas--the Central Lowland in the north and west, the Mississippi Alluvial Plain in the southeast, and between them the Ozark Plateaus (Figure 2).

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 North American Vertical Datum of 1988. 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 North American Vertical Datum of 1988.

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 North American Vertical Datum of 1988. The area is well drained and contains excellent farmland.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water--Streamflow

Streamflow varies seasonally in Missouri and often reflects precipitation patterns unless the stream is regulated. Precipitation was below normal throught the state during November, January, and March. Also, below normal precipitation was experienced in the Northwest Prairie (figure 3) in February, May, July, and August; the Northeast Prairie in February, July, and August; the West Central Plains in October, December, May, June, and July; the West Ozarks in October, April, May, July, and September; the East Ozarks in April and July; and the Bootheel in April. For the entire water year, all regions experienced below normal rainfall except for the Northeast Prairie and the Bootheel.

Generally, the 2003 water year mean discharges were less than the long-term mean discharges for the state except for the Bootheel area (figure 2). Monthly discharges during the 2003 water year and period of record median monthly discharges at six representative stations are shown in Figure 3.

Peak discharges for the 2003 water year are compared to the peak discharges for the period of record at 14 selected gaging stations in Table 1. The 7-day average low flow for the 2001 water year 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 2003 water year with those for period of record for selected stations

Station identification		Peak discharge during 2003 water year: Cubic feet per second	Peak discharge during 2003 water year: Date	Peak discharge for period of record: Cubic feet per second	Peak discharge for period of record: Date
05495000	Fox River at Wayland (1922-2003)	8,350	July 11	26,400	Apr. 22, 1973
05587450	Mississippi River at Grafton, Ill. (1928-2003)	249,000	May 12	598,000	Aug. 1, 1993
06893000	Missouri River at Kansas City (1898-2003)	81,400	June 14	573,000	July 14, 1951
06894000	Little Blue River near Lake City (1948-2003)	2,590	Aug. 31	42,300	Aug. 13, 1982
06897500	Grand River near Gallatin (1921-2003)	2,620	May 11	89,800	July 7, 1993
06905500	Chariton River near Prairie Hill (1929-2003)	5,110	May 5	37,100	May 13, 2002
06933500	Gasconade River at Jerome (1923-2003)	9,950	May 7	136,000	Dec. 5, 1982
06934500	Missouri River at Hermann (1898-2003)	158,000	May 11	750,000	July 31, 1993
07010000	Mississippi River at St. Louis (1861-2003)	400,000	May 12	1,080,000	Aug. 1, 1993
07019000	Meramec River near Eureka (1922-2003)	38,200	May 8	145,000	Dec. 6, 1982
07022000	Mississippi River at Thebes, Ill. (1933-2003)	478,000	May 13	996,000	Aug. 7, 1993
07057500	North Fork River near Tecumseh (1945-2003)	3,410	April 29	133,000	Nov. 19, 1985
07068000	Current River at Doniphan (1919-2003)	9,040	April 27	122,000	Dec. 3, 1982
07186000	Spring River near Waco (1924-2003)	2,980	April 7	151,000	Sept. 26, 1993

Table 2.--Comparisons of 2003 7-day low flows to 7-day, 2-year low flows and minimum flows for the period of record for selected stations

[Flows in cubic feet per second]

Station identification and period of record used (water years)	Average 7-day low flows: 2003	Average 7-day low flows: 2-year[1]	Minimum flows for period of record used: Discharge	Minimum flows for period of record used: Years of occurrence
05495000 Fox River at Wayland (1922-97)	1.7	1.3	0	Several years
06820500 Platte River near Agency (1933-97)	6.9	17	0	Several years
06921070 Pomme de Terre River near Polk (1969-97)	6.2	3.0	0.3	1980
07016500 Bourbeuse River at Union (1921-97)	31	32	11	1957
07067000 Current River at Van Buren (1912-97)	514	700	473	1957
07187000 Shoal Creek above Joplin (1942-97)	66	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.

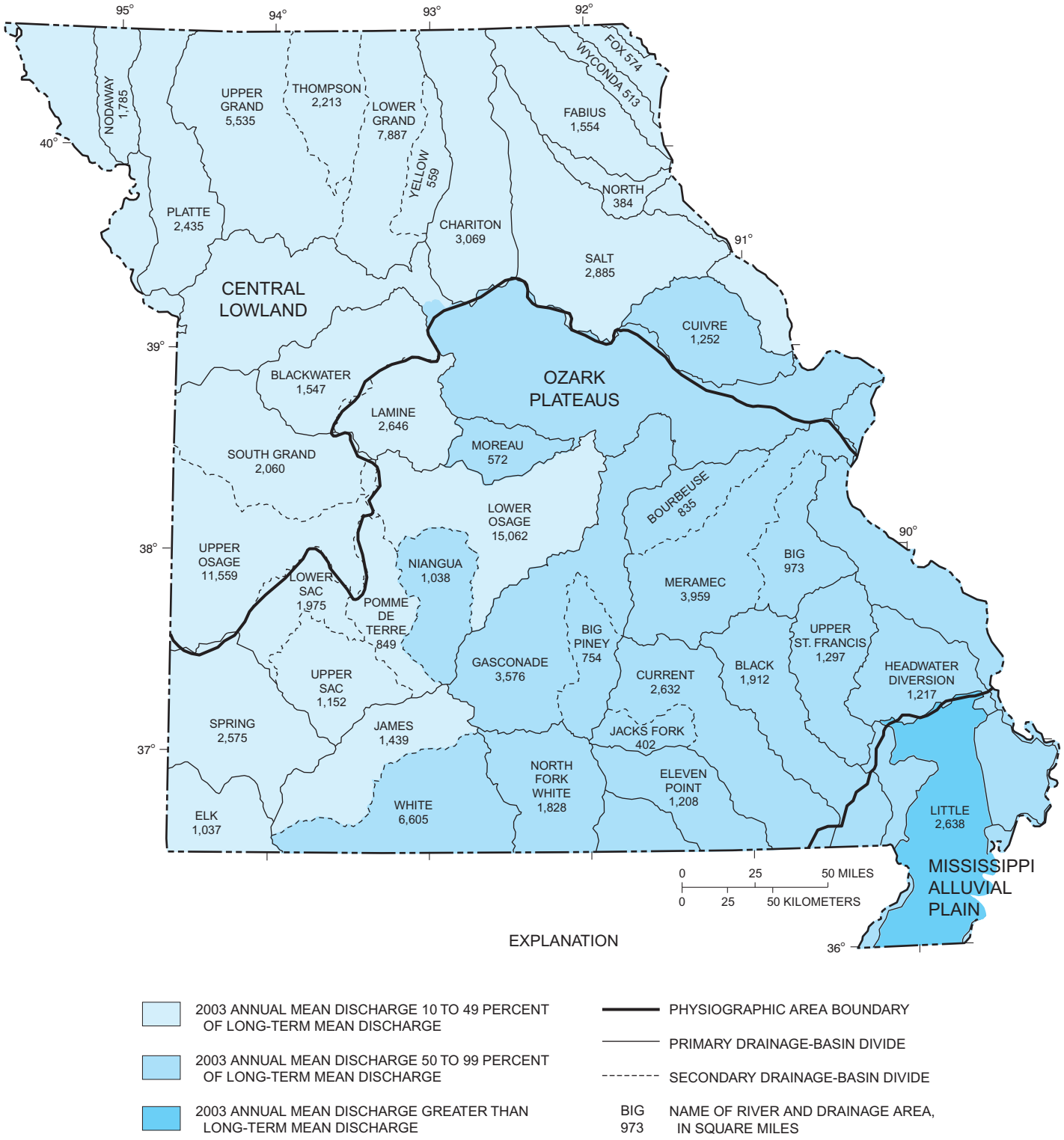


Figure 2. Major drainage basins, physiographic areas, and areas of mean discharge during the 2003 water year.

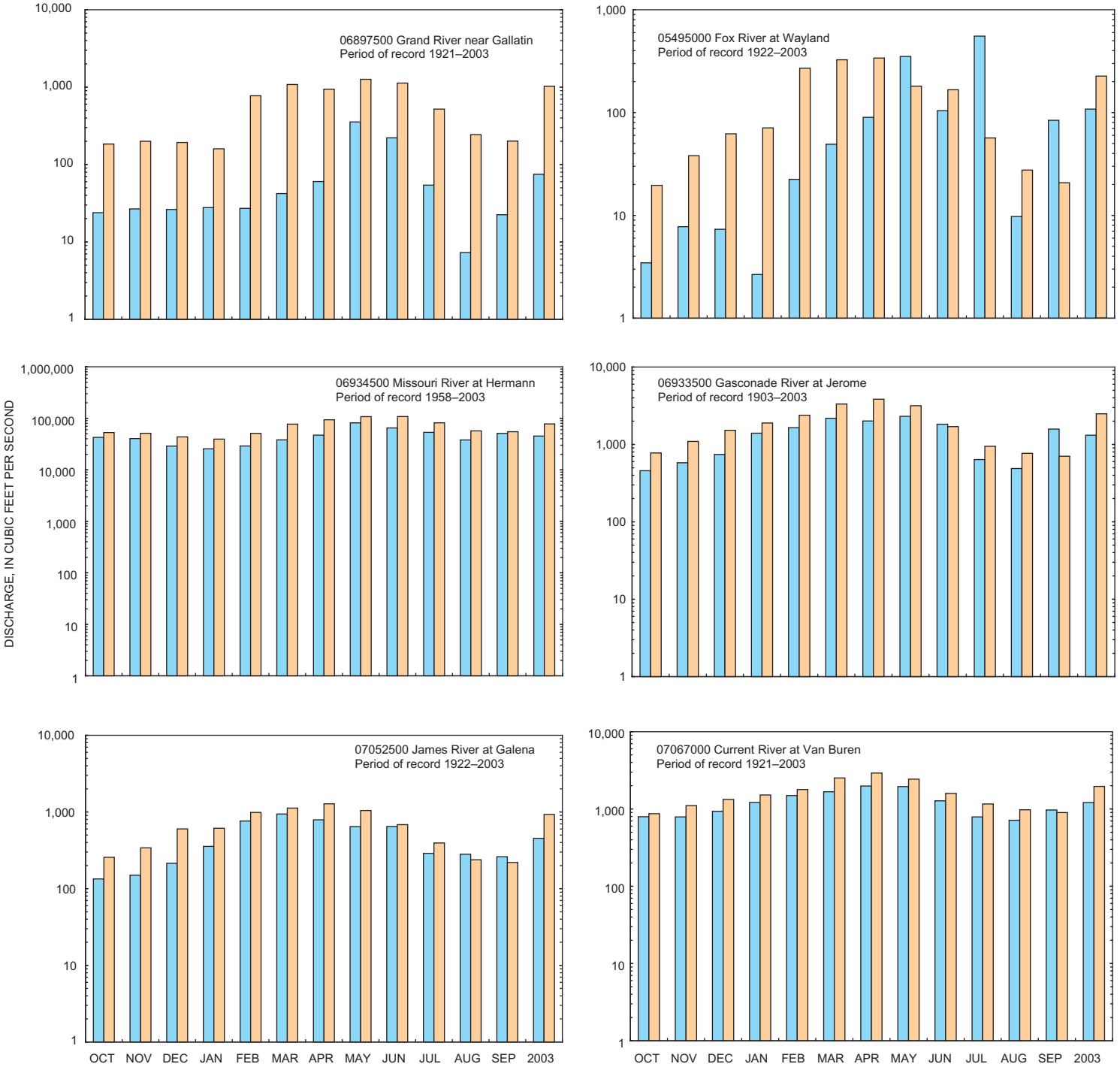


Figure 3. Comparison of 2003 water-year mean discharge to period of record median discharge at six representative gaging stations.

Surface-Water-Quality

Samples for determining the chemical quality of streamflow were collected at 115 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, major ions, nutrients, trace elements, indicator bacteria, sediment, and pesticides.

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.

Table 3.--Comparison of range of dissolved-solids concentrations in selected streams for the 2003 water year with those for period of record.

Station identification and Period of Record	Dissolved-solids concentration (milligrams per liter)			
	2003 Water Year		Period of Record	
	Minimum	Maximum	Minimum	Maximum
05514500 Cuivre River near Troy (1983-2003)	221	242	77	276
06818000 Missouri River at St. Joseph (1970-2003)	438	521	217	592
06902000 Grand River near Sumner (1967-2003)	186	312	72	456
06926510 Osage River below St. Thomas (1975-2003)	165	172	113	274
06930800 Gasconade River above Jerome (1978-2003)	140	187	82	222
06934500 Missouri River at Hermann (1969-2003)	233	520	154	636
07019280 Meramec River at Paulina Hills (1963-75, 1981-2003)	200	231	85	302

Daily suspended-sediment samples and data on the particle size of suspended sediment were collected at four 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 on the Mississippi River at Grafton and Thebes, Ill. and their minimum and maximum daily mean suspended-sediment concentrations during water year.

Table 4.--Comparison of inimum and maximum daily mean suspended-sediment concentrations at two selected stations for the 2003 water year with those for period of record.

Station identification and Period of Record	Daily mean suspended-sediment concentration (milligrams per liter)			
	2003 Water Year		Period of Record	
	Minimum	Maximum	Minimum	Maximum
05587455 Mississippi River below Grafton, IL (1989-2003)	11	691	1	1,910
07022000 Mississippi River at Thebes, IL (1981-2003)	53	944	13	3,890

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 61 sites in small drainage basins in 39 States that was established in 1963 to provide consistent streamflow data representative of undeveloped watersheds nationwide, and from which data could be analyzed on a continuing basis for use in comparison and contrast with conditions observed in basins more obviously affected by human activities. At selected sites, water-quality information is being gathered on major ions and nutrients, primarily to assess the effects of acid deposition on stream chemistry. Additional information on the Hydrologic Benchmark Program may be accessed from *http://water.usgs.gov/hbn*.

National Stream-Quality Accounting Network (NASQAN) is a network of sites used to monitor the water quality of large rivers within the Nation's largest river basins. From 1995 through 1999, a network of approximately 40 stations was operated in the Mississippi, Columbia, Colorado, and Rio Grande River basins. For the period 2000 through 2004, sampling was reduced to a few index stations in each main river basin. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound trace elements, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment (NAWQA) Program; (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals. Additional information about the NASQAN Program may be accessed from *http://water.usgs.gov/nasqan/*

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 66 member stations within this network. Each station has been assigned a U.S. Geological Survey downstream order number under which all data are stored in NWIS (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.

Additional information about the AWQN Program may be accessed from *http://mo.water.usgs.gov*

The Jacks Fork Water-Quality Monitoring Network is a data-collection network designed by both the U.S. Geological Survey and the National Park Service to better understand the extent and sources of microbiological contamination within the Jacks Fork. This contamination has resulted in the inclusion of an 8-mile reach of the Jacks Fork on Missouri's list of impaired waters as required by Section 303(d) of the Federal Clean Water Act. These data will provide the National Park Service and the State of Missouri with the information needed to craft a solution of abatement, regulation, prevention, and mitigation for the Jacks Fork.

The Metropolitan St. Louis Sewer District Network (MSD) is a data-collection network designed by both the U.S. Geological Survey and the Metropolitan St. Louis Sewer District to develop a baseline of stream stage, discharge, and water-quality data for several subbasins within the MSD jurisdictional area. These data will be used by MSD engineers to develop stormwater management strategies that will address concerns resulting from the U.S. Environmental Protection Agency's issuance of the Phase II stormwater regulations. There are currently 20 member stations within this network.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) is a network of monitoring sites that provide continuous measurement and assessment of the chemical constituents in precipitation throughout the United States. As the lead Federal agency, the USGS works together with over 100 organizations to provide a long-term, spatial and temporal record of atmospheric deposition generated from this network of 250 precipitation-chemistry monitoring sites. The USGS supports 74 of these 250 sites. This long-term, nationally consistent monitoring program, coupled with ecosystem research, provides critical information toward a national scorecard to evaluate the effectiveness of ongoing and future regulations intended to reduce atmospheric emissions and subsequent impacts to the Nation's land and water resources. Reports and other information on the NADP/NTN Program, as well as data from the individual sites, may be accessed from *http://bqs.usgs.gov/acidrain/*

The National Water-Quality Assessment (NAWQA) Program is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; to provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and to provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 42 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 is 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 water-resources managers to use in making decisions and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and Federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key Federal, State, and local water-resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies. Additional information about the NAWQA Program may be accessed from *http://water.usgs.gov/nawqa/*.

The USGS National Streamflow Information Program (NSIP) is a long-term program with goals to provide framework streamflow data across the Nation. Included in the program are creation of a permanent Federally funded streamflow network, research on the nature of streamflow, regional assessments of streamflow data and databases, and upgrades in the streamflow information delivery systems. Additional information about NSIP may be accessed from *http://water.usgs.gov/nsip/*.

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

EXPLANATION OF THE RECORDS

The surface- and ground-water records published in this report are for the water year that began October 1, 2002, and ended September 30, 2003. 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, and water-quality data for the surface water. 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, hydrologic-station records in USGS reports have been listed in order of downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary entering between two main-stream stations is listed between those stations. 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 located with respect to the stream to which it is immediately tributary is indicated by an indention in that list of stations in the front of this report. Each indentation represents one rank. This downstream order and system of indentation indicates which stations are on tributaries between any two stations and the rank of the tributary on which each station is located.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These station numbers are in the same downstream order used in this report. In assigning a station number, 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 composed of both types of stations. Gaps are consecutive. The complete 8-digit (or 10-digit) number for each station such as 09004100, which appears just to the left of the station name, includes a 2-digit part number "09" plus the 6-digit (or 8-digit) downstream order number "004100." In areas of high station density, an additional two digits may be added to the station identification number to yield a 10-digit number. The stations are numbered in downstream order as described above between stations of consecutive 8-digit numbers.

Numbering System for Wells and Miscellaneous Sites

The USGS well and miscellaneous site-numbering system is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site 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; the last 2 digits are a sequential number for wells within a 1-second grid. In the event that the latitude-longitude coordinates for a well and miscellaneous site are the same, a sequential number such as "01," "02," and so forth, would be assigned as one would for wells (see fig. 4). The 8-digit, downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

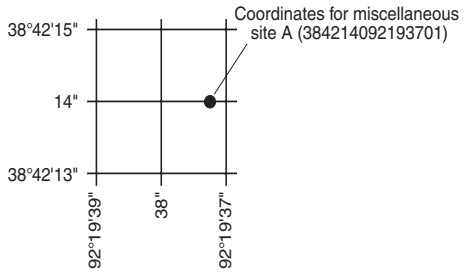


Figure 4. System for numbering miscellaneous sites (latitude and longitude).

EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS

Data Collection and Computation

The base data collected at gaging stations (fig. 6) consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and volume of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that is either downloaded electronically in the field to a laptop computer or similar device or is transmitted using telemetry such as GOES satellite, land-line or cellular-phone modems, or by radio transmission. Measurements of discharge are made with a current meter or acoustic Doppler current profiler, using the general methods adopted by the USGS. These methods are described in standard textbooks, USGS Water-Supply Paper 2175, and the Techniques of Water-Resources Investigations of the United States Geological Survey (TWRIs), Book 3, Chapters A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

For stream-gaging stations, discharge-rating tables for any stage are prepared from stage-discharge curves. If extensions to the rating curves are necessary to express discharge greater than measured, the extensions are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, or computation of flow over dams and 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 discharges are computed from the daily values. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features of the stream channel, 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 when 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 controlling section, the daily mean discharge is computed by the shifting-control method.

The stage-discharge relation at some stream-gaging stations is affected by backwater from reservoirs, tributary streams, or other sources. Such an occurrence 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 at some distance from the base gage.

An index velocity is measured using ultrasonic or acoustic instruments at some stream-gaging stations and this index velocity is used to calculate an average velocity for the flow in the stream. This average velocity along with a stage-area relation is then used to calculate average discharge.

At some stations, 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 in the northern United States, the stage-discharge relation is affected by ice in the winter; therefore, computation of the discharge in the usual manner is impossible. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter-discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge from other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the volume or 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 changes are 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 stream-gaging stations, periods of time occur when no gage-height record is obtained or the recorded gage height is faulty and cannot be used to compute daily discharge or contents. Such a situation can happen when the recorder stops or otherwise fails to operate properly, the 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 from other stations in the same or nearby basins. Likewise, lake or reservoir volumes may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

Data Presentation

The records published for each continuous-record surface-water discharge station (stream-gaging station) consist of five parts: (1) the station manuscript or description; (2) the data table of daily mean values of discharge for the current water year with summary data; (3) a tabular statistical summary of monthly mean flow data for a designated period, by water year; (4) 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; and (5) a hydrograph of discharge.

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 follow that clarify information presented under the various headings of the station description.

LOCATION.—Location information 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 term indicates the time 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 its flow reasonably can be considered equivalent to flow at the present station.

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

GAGE.—The type of gage in current use, the datum of the current gage referred to a standard datum, 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 either will be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily discharge table. (See section titled Identifying Estimated Daily Discharge.) Information is presented 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, the outlet works and spillway, and the purpose and use of the reservoir.

COOPERATION.—Records provided by a cooperating organization or obtained for the USGS by a cooperating organization are identified here.

EXTREMES OUTSIDE PERIOD OF RECORD.—Information here documents 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 USGS.

REVISIONS.—Records are revised if errors in published records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based National data system, NWISWeb (*http://water.usgs.gov/nwis/nwis*). Users are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent data updates. Updates to NWISWeb are made on an annual basis.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because no current or, possibly, future station manuscript would be published for these stations 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 revised after the station was discontinued. If, however, the data for a discontinued station were obtained by computer retrieval, the data would be current. 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 stage-capacity table when daily volumes are given.

Data table of daily mean values

A tabular summary of the mean (line headed MEAN), maximum (MAX), and minimum (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 values. The designated period will be expressed as FOR WATER YEARS __-__, 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. The designated period will consist of all of the station record within the specified water years, including complete months of record for partial water years, and may coincide with the period of record for the station. The water years for which the statistics are computed are consecutive, unless a break in the station record is indicated in the manuscript.

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, WATER YEARS __-__, will consist of all of the station records within the specified water years, including complete months of record for partial water years, and may coincide with the period of record for the station. The water years for which the statistics are computed are 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 the dates of occurrence do not fall within the selected water years listed in the heading, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration-curve statistics and runoff data also are given. Runoff data may be omitted if extensive regulation or diversion of flow is in effect in the drainage basin.

The following summary statistics data 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 for 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.

MAXIMUM PEAK FLOW.—The maximum instantaneous peak discharge occurring for the water year or designated period. Occasionally the maximum flow for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak flow is given in the table and the maximum flow may be reported in a footnote or in the REMARKS paragraph in the manuscript.

MAXIMUM PEAK STAGE.—The maximum instantaneous peak stage occurring for the water year or designated period. Occasionally the maximum stage for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak stage is given in the table and the maximum stage may be reported in the REMARKS paragraph in the manuscript or in a footnote. If the dates of occurrence of the maximum peak stage and maximum peak flow are different, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

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

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

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 table lists annual maximum stage and discharge at crest-stage stations, and the second table lists 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 are often made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for a 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. This identification is shown either by flagging individual daily values with the letter "e" and noting in 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 degree of accuracy of the records is stated in the REMARKS in the station description. "Excellent" indicates that about 95 percent of the daily discharges are within 5 percent of the true value; "good" within 10 percent; and "fair," within 15 percent. "Poor" indicates that daily discharges have less than "fair" accuracy. Different accuracies may be attributed to different parts of a given record.

Values of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft^3/s; to the nearest tenths between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures above 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharge values 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, values of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Data Available

Information of a more detailed nature than that published for most of the stream-gaging stations such as discharge measurements, gage-height records, and rating tables is available from the District office. Also, most stream-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 (see address that is shown on the back of the title page of this report

EXPLANATION OF SURFACE-WATER-QUALITY RECORDS

Collection and Examination of Data

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

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

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

Water Analysis

Most of the methods used for collecting and analyzing water samples are described in the TWRIs. A list of TWRIs is provided in this report.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross-section is homogeneous. 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 at several verticals to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

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

For chemical-quality stations equipped with digital monitors, the records consist of daily mean, maximum, and minimum values for each constituent measured, and are based on 15-minute or 1-hour intervals of recorded data beginning at 0000 hours and ending at 2400 hours for the day of record.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because discharge data is useful in the interpretation of surface-water quality. Records of surface-water quality in this report 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 *continuous-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 continuous- or partial-record station, where 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 *continuous records* as used in this report and *continuous recordings* that refer to a continuous graph or a series of discrete values recorded at short intervals. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 7.

Accuracy of the Records

One of four accuracy classifications is applied for measured physical properties at continuous-record stations on a scale ranging from poor to excellent. The accuracy rating is based on data values recorded before any shifts or corrections are made. Additional consideration also is given to the amount of publishable record and to the amount of data that have been corrected or shifted.

Table 5.--Rating classifications for continuous water-quality records

[≤, less than or equal to; ±, plus or minus value shown; °C, degree Celsius; >, greater than; %, percent; mg/L, milligram per liter; pH unit, standard pH unit]

Measured physical property	Rating			
	Excellent	Good	Fair	Poor
Water temperature	≤ ±0.2 °C	> ±0.2 to 0.5 °C	> ±0.5 to 0.8 °C	> ±0.8 °C
Specific conductance	≤ ±3%	> ±3 to 10%	> ±10 to 15%	> ±15%
Dissolved oxygen	≤ ±0.3 mg/L	> ±0.3 to 0.5 mg/L	> ±0.5 to 0.8 mg/L	> ±0.8 mg/L
pH	≤ ±0.2 unit	> ±0.2 to 0.5 unit	> ±0.5 to 0.8 unit	> ±0.8 unit
Turbidity	≤ ±5%	> ±5 to 10%	> ±10 to 15%	> ±15%

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of 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 record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-site Measurements and Sample Collection

In obtaining water-quality data, a major concern is assuring that the data obtained represent the naturally occurring quality of the water. To ensure this, certain measurements, such as water temperature, pH, and dissolved oxygen, must be made on site when the samples are taken. To assure that measurements made in the laboratory also represent the naturally occurring water, carefully prescribed procedures must 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 on-site measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D1 and D2; and Book 9, Chapters A1-A9. These TWRIs are listed in this report. Also, detailed information on collecting, treating, and shipping samples can be obtained from the USGS District office (see address that is shown on the back of title page in this report).

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at the time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal 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, mean, maximum, and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the District office.

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 section.

During periods of rapidly changing flow or rapidly changing concentration, samples may be 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 discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

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

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

Laboratory Measurements

Samples for indicator bacteria are analyzed locally. All other samples are analyzed by the USGS National Water Quality Laboratory (NWQL) in Lakewood, Colorado, unless otherwise noted. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chapter C1. Methods used by the USGS laboratories are given in the TWRIs, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, A4, and A5. These methods are consistent with ASTM standards and generally follow ISO standards.

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, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information 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 information in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

DRAINAGE AREA.—See Data Presentation information in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

PERIOD OF RECORD.—This indicates the time periods for which published water-quality records for the station are available. The periods are 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 record, sediment pumping sampler, 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 USGS by a cooperating organization are identified here.

EXTREMES.—Maximums and minimums are given only for parameters measured daily or more frequently. For parameters measured weekly or less frequently, true maximums or minimums may not have been obtained. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.—Records are revised if errors in published water-quality records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based National data system, NWISWeb (*http://waterdata.usgs.gov/nwis*). Users of USGS water-quality data are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent updates. Updates to the NWISWeb are made on an annual basis.

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

Remark Codes

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

PRINTED OUTPUT	REMARK CODE
>	Greater than
<	Less than
e	Estimated discharge
E	Estimated value
M	Presence verified, not quantified
S	Most probable value
U	Analyzed for, not detected

	VALUE QUALIFIER CODE
a	Value was extrapolated above
b	Value was extrapolated below
d	Diluted sample: method hi range exceeded
f	Sample field preparation problem
i	Result may be affected by interference
k	Counts outside acceptable range
n	Below the LRL and above the LT-MDL
@	Holding time exceeded

	NULL VALUE QUALIFIER CODE
b	Sample broken in shipment
c	Sample lost in lab
e	Required equipment not functional/available
r	Sample ruined in preparation
u	Unable to determine-matrix interference

Water Quality-Control Data

The USGS National Water Quality Laboratory (NWQL) collects quality-control data on a continuing basis to evaluate selected analytical methods to determine long-term method detection levels (LT-MDLs) and laboratory reporting levels (LRLs). These values are re-evaluated each year on the basis of the most recent quality-control data and, consequently, may change from year to year.

This reporting procedure limits the occurrence of false positive error. Falsely reporting a concentration greater than the LT-MDL for a sample in which the analyte is not present is 1 percent or less. Application of the LRL limits the occurrence of false negative error. The chance of falsely reporting a non-detection for a sample in which the analyte is present at a concentration equal to or greater than the LRL is 1 percent or less.

Accordingly, concentrations are reported as less than LRL for samples in which the analyte was either not detected or did not pass identification. Analytes detected at concentrations between the LT-MDL and the LRL and that pass identification criteria are estimated. Estimated concentrations will be noted with a remark code of "E." These data should be used with the understanding that their uncertainty is greater than that of data reported without the E remark code.

Data generated from quality-control (QC) samples are a requisite for evaluating the quality of the sampling and processing techniques as well as data from the actual samples themselves. Without QC data, environmental sample data cannot be adequately interpreted because the errors associated with the sample data are unknown. The various types of QC samples collected by this District office are described in the following section. Procedures have been established for the storage of water-quality-control data within the USGS. These procedures allow for storage of all derived QC data and are identified so that they can be related to corresponding environmental samples.

Blank Samples

Blank samples are collected and analyzed to ensure that environmental samples have not been contaminated in the overall data-collection process. The blank solution used to develop specific types of blank samples is a solution that is free of the analytes of interest. Any measured value signal in a blank sample for an analyte (a specific component measured in a chemical analysis) that was absent in the blank solution is believed to be due to contamination. Many types of blank samples are possible; each is designed to segregate a different part of the overall data-collection process. The types of blank samples collected in this district are:

Field blank—A blank solution that is subjected to all aspects of sample collection, field processing, preservation, transportation, and laboratory handling as an environmental sample.

Trip blank—A blank solution that is put in the same type of bottle used for an environmental sample and kept with the set of sample bottles before and after sample collection.

Equipment blank—A blank solution that is processed through all equipment used for collecting and processing an environmental sample (similar to a field blank but normally done in the more controlled conditions of the office).

Sampler blank—A blank solution that is poured or pumped through the same field sampler used for collecting an environmental sample.

Filter blank—A blank solution that is filtered in the same manner and through the same filter apparatus used for an environmental sample.

Splitter blank—A blank solution that is mixed and separated using a field splitter in the same manner and through the same apparatus used for an environmental sample.

Preservation blank—A blank solution that is treated with the same preservatives used for an environmental sample.

Reference Samples

Reference material is a solution or material prepared by a laboratory. The reference material composition is certified for one or more properties so that it can be used to assess a measurement method. Samples of reference material are submitted for analysis to ensure that an analytical method is accurate for the known properties of the reference material. Generally, the selected reference material properties are similar to the environmental sample properties.

Replicate Samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a duplicate is the special case consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. Many types of replicate samples are possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this district are:

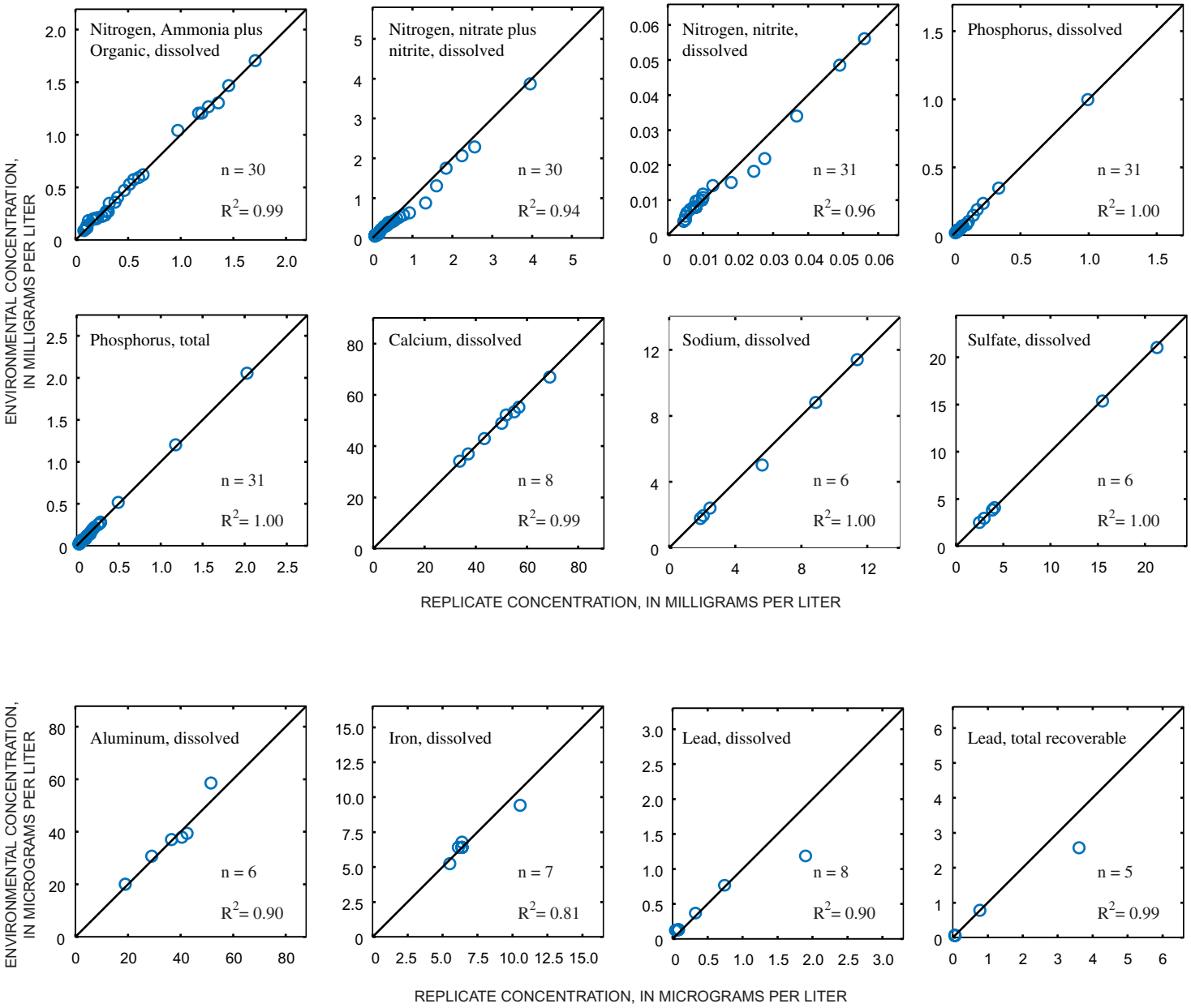
Concurrent samples—A type of replicate sample in which the samples are collected simultaneously with two or more samplers or by using one sampler and alternating the collection of samples into two or more compositing containers.

Sequential samples—A type of replicate sample in which the samples are collected one after the other, typically over a short time.

Split sample—A type of replicate sample in which a sample is split into subsamples, each subsample contemporaneous in time and space.

Spike Samples

Spike samples are samples to which known quantities of a solution with one or more well-established analyte concentrations have been added. These samples are analyzed to determine the extent of matrix interference or degradation on the analyte concentration during sample processing and analysis.



Replicate data are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. The data graphed above are replicate data that were collected during the 2003 water year for the Ambient Water-Quality Network. The value of "n" above is the number of sample sets used in each analysis. The line shown has a slope of one. The smaller the difference in concentrations of the environmental data with its replicate data, the closer the data plots to the line. This causes the resultant coefficient of determination (R^2) to be close to a value of one, proving the data is normally distributed with low variance.

Figure 5. Statistical interpretation of Ambient Water-Quality Network replicate data.

EXPLANATION OF GROUND-WATER-LEVEL RECORDS

Generally, only ground-water-level data from selected wells with continuous recorders from a basic network of observation wells are published in this report. This basic network contains observation wells located so that the most significant data are obtained from the fewest wells in the most important aquifers.

Site Identification Numbers

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is produced for local needs.

Data Collection and Computation

Measurements are made in many types of wells, under varying conditions of access and at different temperatures; hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

Most methods for collecting and analyzing water samples are described in the TWRIs referred to in the On-site Measurements and Sample Collection and the Laboratory Measurements sections in this report. In addition, TWRI Book 1, Chapter D2, describes guidelines for the collection and field analysis of ground-water samples for selected unstable constituents. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1 through A9. The values in this report represent water-quality conditions at the time of sampling, as much as possible, and that are consistent with available sampling techniques and methods of analysis. These methods are consistent with ASTM standards and generally follow ISO standards. Trained personnel collected all samples. The wells sampled were pumped long enough to ensure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

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 above sea level 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. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (EOM).

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 of 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 level 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 only to a tenth of a foot or a larger unit.

Data Presentation

Water-level data are presented in alphabetical order by county. The primary identification number for a given well is the 15-digit site identification number that appears in the upper left corner of the table. The secondary identification number is the local or county well number. Well locations are shown in figures 16; each well is identified on the map by its local well or county well number.

Each well record consists of three parts: the well description, the data table of water levels observed during the water year, and, for most wells, a hydrograph following the data table. Well descriptions are presented in the headings preceding the tabular data.

The following comments clarify information presented in these various headings.

LOCATION.—This paragraph follows the well-identification number and reports the hydrologic-unit number and a geographic point of reference. Latitudes and longitudes used in this report are reported as North American Datum of 1927 unless otherwise specified.

AQUIFER.—This entry designates by name and geologic age the aquifer that the well taps.

WELL CHARACTERISTICS.—This entry describes the well in terms of depth, casing diameter and depth or screened interval, method of construction, use, and changes since construction.

INSTRUMENTATION.—This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on continuous, monthly, or some other frequency of measurement.

DATUM.—This entry describes both the measuring point and the land-surface elevation at the well. The altitude of the land-surface datum is described in feet above the altitude datum; it is reported with a precision depending on the method of determination. The measuring point is described physically (such as top of casing, top of instrument shelf, and so forth), 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 National Geodetic Vertical Datum of 1929 (NGVD 29); it is reported with a precision depending on the method of determination.

REMARKS.—This entry describes factors that may influence the water level in a well or the measurement of the water level, when various methods of measurement were begun, and the network (climatic, terrane, local, or areal effects) or the special project to which the well belongs.

PERIOD OF RECORD.—This entry indicates the time period for which records are published for the well, the month and year at the start of publication of water-level records by the USGS, and the words “to current year” if the records are to be continued into the following year. Time periods for which water-level records are available, but are not published by the USGS, may be noted.

EXTREMES FOR PERIOD OF RECORD.—This entry contains the highest and lowest instantaneously recorded or measured water levels of the period of published record, with respect to land-surface datum or sea level, and the dates of occurrence.

Water-Level Tables

A table of water levels follows the well description for each well. Water-level measurements in this report are given in feet with reference to either sea level or land-surface datum (lsd). Missing records are indicated by dashes in place of the water-level value.

For wells not equipped with recorders, water-level measurements were obtained periodically by steel or electric tape. Tables of periodic water-level measurements in these wells show the date of measurement and the measured water-level value.

Hydrographs

Hydrographs are a graphic display of water-level fluctuations over a period of time. In this report, current water year and, when appropriate, period-of-record hydrographs are shown. Hydrographs that display periodic water-level measurements show points that may be connected with a dashed line from one measurement to the next. Hydrographs that display recorder data show a solid line representing the mean water level recorded for each day. Missing data are indicated by a blank space or break in a hydrograph. Missing data may occur as a result of recorder malfunctions, battery failures, or mechanical problems related to the response of the recorder's float mechanism to water-level fluctuations in a well.

GROUND-WATER-QUALITY DATA

Data Collection and Computation

The ground-water-quality data in this report were obtained as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some wells within a county but not for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide.

Most methods for collecting and analyzing water samples are described in the TWRIs. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRI, Book 1, Chapter D2; Book 3, Chapter C2; and Book 9, Chapters A1-A9. Also, detailed information on collecting, treating, and shipping samples may be obtained from the USGS District office (see address shown on back of title page in this report).

Laboratory Measurements

Analysis for sulfide and measurement of alkalinity, pH, water temperature, specific conductance, and dissolved oxygen are performed on site. All other sample analyses are performed at the USGS National Water Quality Llaboratory (NWQL)in Lakewood, Colorado, unless otherwise noted. Methods used by the USGS laboratory are given in TWRI, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, A4, and A5.

ACCESS TO USGS WATER DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the World Wide Web (WWW). These data may be accessed from *http://water.usgs.gov*.

Water-quality data and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on various media. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each Water Discipline District Office (See address that is shown on the back of the title page of this report.)

DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Terms such as algae, water level, and precipitation are used in their common everyday meanings, definitions of which are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting English units to International System (SI) Units. Other glossaries that also define water-related terms are accessible from *http://water.usgs.gov/glossaries.html*.

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an "unfiltered" sample (formerly reported as alkalinity).

Acre-foot (AC-FT, acre-ft) is a unit of volume, commonly used to measure quantities of water used or stored, equivalent to the volume of water required to cover 1 acre to a depth of 1 foot and equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters. (See also "Annual runoff")

Adenosine triphosphate (ATP) is an organic, phosphate-rich compound important in the transfer of energy in organisms. Its central role in living cells makes ATP an excellent indicator of the presence of living material in water. A measurement of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter.

Adjusted discharge is discharge data that have been mathematically adjusted (for example, to remove the effects of a daily tide cycle or reservoir storage).

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample. (See also "Biomass" and "Dry weight")

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid. This term designates titration of a "filtered" sample.

Annual runoff is the total quantity of water that is discharged ("runs off") from a drainage basin in a year. Data reports may present annual runoff data as volumes in acre-feet, as discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches.

Annual 7-day minimum is the lowest mean value for any 7-consecutive-day period in a year. Annual 7-day minimum values are reported herein for the calendar year and the water year (October 1 through September 30). Most low-flow frequency analyses use a climatic year (April 1-March 31), which tends to prevent the low-flow period from being artificially split between adjacent years. 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.)

Aroclor is the registered trademark for a group of poly-chlorinated biphenyls that were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific 4-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two

digits of a numbered aroclor represent the molecular type, and the last two digits represent the percentage weight of the hydrogen-substituted chlorine.

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

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

Aspect is the direction toward which a slope faces with respect to the compass.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, whereas 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.

Bankfull stage, as used in this report, is the stage at which a stream first overflows its natural banks formed by floods with 1- to 3-year recurrence intervals.

Base discharge (for peak discharge) is a discharge value, determined for selected stations, above which peak discharge data are published. The base discharge at each station is selected so that an average of about three peak flows per year will be published. (See also "Peak flow")

Base flow is sustained flow of a stream in the absence of direct runoff. It includes natural and human-induced streamflows. Natural base flow is sustained largely by ground-water discharge.

Bed material is the sediment mixture of which a stream-bed, lake, pond, reservoir, or estuary bottom is composed. (See also "Bedload" and "Sediment")

Bedload is material in transport that primarily is supported by the streambed. In this report, bedload is considered to consist of particles in transit from the bed to the top of the bedload sampler nozzle (an elevation ranging from 0.25 to 0.5 foot). These particles are retained in the bedload sampler. A sample collected with a pressure-differential bedload sampler also may contain a component of the suspended load.

Bedload discharge (tons per day) is the rate of sediment moving as bedload, reported as dry weight, that passes through a cross section in a given time. NOTE: Bedload discharge values in this report may include a component of the suspended-sediment discharge. A correction may be necessary when computing the total sediment discharge by summing the bedload discharge and the suspended-sediment discharge. (See also "Bedload," "Dry weight," "Sediment," and "Suspended-sediment discharge")

Benthic organisms are the group of organisms inhabiting the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish. They are useful as indicators of water quality.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

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

Biomass pigment ratio is an indicator of the total proportion of periphyton that are autotrophic (plants). This also is called the Autotrophic Index.

Blue-green algae (*Cyanophyta*) are a group of phytoplankton and periphyton organisms with a blue pigment in addition to a green pigment called chlorophyll. Blue-green algae can cause nuisance water-quality conditions in lakes and slow-flowing rivers; however, they are found commonly in streams throughout the year. The abundance of blue-green algae in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter ($\mu m^3/mL$). The abundance of blue-green algae in periphyton samples is given in cells per square centimeter ($cells/cm^2$) or biovolume per square centimeter ($\mu m^3/cm^2$). (See also "Phytoplankton"and "Periphyton")

Bottom material (See "Bed material")

Bulk electrical conductivity is the combined electrical conductivity of all material within a doughnut-shaped volume surrounding an induction probe. Bulk conductivity is affected by different physical and chemical properties of the material including the dissolved-solids content of the pore water, and the lithology and porosity of the rock.

Canadian Geodetic Vertical Datum 1928 is a geodetic datum derived from a general adjustment of Canada's first order level network in 1928.

Cell volume (biovolume) determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are used frequently in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm^3) is determined by obtaining critical cell measurements or cell dimensions (for example, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

sphere $4/3\ \pi r^3$ cone $1/3\ \pi r^2 h$ cylinder $\pi r^2 h$.

pi (π) is the ratio of the circumference to the diameter of a circle; pi = 3.14159….

From cell volume, total algal biomass expressed as biovolume ($\mu m^3/mL$) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes for all species.

Cells/volume refers to the number of cells of any organism that is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample volume, and generally are reported as cells or units per milliliter (mL) or liter (L).

Cfs-day (See "Cubic foot per second-day")

Channel bars, as used in this report, are the lowest prominent geomorphic features higher than the channel bed.

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 BOD or with carbonaceous organic pollution from sewage or industrial wastes. [See also "Biochemical oxygen demand (BOD)"]

Clostridium perfringens *(C. perfringens)* is a spore-forming bacterium that is common in the feces of human and other warmblooded animals. Clostridial spores are being used experimentally as an indicator of past fecal contamination and the presence of microorganisms that are resistant to disinfection and environmental stresses. (See also "Bacteria")

Coliphages are viruses that infect and replicate in coliform bacteria. They are indicative of sewage contamination of water and of the survival and transport of viruses in the environment.

Color unit is produced by 1 milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Confined aquifer is a term used to describe an aquifer containing water between two relatively impermeable bound-aries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases, the water level can rise above the ground surface, yielding a flowing well.

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.

Continuous-record station is a site where data are collected with sufficient frequency to define daily mean values and variations within a day.

Control designates a feature in the channel that physically affects the water-surface elevation and thereby determines the stage-discharge relation at the gage. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, 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 or to prevent the intrusion of saltwater.

Cubic foot per second (CFS, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second or approximately 449 gallons per minute, or 0.02832 cubic meters per second. The term "second-foot" sometimes is used synonymously with "cubic foot per second" but is now obsolete.

Cubic foot per second-day (CFS-DAY, Cfs-day, [(ft^3/s)/d]) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.98347 acre-feet, 646,317 gallons, or 2,446.6 cubic meters. The daily mean discharges reported in the daily value data tables numerically are equal to the daily volumes in cfs-days, and the totals also represent volumes in cfs-days.

Cubic foot per second per square mile [CFSM, (ft^3/s)/mi^2] 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. (See also "Annual runoff")

Daily mean suspended-sediment concentration is the time-weighted mean concentration of suspended sediment passing a stream cross section during a 24-hour day. (See also "Sediment" and "Suspended-sediment concentration")

Daily record station is a site where data are collected with sufficient frequency to develop a record of one or more data values per day. The frequency of data collection can range from continuous recording to data collection on a daily or near-daily basis.

Data collection platform (DCP) is an electronic instrument that collects, processes, and stores data from various sensors, and transmits the data by satellite data relay, line-of-sight radio, and/or landline telemetry.

Data logger is a microprocessor-based data acquisition system designed specifically to acquire, process, and store data. Data usually are downloaded from onsite data loggers for entry into office data systems.

Datum is a surface or point relative to which measurements of height and/or horizontal position are reported. A vertical datum is a horizontal surface used as the zero point for measurements of gage height, stage, or elevation; a horizontal datum is a reference for positions given in terms of latitude-longitude, State Plane coordinates, or Universal Transverse Mercator (UTM) coordinates. (See also "Gage datum," "Land-surface datum," "National Geodetic Vertical Datum of 1929," and "North American Vertical Datum of 1988")

Diatoms *(Bacillariophyta)* are unicellular or colonial algae with a siliceous cell wall. The abundance of diatoms in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter (μm^3/mL). The abundance of diatoms in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter ($\mu m^3/cm^2$). (See also "Phytoplankton" and "Periphyton")

Diel is of or pertaining to a 24-hour period of time; a regular daily cycle.

Discharge, or **flow**, is the rate that matter passes through a cross section of a stream channel or other water body per unit of time. The term commonly refers to the volume of water (including, unless otherwise stated, any sediment or other constituents suspended or dissolved in the water) that passes a cross section in a stream channel, canal, pipeline, and so forth, within a given period of time (cubic feet per second). Discharge also can apply to the rate at which constituents, such as suspended sediment, bedload, and dissolved or suspended chemicals, pass through a cross section, in which cases the quantity is expressed as the mass of constituent that passes the cross section in a given period of time (tons per day).

Dissolved refers to that material in a representative water sample that passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal and State agencies that collect water-quality data. Determinations of "dissolved" constituent concentrations are made on sample water that has been filtered.

Dissolved oxygen (DO) is the molecular oxygen (oxygen gas) dissolved in water. The concentration in water is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved-solids concentration. Photosynthesis and respiration by plants commonly cause diurnal variations in dissolved-oxygen concentration in water from some streams.

Dissolved solids concentration in water is the quantity of dissolved material in a sample of water. It is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L $CaCO_3$) can be converted to carbonate concentration by multiplying by 0.60.

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

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

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

Drainage area of a stream at a specific location is that area upstream from the location, measured in a horizontal plane, that has a common outlet at the site for its surface runoff from precipitation that normally drains by gravity into a stream. Drainage areas given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the Earth's surface that contains a drainage system with a common outlet for its surface runoff. (See "Drainage area")

Dry mass refers to the mass of residue present after drying in an oven at 105 °C, until the mass remains unchanged. This mass represents the total organic matter, ash, and sediment in the sample. Dry-mass values are expressed in the same units as ash mass. (See also "Ash mass," "Biomass," and "Wet mass")

Dry weight refers to the weight of animal tissue after it has been dried in an oven at 65 °C until a constant weight is achieved. Dry weight represents total organic and inorganic matter in the tissue. (See also "Wet weight")

Embeddedness is the degree to which gravel-sized and larger particles are surrounded or enclosed by finer-sized particles. (See also "Substrate embeddedness class")

Enterococcus bacteria commonly are found in the feces of humans and other warmblooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies with black or reddish-brown precipitate after incubation at 41 °C on mE agar (nutrient medium for bacterial growth) and subsequent transfer to EIA medium. Enterococci include *Streptococcus feacalis, Streptococcus feacium, Streptococcus avium,* and their variants. There concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

EPT Index is the total number of distinct taxa within the insect orders Ephemeroptera, Plecoptera, and Trichoptera. This index summarizes the taxa richness within the aquatic insects that generally are considered pollution sensitive; the index usually decreases with pollution.

Escherichia coli *(E. coli)* are bacteria present in the intestine and feces of warmblooded animals. *E. coli* are a member species of the fecal coliform group of indicator bacteria. In the laboratory, they are defined as those bacteria that produce yellow or yellow-brown colonies on a filter pad saturated with urea substrate broth after primary culturing for 22 to 24 hours at 44.5 °C on mTEC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Estimated (E) value of a concentration is reported when an analyte is detected and all criteria for a positive result are met. If the concentration is less than the method detection limit (MDL), an E code will be reported with the value. If the analyte is identified qualitatively as present, but the quantitative determination is substantially more uncertain, the National Water Quality Laboratory will identify the result with an E code even though the measured value is greater than the MDL. A value reported with an E code should be used with caution. When no analyte is detected in a sample, the default reporting value is the MDL preceded by a less than sign (<). For bacteriological data, concentrations are reported as estimated when results are based on non-ideal colony counts.

Euglenoids (*Euglenophyta*) are a group of algae that usually are free-swimming and rarely creeping. They have the ability to grow either photosynthetically in the light or heterotrophically in the dark. (See also "Phytoplankton")

Extractable organic halides (EOX) are organic compounds that contain halogen atoms such as chlorine. These organic compounds are semivolatile and extractable by ethyl acetate from air-dried streambed sediment. The ethyl acetate extract is combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the streambed sediment.

Fecal coliform bacteria are present in the intestines or feces of warmblooded animals. They often are 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 plus or minus 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. (See also "Bacteria")

Fecal streptococcal bacteria are present in the intestines of warmblooded animals and are ubiquitous in the environment. They are characterized as gram-positive, cocci bacteria that are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms that produce red or pink colonies within 48 hours at 35 °C plus or minus 1.0 °C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Fire algae (*Pyrrhophyta*) are free-swimming unicells characterized by a red pigment spot. (See also "Phytoplankton")

Flow-duration percentiles are values on a scale of 100 that indicate the percentage of time for which a flow is not exceeded. For example, the 90th percentile of river flow is greater than or equal to 90 percent of all recorded flow rates.

Gage datum is a horizontal surface used as a zero point for measurement of stage or gage height. This surface usually is located slightly below the lowest point of the stream bottom such that the gage height is usually slightly greater than the maximum depth of water. Because the gage datum is not an actual physical object, the datum is usually defined by specifying the elevations of permanent reference marks such as bridge abutments and survey monuments, and the gage is set to agree with the reference marks. Gage datum is a local datum that is maintained independently of any national geodetic datum. However, if the elevation of the gage datum relative to the national datum (North American Vertical Datum of 1988 or National Geodetic Vertical Datum of 1929) has been determined, then the gage readings can be converted to elevations above the national datum by adding the elevation of the gage datum to the gage reading.

Gage height (G.H.) is the water-surface elevation, in feet above the gage datum. If the water surface is below the gage datum, the gage height is negative. Gage height often is used interchangeably with the more general term "stage," although gage height is more appropriate when used in reference to a reading on a gage.

Gage values are values that are recorded, transmitted, and/or computed from a gaging station. Gage values typically are collected at 5-, 15-, or 30-minute intervals.

Gaging station is a site on a stream, canal, lake, or reservoir where systematic observations of stage, discharge, or other hydrologic data are obtained.

Gas chromatography/flame ionization detector (GC/FID) is a laboratory analytical method used as a screening technique for semivolatile organic compounds that are extractable from water in methylene chloride.

Geomorphic channel units, as used in this report, are fluvial geomorphic descriptors of channel shape and stream velocity. Pools, riffles, and runs are types of geomorphic channel units considered for National Water-Quality Assessment (NAWQA) Program habitat sampling.

Green algae *(Chlorophyta)* are unicellular or colonial algae with chlorophyll pigments similar to those in terrestrial green plants. Some forms of green algae produce mats or floating "moss" in lakes. The abundance of green algae in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter (μm^3/mL). The abundance of green algae in periphyton samples is given in cells per square centimeter (cells/cm^2) or biovolume per square centimeter ($\mu m^3/cm^2$). (See also "Phytoplankton" and "Periphyton")

Habitat, as used in this report, includes all nonliving (physical) aspects of the aquatic ecosystem, although living components like aquatic macrophytes and riparian vegetation also are usually included. Measurements of habitat typically are made over a wider geographic scale than are measurements of species distribution.

Habitat quality index is the qualitative description (level 1) of instream habitat and riparian conditions surrounding the reach sampled. Scores range from 0 to 100 percent with higher scores indicative of desirable habitat conditions for aquatic life. Index only applicable to wadable streams.

Hardness of water is a physical-chemical characteristic that commonly is recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations (primarily calcium and magnesium) and is expressed as the equivalent concentration of calcium carbonate ($CaCO_3$).

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. *See NOAA Web site: http://www.co-ops.nos.noaa.gov/tideglos.html*

Hilsenhoff's Biotic Index (HBI) is an indicator of organic pollution that uses tolerance values to weight taxa abundances; usually increases with pollution. It is calculated as follows:

$$HBI = sum\frac{(n)(a)}{N},$$

where n is the number of individuals of each taxon, a is the tolerance value of each taxon, and N is the total number of organisms in the sample.

Horizontal datum (See "Datum")

Hydrologic index stations referred to in this report are continuous-record gaging stations that have been selected as representative of streamflow patterns for their respective regions. Station locations are shown on index maps.

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

Inch (IN., in.), in reference to streamflow, as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were distributed uniformly on it. (See also "Annual runoff")

Instantaneous discharge is the discharge at a particular instant of time. (See also "Discharge")

International Boundary Commission Survey Datum refers to a geodetic datum established at numerous monuments along the United States-Canada boundary by the International Boundary Commission.

Island, as used in this report, is a mid-channel bar that has permanent woody vegetation, is flooded once a year, on average, and remains stable except during large flood events.

Laboratory reporting level (LRL) generally is equal to twice the yearly determined long-term method detection level (LT-MDL). The LRL controls false negative error. The probability of falsely reporting a nondetection for a sample that contained an analyte at a concentration equal to or greater than the LRL is predicted to be less than or equal to 1 percent. The value of the LRL will be reported with a "less than" (<) remark code for samples in which the analyte was not detected. The National Water Quality Laboratory (NWQL) collects quality-control data from selected analytical methods on a continuing basis to determine LT-MDLs and to establish LRLs. These values are reevaluated annually on the basis of the most cur-

rent quality-control data and, therefore, may change. The LRL replaces the term 'non-detection value' (NDV).

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Latent heat flux (often used interchangeably with latent heat-flux density) is the amount of heat energy that converts water from liquid to vapor (evaporation) or from vapor to liquid (condensation) across a specified cross-sectional area per unit time. Usually expressed in watts per square meter.

Light-attenuation coefficient, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation:

$$I = I_o e^{-\lambda L},$$

where I_o is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light-attenuation coefficient is defined as

$$\lambda = -\frac{1}{L}\log_e \frac{I}{I_o}.$$

Lipid is any one of a family of compounds that are insoluble in water and that make up one of the principal components of living cells. Lipids include fats, oils, waxes, and steroids. Many environmental contaminants such as organochlorine pesticides are lipophilic.

Long-term method detection level (LT-MDL) is a detection level derived by determining the standard deviation of a minimum of 24 method detection limit (MDL) spike-sample measurements over an extended period of time. LT-MDL data are collected on a continuous basis to assess year-to-year variations in the LT-MDL. The LT-MDL controls false positive error. The chance of falsely reporting a concentration at or greater than the LT-MDL for a sample that did not contain the analyte is predicted to be less than or equal to 1 percent.

Low tide is the minimum height reached by each falling tide. The high-low and low-low tides are the higher and lower of the two low tides, respectively, of each tidal day. *See NOAA Web site: http://www.co-ops.nos.noaa.gov/tideglos.html*

Macrophytes are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that usually are arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

Mean concentration of suspended sediment (Daily mean suspended-sediment concentration) is the time-weighted concentration of suspended sediment passing a stream cross section during a given time period. (See also "Daily mean suspended-sediment concentration" and "Suspended-sediment concentration")

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

Mean high or **low tide** is the average of all high or low tides, respectively, over a specific period.

Mean sea level is a local tidal datum. It is the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; for example, monthly mean sea level and yearly mean sea level. In order that they may be recovered when needed, such datums are referenced to fixed points known as benchmarks. (See also "Datum")

Measuring point (MP) is an arbitrary permanent reference point from which the distance to water surface in a well is measured to obtain water level.

Megahertz is a unit of frequency. One megahertz equals one million cycles per second.

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Method detection limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the analyte concentration is greater than zero. It is determined from the analysis of a sample in a given matrix containing the analyte. At the MDL concentration, the risk of a false positive is predicted to be less than or equal to 1 percent.

Method of Cubatures is a method of computing discharge in tidal estuaries based on the conservation of mass equation.

Methylene blue active substances (MBAS) indicate the presence of detergents (anionic surfactants). The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram (UG/G, µg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per kilogram (UG/KG, µg/kg) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

Micrograms per liter (UG/L, µg/L) is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter. One microgram per liter is equivalent to 1 part per billion.

Microsiemens per centimeter (US/CM, µS/cm) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of Units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in water as the mass (milligrams) of constituent per unit volume (liter) of water. Concentration of suspended sediment also is expressed in milligrams per liter and is based on the mass of dry sediment per liter of water-sediment mixture.

Minimum reporting level (MRL) is the smallest measured concentration of a constituent that may be reliably reported by using a given analytical method.

Miscellaneous site, miscellaneous station, or miscellaneous sampling site is a site where streamflow, sediment, and/or water-quality data or water-quality or sediment samples are collected once, or more often on a random or discontinuous basis to provide better areal coverage for defining hydrologic and water-quality conditions over a broad area in a river basin.

Most probable number (MPN) is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the laboratory examination; it is not an actual enumeration. MPN is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

Multiple-plate samplers are artificial substrates of known surface area used for obtaining benthic invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

National Geodetic Vertical Datum of 1929 (NGVD 29) is a fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It formerly was called "Sea Level Datum of 1929" or "mean sea level." Although the datum was derived from the mean sea level at 26 tide stations**,** it does not necessarily represent local mean sea level at any particular place. *See NOAA Web site: http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88* (See "North American Vertical Datum of 1988")

Natural substrate refers to any naturally occurring immersed or submersed solid surface, such as a rock or tree, upon which an organism lives. (See also "Substrate")

Nekton are the consumers in the aquatic environment and consist of large, free-swimming organisms that are capable of sustained, directed mobility.

Nephelometric turbidity unit (NTU) is the measurement for reporting turbidity that is based on use of a standard suspension of formazin. Turbidity measured in NTU uses nephelometric methods that depend on passing specific light of a specific wavelength through the sample.

North American Datum of 1927 (NAD 27) is the horizontal control datum for the United States that was defined by a location and azimuth on the Clarke spheroid of 1866.

North American Datum of 1983 (NAD 83) is the horizontal control datum for the United States, Canada, Mexico, and Central America that is based on the adjustment of 250,000 points including 600 satellite Doppler stations that constrain the system to a geocentric origin. NAD 83 has been officially adopted as the legal horizontal datum for the United States by the Federal government.

North American Vertical Datum of 1988 (NAVD 88) is a fixed reference adopted as the official civilian vertical datum for elevations determined by Federal surveying and mapping activities in the United States. This datum was established in 1991 by minimum-constraint adjustment of the Canadian**,** Mexican, and United States first-order terrestrial leveling networks.

Open or **screened interval** is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

Organic carbon (OC) is a measure of organic matter present in aqueous solution, suspension, or bottom sediment. May be reported as dissolved organic carbon (DOC), particulate organic carbon (POC), or total organic carbon (TOC).

Organic mass or **volatile mass** of a living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. Organic mass is expressed in the same units as for ash mass and dry mass. (See also "Ash mass," "Biomass," and "Dry mass")

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

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Organochlorine compounds are any chemicals that contain carbon and chlorine. Organochlorine compounds that are important in investigations of water, sediment, and biological quality include certain pesticides and industrial compounds.

Parameter code is a 5-digit number used in the USGS computerized data system, National Water Information System (NWIS), to uniquely identify a specific constituent or property.

Partial-record station is a site where discrete measurements of one or more hydrologic parameters are obtained over a period of time without continuous data being recorded or computed. A common example is a crest-stage gage partial-record station at which only peak stages and flows are recorded.

Particle size is the diameter, in millimeters (mm), of a particle determined by sieve or sedimentation methods. The sedimentation method uses the principle of Stokes Law to calculate sediment particle sizes. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube, sedigraph) 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, as used in this report, agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay	>0.00024 - 0.004	Sedimentation
Silt	>0.004 - 0.062	Sedimentation
Sand	>0.062 - 2.0	Sedimentation/sieve
Gravel	>2.0 - 64.0	Sieve
Cobble	>64 - 256	Manual measurement
Boulder	>256	Manual measurement

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. For the sedimentation method, most of the organic matter 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.

Peak flow (peak stage) is an instantaneous local maximum value in the continuous time series of streamflows or stages, preceded by a period of increasing values and followed by a period of decreasing values. Several peak values ordinarily occur in a year. The maximum peak value in a year is called the annual peak; peaks lower than the annual peak are called secondary peaks. Occasionally, the annual peak may not be the maximum value for the year; in such cases, the maximum value occurs at midnight at the beginning or end of the year, on the recession from or rise toward a higher peak in the adjoining year. If values are recorded at a discrete series of times, the peak recorded value may be taken as an approximation of the true peak, which may occur between the recording instants. If the values are recorded with finite precision, a sequence of equal recorded values may occur at the peak; in this case, the first value is taken as the peak.

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

Percent shading is a measure of the amount of sunlight potentially reaching the stream. A clinometer is used to measure left and right bank canopy angles. These values are added together, divided by 180, and multiplied by 100 to compute percentage of shade.

Periodic-record station is a site where stage, discharge, sediment, chemical, physical, or other hydrologic measurements are made one or more times during a year but at a frequency insufficient to develop a daily record.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. Although primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7.0 standard units are termed "acidic," and solutions with a pH greater than 7.0 are termed "basic." Solutions with a pH of 7.0 are neutral. The presence and concentration of many dissolved chemical constituents found in water are affected, in part, by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms also are affected, in part, by the hydrogen-ion activity of water.

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

Picocurie (PC, pCi) is one-trillionth (1×10^{-12}) of the amount of radioactive nuclide represented by a curie (Ci). A curie is the quantity of radioactive nuclide that yields 3.7×10^{10} radioactive disintegrations per second (dps). A picocurie yields 0.037 dps, or 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample.

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

Polychlorinated naphthalenes (PCNs) are industrial chemicals that are mixtures of chlorinated naphthalene compounds. They have properties and applications similar to polychlorinated biphenyls (PCBs) and have been identified in commercial PCB preparations.

Pool, as used in this report, is a small part of a stream reach with little velocity, commonly with water deeper than surrounding areas.

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

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [mg C/(m^2/time)] for periphyton and macrophytes or per volume [mg C/(m^3/time)] for phytoplankton. The carbon method defines the amount of carbon dioxide consumed as measured by radioactive carbon (carbon-14). The carbon-14 method is of greater sensitivity than the oxygen light- and dark-bottle method and is preferred for use with unenriched water samples. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [mg O/(m^2/time)] for periphyton and macrophytes or per volume [mg O/(m^3/time)] for phytoplankton. The oxygen method defines production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light- and dark-bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Radioisotopes are isotopic forms of elements that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

Reach, as used in this report, is a length of stream that is chosen to represent a uniform set of physical, chemical, and biological conditions within a segment. It is the principal sampling unit for collecting physical, chemical, and biological data.

Recoverable from bed (bottom) material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Com-

plete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in 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. (See also "Bed material")

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or nonexceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day, 10-year low flow ($7Q_{10}$) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the nonexceedances of the $7Q_{10}$ occur less than 10 years after the previous nonexceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous nonexceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the $7Q_{10}$.

Replicate samples are a group of samples collected in a manner such that the samples are thought to be essentially identical in composition.

Return period (See "Recurrence interval")

Riffle, as used in this report, is a shallow part of the stream where water flows swiftly over completely or partially submerged obstructions to produce surface agitation.

River mileage is the curvilinear distance, in miles, measured upstream from the mouth along the meandering path of a stream channel in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council and typically is used to denote location along a river.

Run, as used in this report, is a relatively shallow part of a stream with moderate velocity and little or no surface turbulence.

Runoff is the quantity of water that is discharged ("runs off") from a drainage basin during a given time period. Runoff data may be presented as volumes in acre-feet, as mean discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches. (See also "Annual runoff")

Sea level, as used in this report, refers to one of the two commonly used national vertical datums (NGVD 1929 or NAVD 1988). See separate entries for definitions of these datums.

Sediment is solid material that originates mostly from disintegrated rocks; when transported by, suspended in, or deposited from water, it is referred to as "fluvial sediment." Sediment includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are affected by environmental and land-use factors. Some major factors are topography, soil characteristics, land cover, and depth and intensity of precipitation.

Sensible heat flux (often used interchangeably with latent sensible heat-flux density) is the amount of heat energy that moves by turbulent transport through the air across a specified cross-sectional area per unit time and goes to heating (cooling) the air. Usually expressed in watts per square meter.

Seven-day, 10-year low flow ($7Q_{10}$) is the discharge below which the annual 7-day minimum flow falls in 1 year out of 10 on the long-term average. The recurrence interval of the $7Q_{10}$ is 10 years; the chance that the annual 7-day minimum flow will be less than the $7Q_{10}$ is 10 percent in any given year. (See also "Annual 7-day minimum" and "Recurrence interval")

Shelves, as used in this report, are streambank features extending nearly horizontally from the flood plain to the lower limit of persistent woody vegetation.

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Sodium hazard in water is an index that can be used to evaluate the suitability of water for irrigating crops.

Soil heat flux (often used interchangeably with soil heat-flux density) is the amount of heat energy that moves by conduction across a specified cross-sectional area of soil per unit time and goes to heating (or cooling) the soil. Usually expressed in watts per square meter.

Soil-water content is the water lost from the soil upon drying to constant mass at 105 °C; expressed either as mass of water per unit mass of dry soil or as the volume of water per unit bulk volume of soil.

Specific electrical conductance (conductivity) is a measure of the capacity of water (or other media) to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific electrical conductance is a function of the types and quantity of dissolved substances in water and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 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.

Stable isotope ratio (per MIL) is a unit expressing the ratio of the abundance of two radioactive isotopes. Isotope ratios are used in hydrologic studies to determine the age or source of specific water, to evaluate mixing of different water, and as an aid in determining reaction rates and other chemical or hydrologic processes.

Stage (See "Gage height")

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

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

Substrate is the physical surface upon which an organism lives.

Substrate embeddedness class is a visual estimate of riffle streambed substrate larger than gravel that is surrounded or covered by fine sediment (<2 mm, sand or finer). Below are the class categories expressed as the percentage covered by fine sediment:

0	no gravel or larger substrate	3	26-50 percent
1	> 75 percent	4	5-25 percent
2	51-75 percent	5	< 5 percent

Surface area of a lake is that area (acres) encompassed by the boundary of the lake as shown on USGS topographic maps, or other available maps or photographs. Because surface area changes with lake stage, surface areas listed in this report represent those determined for the stage at the time the maps or photographs were obtained.

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

Surrogate is an analyte that behaves similarly to a target analyte, but that is highly unlikely to occur in a sample. A surrogate is added to a sample in known amounts before extraction and is measured with the same laboratory procedures used to measure the target analyte. Its purpose is to monitor method performance for an individual sample.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is defined operationally as the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative suspended water-sediment sample that is retained on a 0.45-micrometer membrane filter 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 the 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 sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. Determinations of "suspended, recoverable" constituents are made either by directly analyzing the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total recoverable concentrations of the constituent. (See also "Suspended")

Suspended sediment is the sediment maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid. (See also "Sediment")

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 foot above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The analytical technique uses the mass of all of the sediment and the net weight of the water-sediment mixture in a sample to compute the suspended-sediment concentration. (See also "Sediment" and "Suspended sediment")

Suspended-sediment discharge (tons/d) is the rate of sediment transport, as measured by dry mass or volume, that passes a cross section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027. (See also "Sediment," "Suspended sediment," and "Suspended-sediment concentration")

Suspended-sediment load is a general term that refers to a given characteristic of the material in suspension that passes a point during a specified period of time. The term needs to be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It is not synonymous with either suspended-sediment discharge or concentration. (See also "Sediment")

Suspended solids, total residue at 105 °C concentration is the concentration of inorganic and organic material retained on a filter, expressed as milligrams of dry material per liter of water (mg/L). An aliquot of the sample is used for this analysis.

Suspended, total is the total amount of a given constituent in the part of a water-sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. Knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total." Determinations of "suspended, total" constituents are made either by directly analyzing portions of the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total concentrations of the constituent. (See also "Suspended")

Synoptic studies are short-term investigations of specific water-quality conditions during selected seasonal or hydrologic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

Taxa (Species) richness is the number of species (taxa) present in a defined area or sampling unit.

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

Kingdom:	Animal
Phylum:	Arthropeda
Class:	Insecta
Order:	Ephemeroptera
Family:	Ephemeridae
Genus:	*Hexagenia*
Species:	*Hexagenia limbata*

Thalweg is the line formed by connecting points of minimum streambed elevation (deepest part of the channel).

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table descriptions and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water resulting from the mixing of flow proportionally to the duration of the concentration.

Tons per acre-foot (T/acre-ft) is the dry mass (tons) of a constituent per unit volume (acre-foot) of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY, tons/d) is a common chemical or sediment discharge unit. It is the quantity of a substance in solution, in suspension, or as bedload that passes a stream section during a 24-hour period. It is equivalent to 2,000 pounds per day, or 0.9072 metric ton per day.

Total is the amount of a given constituent in a representative whole-water (unfiltered) sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. 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." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined at least 95 percent of the constituent in the sample.)

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warmblooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas formation within 48 hours at 35 °C. In the laboratory, these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35 °C plus or minus 1.0 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Total discharge is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total in bottom material is the 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 length (fish) is the straight-line distance from the anterior point of a fish specimen's snout, with the mouth closed, to the posterior end of the caudal (tail) fin, with the lobes of the caudal fin squeezed together.

Total load refers to all of a constituent in transport. When referring to sediment, it includes suspended load plus bed load.

Total organism count is the number of organisms collected and enumerated in any particular sample. (See also "Organism count/volume")

Total recoverable is the amount of a given constituent in a whole-water sample after a 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 for whole-water samples, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures may produce different analytical results.

Total sediment discharge is the mass of suspended-sediment plus bed-load transport, measured as dry weight, that passes a cross section in a given time. It is a rate and is reported as tons per day. (See also "Bedload," "Bedload discharge," "Sediment," "Suspended sediment," and "Suspended-sediment concentration")

Total sediment load or **total load** is the sediment in transport as bedload and suspended-sediment load. The term may be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It differs from total sediment discharge in that load refers to the material, whereas discharge refers to the quantity of material, expressed in units of mass per unit time. (See also "Sediment," "Suspended-sediment load," and "Total load")

Transect, as used in this report, is a line across a stream perpendicular to the flow and along which measurements are taken, so that morphological and flow characteristics along the line are described from bank to bank. Unlike a cross section, no attempt is made to determine known elevation points along the line.

Turbidity is the reduction in the transparency of a solution because of the presence of suspended and some dissolved substances. The measurement technique records the collective optical properties of the solution that cause light to be scattered and attenuated rather than transmitted in straight lines; the higher the intensity of scattered or attenuated light, the higher the value of the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU). Depending on the method used, the turbidity units as NTU can be defined as the intensity of light of a specified wavelength scattered or attenuated by suspended particles or absorbed at a method specified angle, usually 90 degrees, from the path of the incident light. Currently approved methods for the measurement of turbidity in the USGS include those that conform to USEPA Method 180.1, ASTM D1889-00, and ISO 7027. Measurements of turbidity by these different methods and different instruments are unlikely to yield equivalent values.

Ultraviolet (UV) absorbance (absorption) at 254 or 280 nanometers is a measure of the aggregate concentration of the mixture of UV absorbing organic materials dissolved in the analyzed water, such as lignin, tannin, humic substances, and various aromatic compounds. UV absorbance (absorption) at 254 or 280 nanometers is measured in UV absorption units per centimeter of path length of UV light through a sample.

Unconfined aquifer is an aquifer whose upper surface is a water table free to fluctuate under atmospheric pressure. (See "Water-table aquifer")

Vertical datum (See "Datum")

Volatile organic compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and, subsequently, analyzed by gas chromatography. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They often are components of fuels, solvents, hydraulic fluids, paint thinners, and dry-cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human-health concern because many are toxic and are known or suspected human carcinogens.

Water table is that surface in a ground-water body at which the water pressure is equal to the atmospheric pressure.

Water-table aquifer is an unconfined aquifer within which the water table is found.

Water year in USGS 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, 2002, is called the "2002 water year."

Watershed (See "Drainage basin")

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.

Wet mass is the mass of living matter plus contained water. (See also "Biomass" and "Dry mass")

Wet weight refers to the weight of animal tissue or other substance including its contained water. (See also "Dry weight")

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

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

TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS OF THE U.S. GEOLOGICAL SURVEY

The USGS publishes a series of manuals, the Techniques of Water-Resources Investigations, 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.

Reports in the Techniques of Water-Resources Investigations series, which are listed below, are online at *http://water.usgs.gov/pubs/twri/*. Printed copies are for sale by the USGS, Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office), telephone 1-888-ASK-USGS. Please telephone 1-888-ASK-USGS for current prices, and refer to the title, book number, chapter number, and mention the "U.S. Geological Survey Techniques of Water-Resources Investigations." Products can then be ordered by telephone, or online at http://www.usgs.gov/sales.html, or by FAX to (303)236-469 of an order form available online at *http://mac.usgs.gov/isb/pubs/forms/*. Prepayment by major credit card or by a check or money order payable to the "U.S. Geological Survey" is required.

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

1–D1.*Water temperature—Influential factors, field measurement, and data presentation*, by H.H. Stevens, Jr., J.F. Ficke, and G.F. Smoot: USGS–TWRI book 1, chap. D1. 1975. 65 p.

1–D2.*Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS–TWRI book 1, chap. D2. 1976. 24 p.

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

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, chap. D1. 1974. 116 p.

2–D2.*Application of seismic-refraction techniques to hydrologic studies,* by F.P. Haeni: USGS–TWRI book 2, chap. D2. 1988. 86 p.

Section E. Subsurface Geophysical Methods

2–E1.*Application of borehole geophysics to water-resources investigations,* by W.S. Keys and L.M. MacCary: USGS–TWRI book 2, chap. E1. 1971. 126 p.

2–E2.*Borehole geophysics applied to ground-water investigations,* by W.S. Keys: USGS–TWRI book 2, chap. E2. 1990. 150 p.

Section F. Drilling and Sampling Methods

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, chap. F1. 1989. 97 p.

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

3–A1.*General field and office procedures for indirect discharge measurements,* by M.A. Benson and Tate Dalrymple: USGS–TWRI book 3, chap. A1. 1967. 30 p.

3–A2.*Measurement of peak discharge by the slope-area method,* by Tate Dalrymple and M.A. Benson: USGS–TWRI book 3, chap. A2. 1967. 12 p.
3–A3.*Measurement of peak discharge at culverts by indirect methods,* by G.L. Bodhaine: USGS–TWRI book 3, chap. A3. 1968. 60 p.
3–A4.*Measurement of peak discharge at width contractions by indirect methods,* by H.F. Matthai: USGS-TWRI book 3, chap. A4. 1967. 44 p.
3–A5.*Measurement of peak discharge at dams by indirect methods,* by Harry Hulsing: USGS–TWRI book 3, chap. A5. 1967. 29 p.
3–A6.*General procedure for gaging streams,* by R.W. Carter and Jacob Davidian: USGS–TWRI book 3, chap. A6. 1968. 13 p.
3–A7.*Stage measurement at gaging stations,* by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A7. 1968. 28 p.
3–A8.*Discharge measurements at gaging stations,* by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A8. 1969. 65 p.
3–A9.*Measurement of time of travel in streams by dye tracing,* by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS–TWRI book 3, chap. A9. 1989. 27 p.
3–Al0.*Discharge ratings at gaging stations,* by E.J. Kennedy: USGS–TWRI book 3, chap. A10. 1984. 59 p.
3–A11.*Measurement of discharge by the moving-boat method,* by G.F. Smoot and C.E. Novak: USGS–TWRI book 3, chap. A11. 1969. 22 p.
3–A12.*Fluorometric procedures for dye tracing*, Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS–TWRI book 3, chap. A12. 1986. 34 p.
3–A13.*Computation of continuous records of streamflow*, by E.J. Kennedy: USGS–TWRI book 3, chap. A13. 1983. 53 p.
3–A14.*Use of flumes in measuring discharge,* by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI book 3, chap. A14. 1983. 46 p.
3–A15.*Computation of water-surface profiles in open channels,* by Jacob Davidian: USGS–TWRI book 3, chap. A15. 1984. 48 p.
3–A16.*Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI book 3, chap. A16. 1985. 52 p.
3–A17.*Acoustic velocity meter systems,* by Antonius Laenen: USGS–TWRI book 3, chap. A17. 1985. 38 p.
3–A18.*Determination of stream reaeration coefficients by use of tracers,* by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI book 3, chap. A18. 1989. 52 p.
3–A19.*Levels at streamflow gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A19. 1990. 31 p.
3–A20.*Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS–TWRI book 3, chap. A20. 1993. 38 p.
3–A21*Stream-gaging cableways,* by C. Russell Wagner: USGS–TWRI book 3, chap. A21. 1995. 56 p.

Section B. Ground-Water Techniques

3–B1. *Aquifer-test design, observation, and data analysis,* by R.W. Stallman: USGS–TWRI book 3, chap. B1. 1971. 26 p.
3–B2.*Introduction to ground-water hydraulics, a programed text for self-instruction*, by G.D. Bennett: USGS–TWRI book 3, chap. B2. 1976. 172 p.
3–B3.*Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS–TWRI book 3, chap. B3. 1980. 106 p.
3–B4.*Regression modeling of ground-water flow,* by R.L. Cooley and R.L. Naff: USGS–TWRI book 3, chap. B4. 1990. 232 p.
3–B4.*Supplement 1. Regression modeling of ground-water flow—Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems,* by R.L. Cooley: USGS–TWRI book 3, chap. B4. 1993. 8 p.
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, chap. B5. 1987. 15 p.
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, chap. B6. 1987. 28 p.
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, chap. B7. 1992. 190 p.
3–B8.*System and boundary conceptualization in ground-water flow simulation,* by T.E. Reilly: USGS–TWRI book 3, chap. B8. 2001. 29 p.

Section C. Sedimentation and Erosion Techniques

3–C1.*Fluvial sediment concepts,* by H.P. Guy: USGS–TWRI book 3, chap. C1. 1970. 55 p.
3–C2.*Field methods for measurement of fluvial sediment*, by T.K. Edwards and G.D. Glysson: USGS–TWRI book 3, chap. C2. 1999. 89 p.
3–C3.*Computation of fluvial-sediment discharge,* by George Porterfield: USGS–TWRI book 3, chap. C3. 1972. 66 p.

Book 4. Hydrologic Analysis and Interpretation

Section A. Statistical Analysis

4–A1.*Some statistical tools in hydrology*, by H.C. Riggs: USGS–TWRI book 4, chap. A1. 1968. 39 p.
4–A2.*Frequency curves,* by H.C. Riggs: USGS–TWRI book 4, chap. A2. 1968. 15 p.
4–A3.*Statistical methods in water resources*, by D.R. Helsel and R.M. Hirsch: USGS–TWRI book 4, chap. A3. 1991. Available only online at http://water.usgs.gov/pubs/twri/twri4a3/. (Accessed August 30, 2002.)

Section B. Surface Water

4–B1.*Low-flow investigations,* by H.C. Riggs: USGS–TWRI book 4, chap. B1. 1972. 18 p.
4–B2.*Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS–TWRI book 4, chap. B2. 1973. 20 p.
4–B3.*Regional analyses of streamflow characteristics,* by H.C. Riggs: USGS–TWRI book 4, chap. B3. 1973.
15 p.

Section D. Interrelated Phases of the Hydrologic Cycle

4–D1.*Computation of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS–TWRI book 4, chap. D1. 1970. 17 p.

Book 5. Laboratory Analysis

Section A. Water Analysis

5–A1.*Methods for determination of inorganic substances in water and fluvial sediments,* by M.J. Fishman and L.C. Friedman, editors: USGS–TWRI book 5, chap. A1. 1989. 545 p.
5–A2.*Determination of minor elements in water by emission spectroscopy,* by P.R. Barnett and E.C. Mallory, Jr.: USGS–TWRI book 5, chap. A2. 1971. 31 p.
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, chap. A3. 1987. 80 p.
5–A4.*Methods for collection and analysis of aquatic biological and microbiological samples,* by L.J. Britton and P.E. Greeson, editors: USGS–TWRI book 5, chap. A4. 1989. 363 p.
5–A5.*Methods for determination of radioactive substances in water and fluvial sediments,* by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS–TWRI book 5, chap. A5. 1977. 95 p.

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, chap. A6. 1982. 181 p.

Section C. Sediment Analysis

5–C1.*Laboratory theory and methods for sediment analysis*, by H.P. Guy: USGS–TWRI book 5, chap. C1. 1969. 58 p.

Book 6. Modeling Techniques

Section A. Ground Water

6–A1.*A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and A.W. Harbaugh: USGS–TWRI book 6, chap. A1. 1988. 586 p.
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, chap. A2. 1991. 68 p.
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, chap. A3. 1993. 136 p.
6–A4.*A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions,* by R.L. Cooley: USGS–TWRI book 6, chap. A4. 1992. 108 p.
6–A5.*A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details,* by L.J. Torak: USGS–TWRI book 6, chap. A5. 1993. 243 p.
6–A6.*A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction*, by Eric D. Swain and Eliezer J. Wexler: USGS–TWRI book 6, chap. A6. 1996. 125 p.
6–A7.*User's guide to SEAWAT: A computer program for simulation of three-dimensional variable-density ground-water flow*, by Weixing Guo and Christian D. Langevin: USGS–TWRI book 6, chap. A7. 2002. 77 p.

Book 7. Automated Data Processing and Computations

Section C. Computer Programs

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, chap. C1. 1976. 116 p.
7–C2.*Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS–TWRI book 7, chap. C2. 1978. 90 p.
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, chap. C3. 1981. 110 p.

Book 8. Instrumentation

Section A. Instruments for Measurement of Water Level

8–A1.*Methods of measuring water levels in deep wells,* by M.S. Garber and F.C. Koopman: USGS–TWRI book 8, chap. A1. 1968. 23 p.
8–A2.*Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS–TWRI book 8, chap. A2. 1983. 57 p.

Section B. Instruments for Measurement of Discharge

8–B2.*Calibration and maintenance of vertical-axis type current meters,* by G.F. Smoot and C.E. Novak: USGS–TWRI book 8, chap. B2. 1968. 15 p.

Book 9. Handbooks for Water-Resources Investigations

Section A. National Field Manual for the Collection of Water-Quality Data

9–A1.*National field manual for the collection of water-quality data: Preparations for water sampling*, by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A1. 1998. 47 p.
9–A2.*National field manual for the collection of water-quality data: Selection of equipment for water sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A2. 1998. 94 p.
9–A3.*National field manual for the collection of water-quality data: Cleaning of equipment for water sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A3. 1998. 75 p.
9–A4.*National field manual for the collection of water-quality data: Collection of water samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A4. 1999. 156 p.
9–A5.*National field manual for the collection of water-quality data: Processing of water samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A5. 1999, 149 p.
9–A6.*National field manual for the collection of water-quality data: Field measurements*, edited by F.D. Wilde and D.B. Radtke: USGS–TWRI book 9, chap. A6. 1998. Variously paginated.
9–A7.*National field manual for the collection of water-quality data: Biological indicators*, edited by D.N. Myers and F.D. Wilde: USGS–TWRI book 9, chap. A7. 1997 and 1999. Variously paginated.
9–A8.*National field manual for the collection of water-quality data: Bottom-material samples*, by D.B. Radtke: USGS–TWRI book 9, chap. A8. 1998. 48 p.
9–A9.*National field manual for the collection of water-quality data: Safety in field activities*, by S.L. Lane and R.G. Fay: USGS–TWRI book 9, chap. A9. 1998. 60 p.

EXPLANATION

▲ 06930000 SURFACE-WATER GAGING STATION AND NUMBER

0 20 40 MILES

0 20 40 KILOMETERS

Figure 6. Location of surface-water stations.

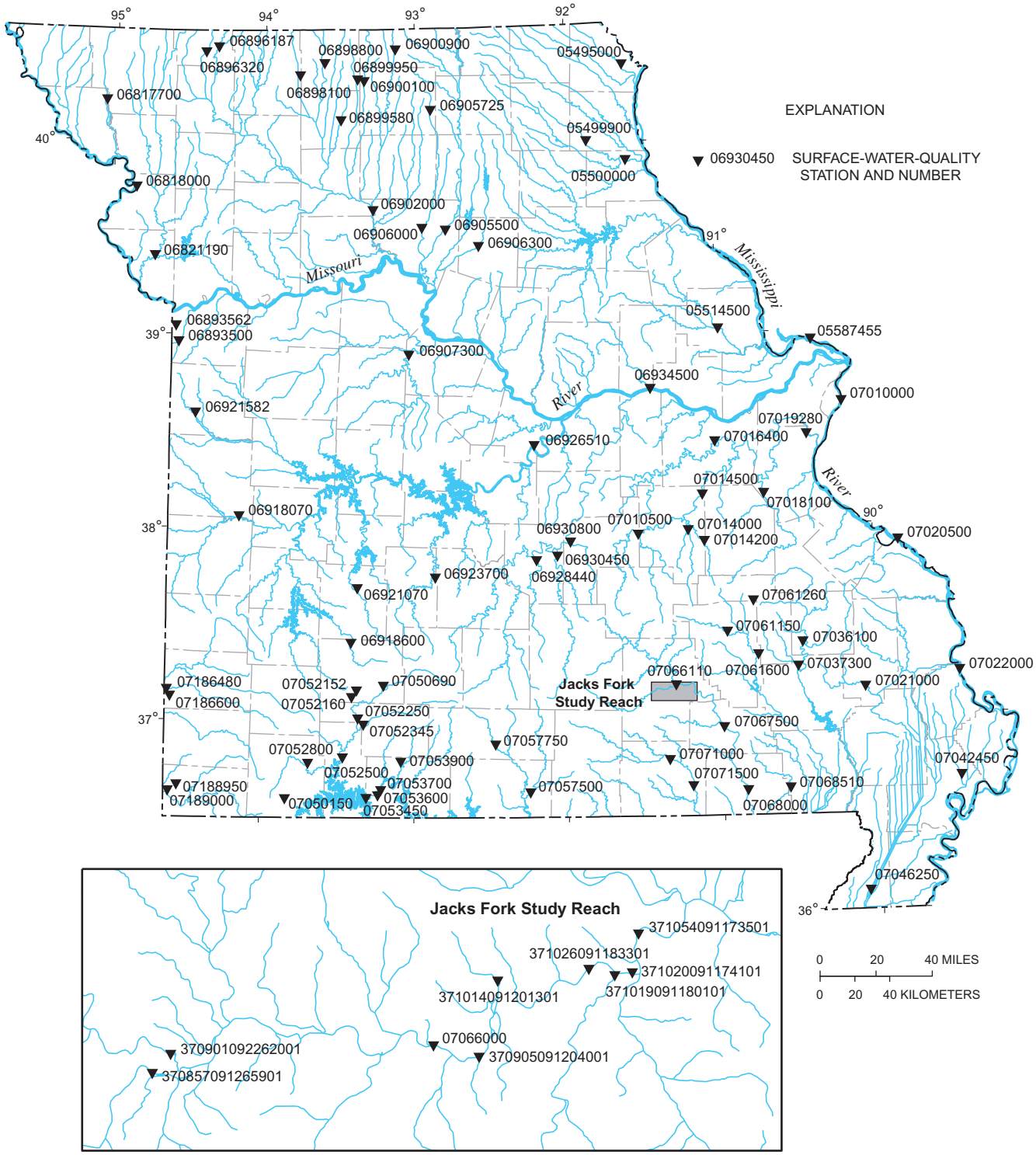


Figure 7. Location of surface-water-quality stations.

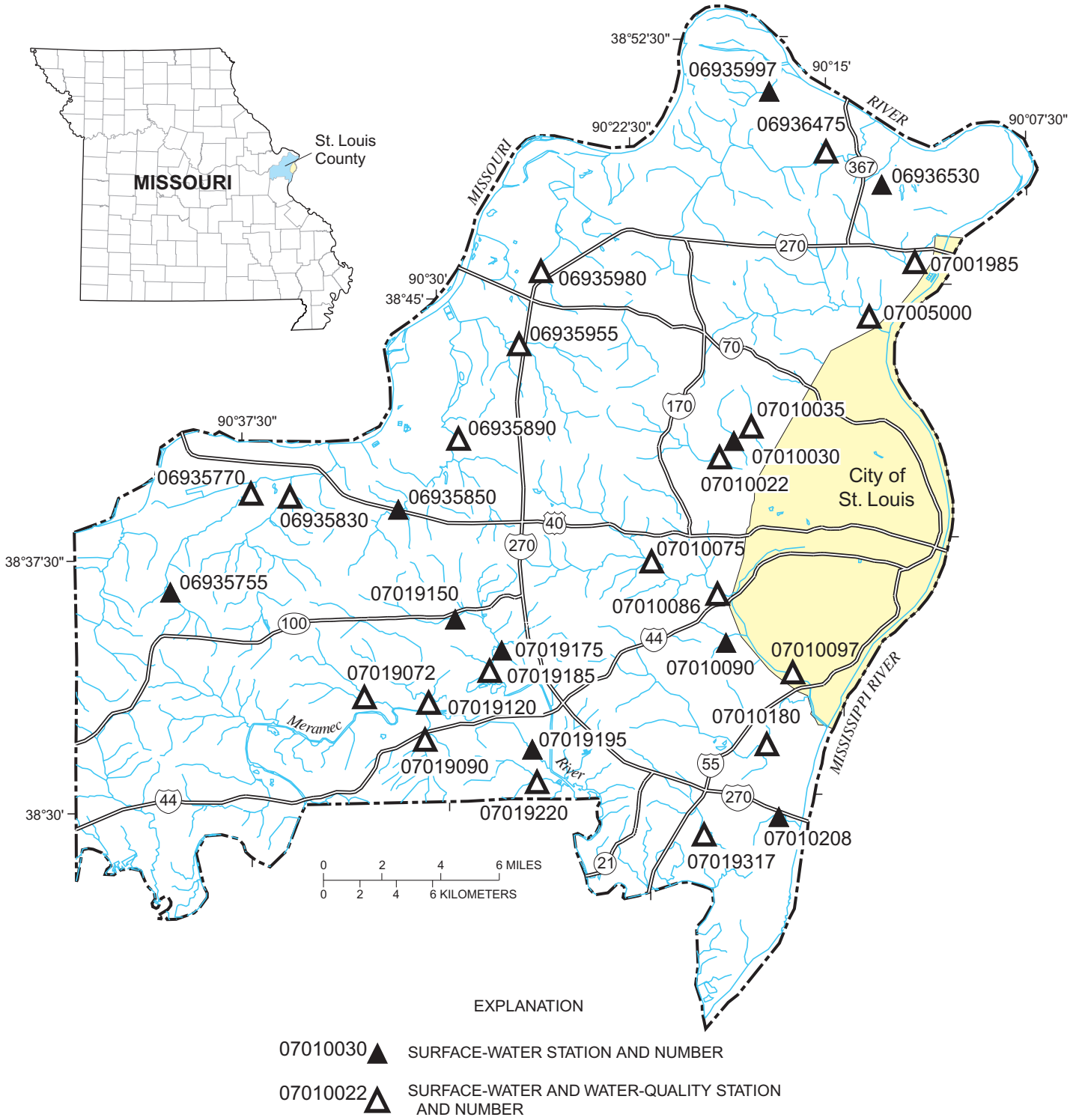


Figure 8. Location of Metropolitan St. Louis Sewer District stations.

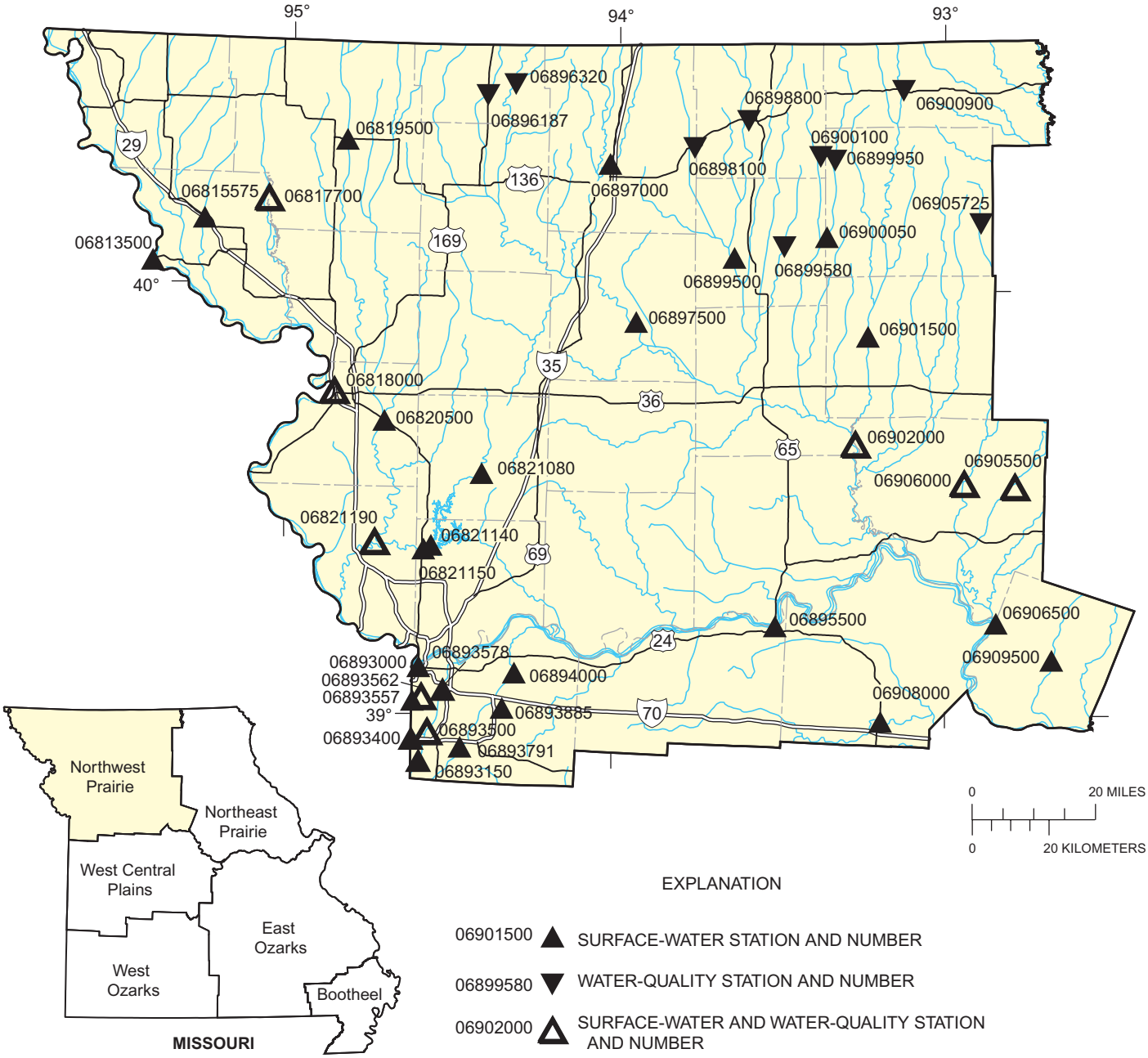


Figure 9. Location of stations in the Northwest Prairie.

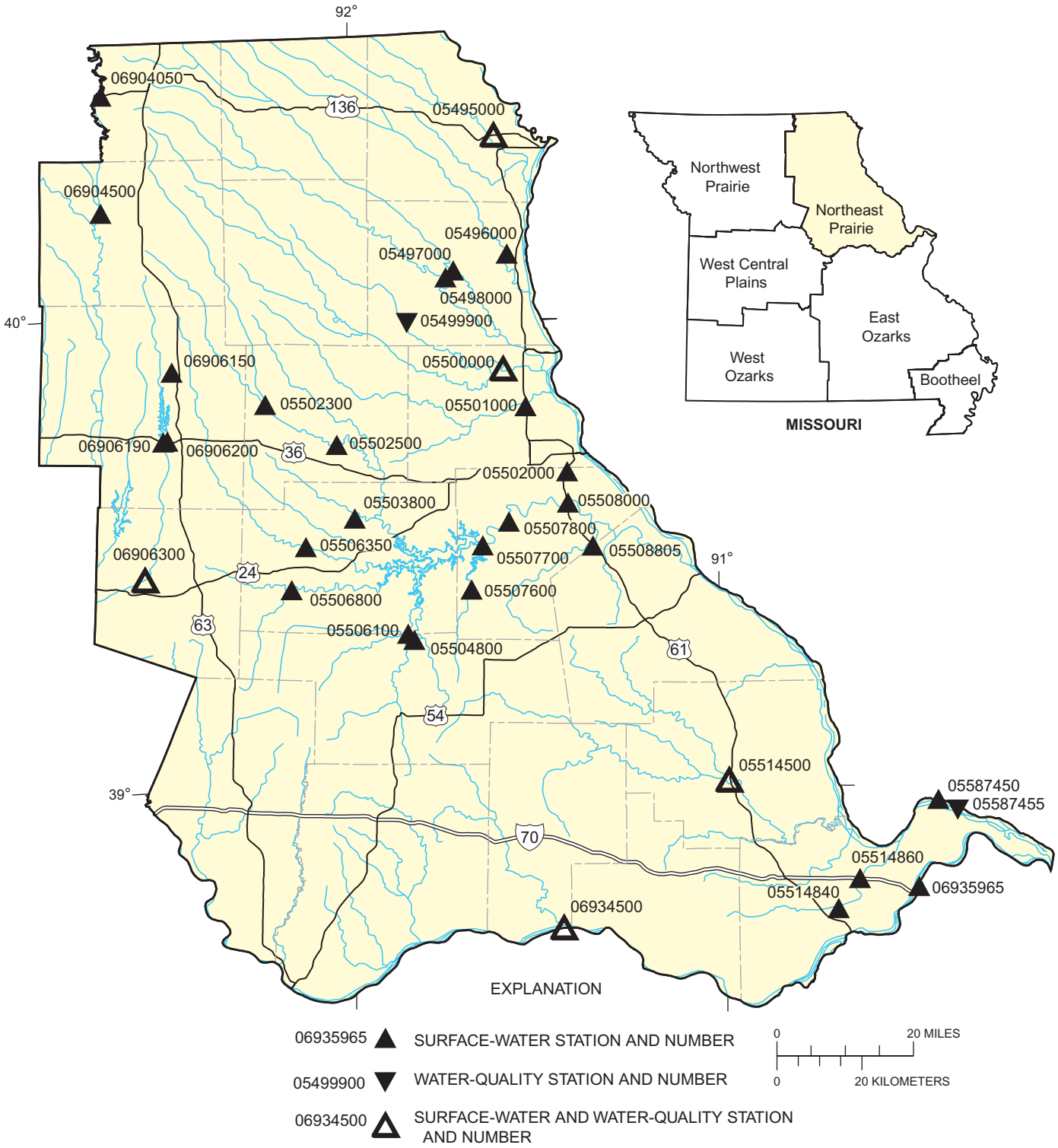


Figure 10. Location of stations in the Northeast Prairie.

EXPLANATION

06921760 ▲ SURFACE-WATER STATION AND NUMBER

06921582 ▼ WATER-QUALITY STATION AND NUMBER

06918070 △ SURFACE-WATER AND WATER-QUALITY STATION AND NUMBER

Figure 11. Location of stations in the West Central Plains.

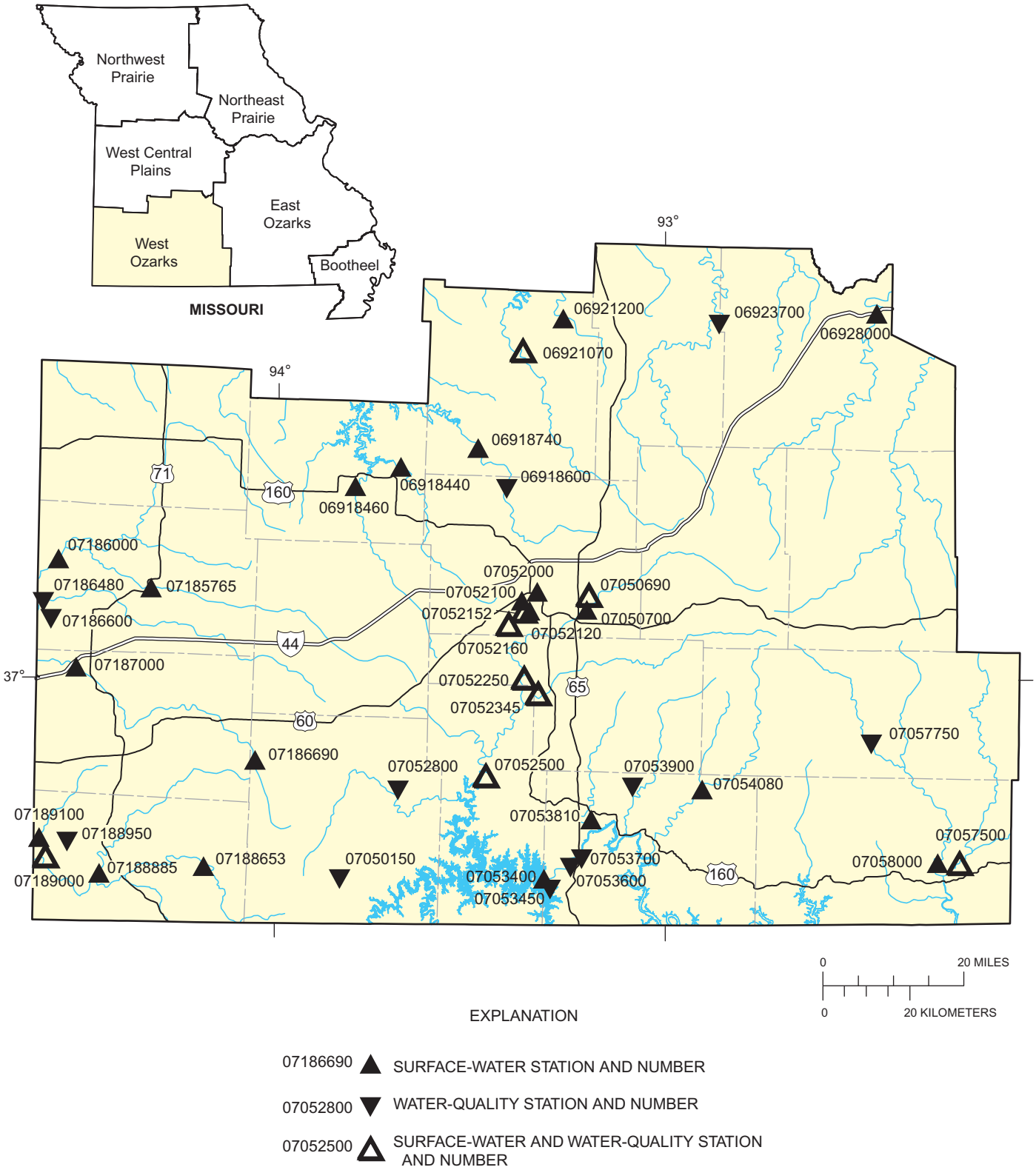


Figure 12. Location of stations in the West Ozarks.

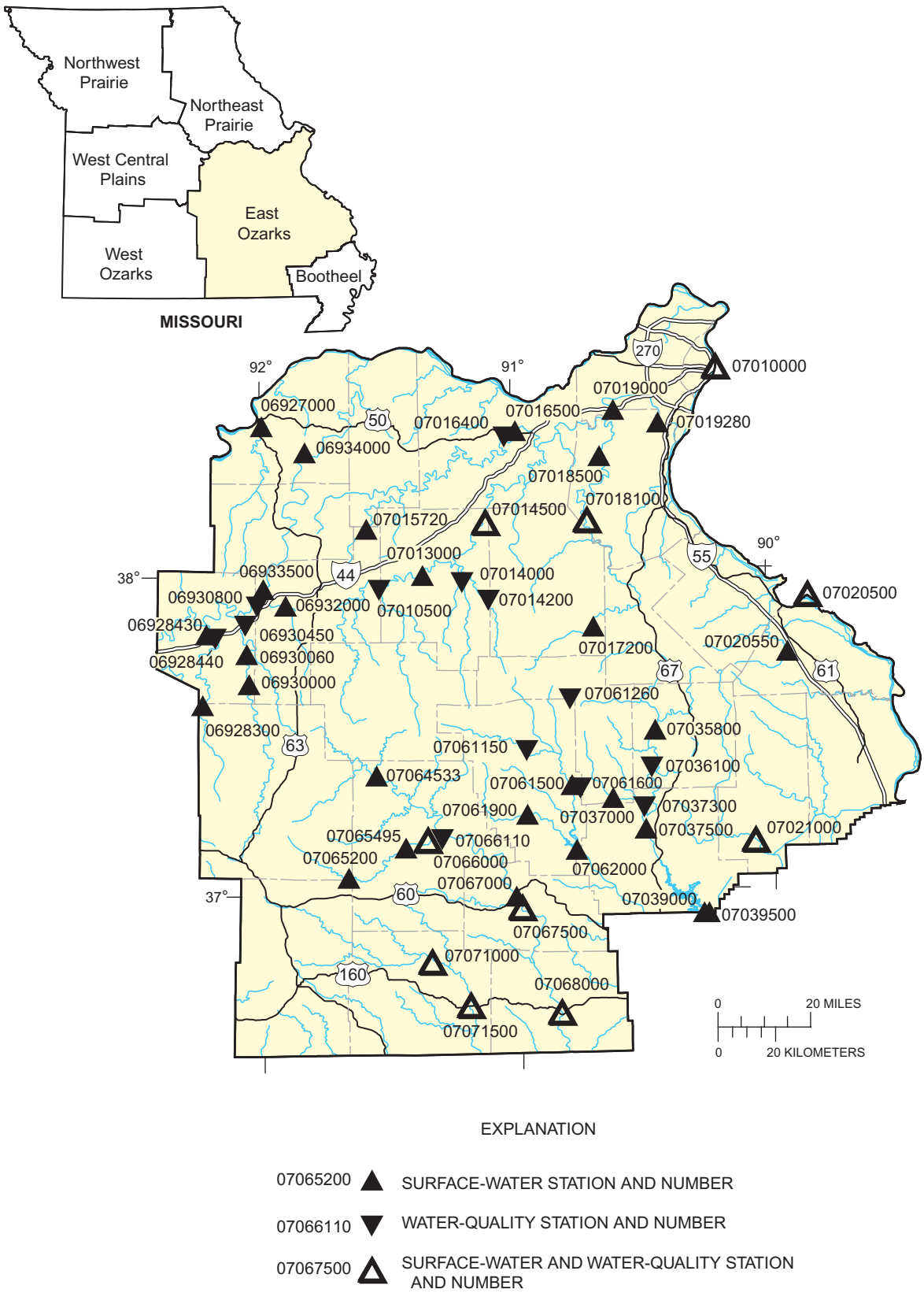


Figure 13. Location of stations in the East Ozarks.

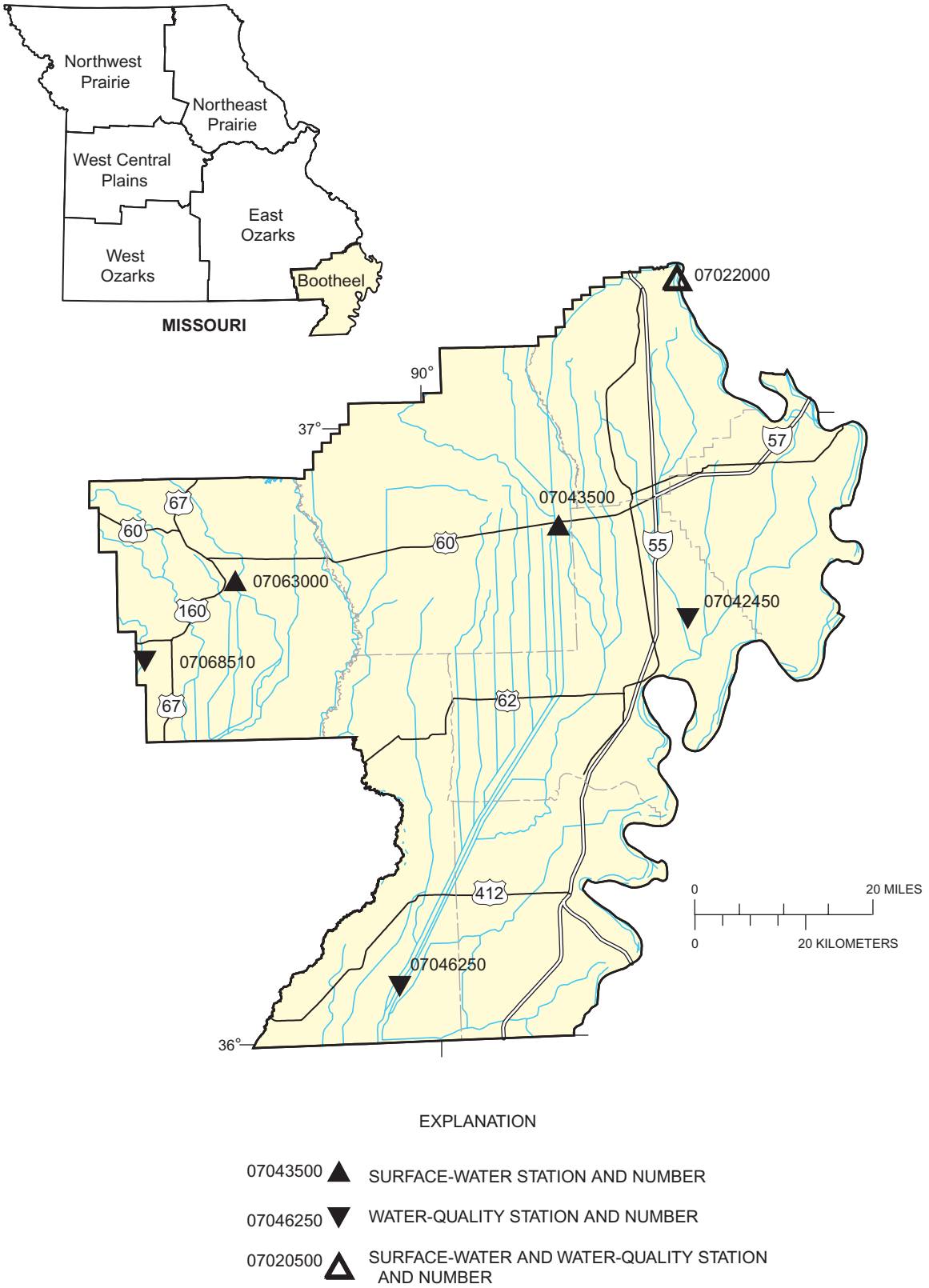


Figure 14. Location of stations in the Bootheel.

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.

WATER-DISCHARGE RECORDS

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: 1977.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 501.52 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1929, nonrecording gage at bridge 2.8 mi upstream at different datum; Oct. 1, 1929, to June 11, 1936, nonrecording gage at bridge 90 ft upstream; June 1936 to August 1988 at site 300 ft upstream, at present datum.

REMARKS.--Water-discharge 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	e9.5	e7.2	e4.3	e2.9	29	9.7	256	28	43	24	130
2	2.0	e8.4	e6.7	e4.0	e2.9	23	9.9	300	27	33	22	91
3	2.1	e8.3	e6.5	e3.7	e3.3	22	11	112	29	27	18	41
4	2.6	e7.8	e6.4	e3.8	e2.9	18	15	77	28	23	16	29
5	3.3	e7.2	e6.1	e3.9	e2.5	20	20	2,700	25	25	15	22
6	2.8	e7.5	e5.9	e3.9	e2.3	16	16	1,000	26	1,860	13	18
7	4.4	e7.1	e6.1	e4.2	e2.3	13	23	378	74	625	12	15
8	5.4	e6.8	e5.9	e4.1	e2.2	12	30	182	76	355	12	12
9	3.7	e6.6	e5.7	e3.8	e2.0	14	29	486	41	2,490	11	10
10	3.2	e6.5	e5.7	e3.3	e1.9	13	31	781	51	6,520	10	9.4
11	3.0	e7.0	e5.5	e2.9	e1.9	12	29	1,670	102	3,470	9.1	8.5
12	2.6	e11	e5.4	e2.8	e1.9	14	25	1,270	81	480	8.2	9.3
13	2.7	e8.7	e5.3	e2.5	e2.2	101	19	354	58	246	7.7	12
14	2.6	e7.9	e5.3	e2.1	e5.3	273	e15	178	39	154	7.4	454
15	2.4	e7.1	e5.3	e1.8	19	237	12	120	28	106	7.0	274
16	2.6	e6.5	e5.2	e1.8	35	151	10	94	31	75	6.4	110
17	2.2	e6.2	e5.3	e1.9	38	124	12	79	27	58	6.8	55
18	1.7	e6.2	e7.4	e2.2	28	87	13	75	21	92	6.0	35
19	1.7	e9.0	e9.4	e2.3	e24	62	14	61	17	85	6.1	66
20	1.7	e7.5	e14	e2.2	e23	47	35	76	15	47	5.9	62
21	1.7	e6.5	e20	e2.0	e50	37	112	162	13	40	5.5	63
22	1.6	e6.3	e13	e1.9	e81	34	163	93	12	35	4.2	489
23	1.6	e6.5	e14	e1.7	e75	32	70	59	11	33	4.1	264
24	3.7	e6.2	e9.9	e1.6	e59	26	45	48	11	33	4.6	80
25	4.0	e6.6	e7.2	e1.6	e48	21	206	50	13	30	3.9	45
26	3.8	e9.2	e6.6	e1.8	e42	18	890	52	1,160	29	3.8	32
27	3.6	e12	e5.9	e1.9	e36	15	472	43	687	28	6.9	25
28	5.9	e10	e5.5	e1.8	e32	15	178	37	241	30	5.5	22
29	6.5	e9.0	e5.3	e1.9	---	14	105	33	99	30	5.1	20
30	8.0	e7.6	e4.9	e2.2	---	13	76	31	60	30	6.7	18
31	e11	---	e4.7	e2.6	---	11	---	28	---	28	28	---
MEAN	3.45	7.76	7.33	2.66	22.4	49.2	89.9	351	104	554	9.74	84.0
MAX	11	12	20	4.3	81	273	890	2,700	1,160	6,520	28	489
MIN	1.6	6.2	4.7	1.6	1.9	11	9.7	28	11	23	3.8	8.5
IN.	0.01	0.02	0.02	0.01	0.06	0.14	0.25	1.01	0.29	1.60	0.03	0.23

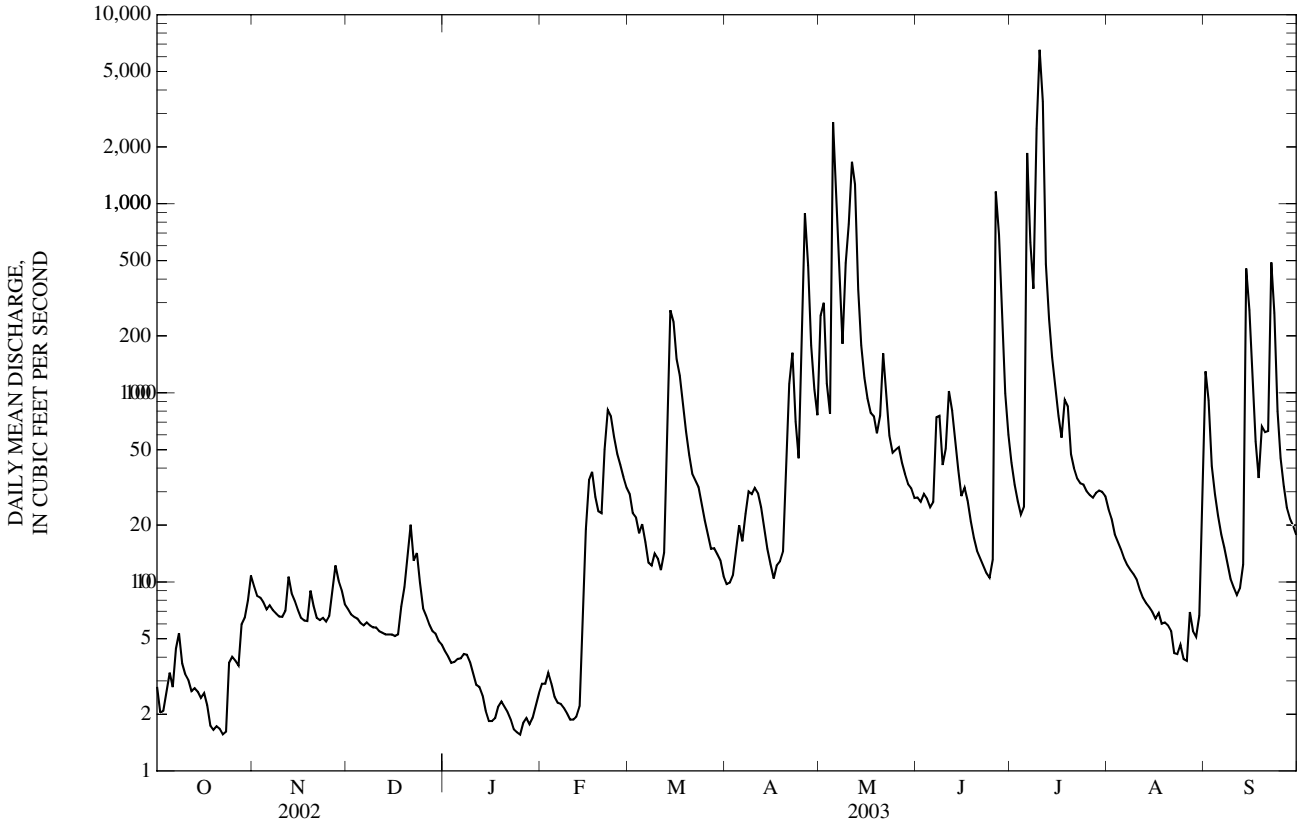
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2003, BY WATER YEAR (WY)

MEAN	163	170	135	162	333	433	464	395	393	246	114	170
MAX	1,313	1,375	1,330	1,133	1,433	2,264	2,750	2,795	2,223	3,387	1,509	1,999
(WY)	(1987)	(1929)	(1983)	(1969)	(1982)	(1979)	(1973)	(1996)	(1947)	(1993)	(1970)	(1970)
MIN	0.000	0.007	0.019	0.19	0.42	8.56	2.35	1.39	0.060	0.21	0.019	0.17
(WY)	(1957)	(1957)	(1957)	(1957)	(1957)	(1956)	(1956)	(1956)	(1956)	(1936)	(1936)	(1937)

05495000 FOX RIVER AT WAYLAND, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1922 - 2003	
ANNUAL MEAN	216		108		264	
HIGHEST ANNUAL MEAN					927	1993
LOWEST ANNUAL MEAN					17.6	1956
HIGHEST DAILY MEAN	9,530	May 12	6,520	Jul 10	19,900	Apr 22, 1973
LOWEST DAILY MEAN	1.6	Sep 17,Oct. 22,23	1.6	Oct 22,23,Jan 24,25	0.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	1.7	Oct 17	1.7	Oct 17	0.00	Several Years
MAXIMUM PEAK FLOW	---		8,350	Jul 11	26,400	Apr 22, 1973
MAXIMUM PEAK STAGE	---		16.85	Jul 11	21.71	Apr 22, 1973
INSTANTANEOUS LOW FLOW	---		1.0	Oct 4,22,23	0.00	Several Years
ANNUAL RUNOFF (INCHES)	7.34		3.67		8.98	
10 PERCENT EXCEEDS	382		152		542	
50 PERCENT EXCEEDS	26		13		38	
90 PERCENT EXCEEDS	3.6		2.5		2.4	

e Estimated



05495000 FOX RIVER AT WAYLAND, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1967 to September 1972, November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
04...	1350	Environmental	e7.8	11.7	97	7.9	551	6.6	260	73.2	17.6	4.93
JAN												
06...	1325	Environmental	e3.8	13.8	101	8.1	441	2.2	--	--	--	--
MAR												
04...	0830	Environmental	15	12.2	86	7.5	261	0.4	--	--	--	--
04...	0831	Replicate	--	12.1	86	7.6	261	0.4	--	--	--	--
MAY												
20...	0840	Environmental	57	10.4	109	7.9	463	17.2	210	61.2	13.2	6.45
JUL												
21...	1415	Environmental	37	8.3	114	7.7	249	30.2	--	--	--	--
SEP												
02...	1320	Environmental	81	7.8	89	7.8	288	20.7	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
04...	16.6	197	197	240	<1	11.4	0.2	87.1	350	33	0.45	<0.04	0.06
JAN													
06...	--	208	211	257	<1	--	--	--	--	<10	0.34	<0.04	<0.06
MAR													
04...	--	134	134	163	<1	--	--	--	--	<10	1.8	0.27	0.42
04...	--	--	--	--	--	--	--	--	--	<10	1.9	0.52	0.80
MAY													
20...	16.0	141	142	173	<1	14.1	0.2	66.9	297	49	1.0	<0.04	0.31
JUL													
21...	--	154	154	187	<1	--	--	--	--	25	0.79	<0.04	<0.06
SEP													
02...	--	96	96	118	<1	--	--	--	--	138d	1.1	<0.04	0.37

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
04...	<0.008	E.01	E.02	0.06	1k	6k	13k	E1	220	0.8	<0.04	<0.2	<6
JAN													
06...	<0.008	<0.02	<0.04	E.03	<1b	13k	8k	--	--	--	--	--	--
MAR													
04...	0.015	0.03	0.07	0.20	<1b	2k	24	--	--	--	--	--	--
04...	0.028	0.07	0.12	0.19	1k	4k	20	--	--	--	--	--	--
MAY													
20...	0.008	0.03	E.03	0.17	180	140	210	2	579	1.4	<0.04	<0.2	<6
JUL													
21...	<0.008	0.02	E.03	0.11	96	230	88	--	--	--	--	--	--
SEP													
02...	0.016	<0.18d	0.05	0.24	1,400	1,340k	3,700k	--	--	--	--	--	--

05495000 FOX RIVER AT WAYLAND, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
04...	27	<0.08	M	233	<0.02	0.5	M	2
JAN								
06...	--	--	--	--	--	--	--	--
MAR								
04...	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--
MAY								
20...	E7	<0.08	1	42.5	<0.02	0.9	M	4
JUL								
21...	--	--	--	--	--	--	--	--
SEP								
02...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range

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

REMARKS.--Records fair except for estimated daily discharges and discharges below 50 ft^3/s, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	5.4	3.8	2.2	e2.4	29	12	1,160	33	31	19	317
2	2.5	5.2	3.0	2.3	e2.5	24	11	1,070	32	27	19	94
3	2.6	4.9	3.0	e1.7	e2.6	e21	9.5	337	29	24	19	61
4	9.7	4.6	2.9	0.75	e2.2	e19	15	225	29	23	18	38
5	8.6	4.2	2.9	0.96	e2.1	e16	22	2,400	29	22	17	24
6	6.0	4.4	2.1	0.83	e1.9	e15	18	2,340	31	346	17	18
7	7.2	4.1	2.3	1.0	e1.7	e13	35	660	59	271	16	16
8	7.3	3.8	2.2	1.1	e1.7	e12	38	308	87	186	16	13
9	4.2	2.9	1.9	0.69	e1.6	e10	40	359	49	2,880	14	11
10	3.3	3.6	2.0	e0.57	e1.5	e9.6	34	1,270	81	3,430	12	10
11	2.9	3.2	1.8	0.56	e1.5	e9.2	29	1,850	204	2,970	10	9.9
12	3.5	6.3	2.3	0.93	e1.6	8.4	23	826	114	760	8.8	10
13	3.0	4.5	3.0	0.75	e3.1	45	18	330	58	322	8.3	12
14	2.6	3.0	3.3	0.60	6.0	294	15	210	42	174	6.7	15
15	2.6	2.8	3.5	0.77	21	138	13	146	29	103	5.5	232
16	2.5	2.4	4.4	e0.97	31	92	10	112	21	64	5.5	84
17	2.4	2.5	3.4	e1.2	22	76	11	87	17	55	6.2	36
18	2.1	2.8	5.5	e1.4	20	57	13	73	14	48	5.8	30
19	2.4	6.6	6.5	e1.6	19	54	15	67	13	43	4.8	91
20	5.0	4.9	10	e1.7	34	49	23	67	11	38	4.4	111
21	3.8	3.7	18	e1.7	80	39	117	295	8.6	35	3.6	52
22	2.9	2.9	9.7	e1.5	118	32	121	108	8.0	31	3.7	1,970
23	2.4	2.6	e4.9	e1.4	232	27	69	75	9.0	29	3.7	856
24	2.2	2.6	e2.9	e1.4	203	22	64	64	8.6	27	3.1	155
25	3.0	2.7	e2.8	e1.5	116	20	1,180	54	10	26	2.5	64
26	4.3	2.7	2.6	e1.8	83	17	1,800	49	186	25	3.2	41
27	4.8	2.6	2.6	e1.9	53	15	619	45	308	24	4.6	54
28	5.0	2.8	2.3	e1.6	37	17	265	41	96	24	6.2	29
29	5.2	4.1	2.4	e1.5	---	20	189	38	46	23	16	20
30	5.5	4.4	2.2	1.9	---	15	155	36	34	22	8.2	16
31	6.6	---	2.4	e2.2	---	14	---	35	---	20	32	---
MEAN	4.15	3.77	3.95	1.32	39.3	39.7	166	475	56.5	390	10.3	150
MAX	9.7	6.6	18	2.3	232	294	1,800	2,400	308	3,430	32	1,970
MIN	2.1	2.4	1.8	0.56	1.5	8.4	9.5	35	8.0	20	2.5	9.9
IN.	0.01	0.01	0.01	0.00	0.10	0.12	0.47	1.39	0.16	1.15	0.03	0.42

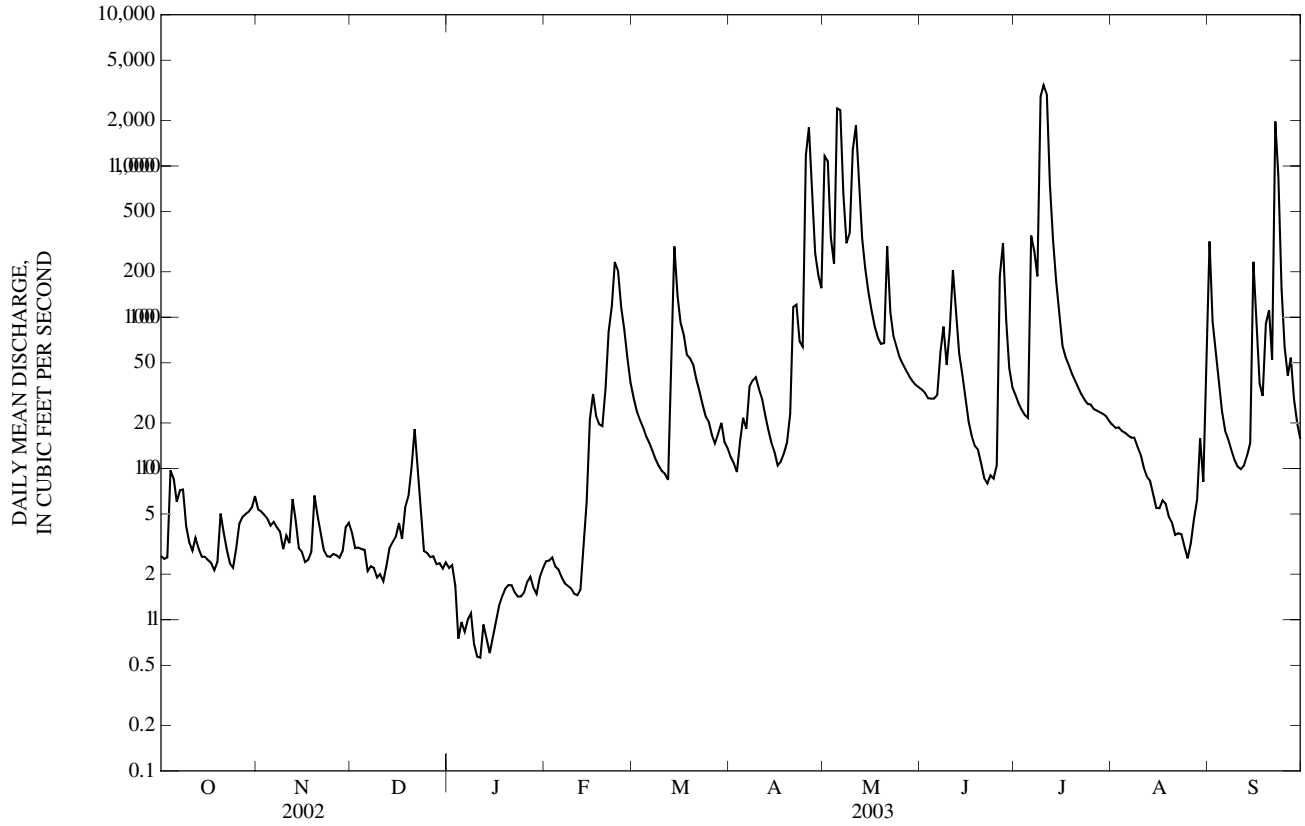
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	137	161	149	158	357	404	434	471	371	283	126	155
MAX	1,677	1,463	1,399	946	1,529	1,346	1,809	3,196	2,594	2,792	2,242	2,510
(WY)	(1987)	(1986)	(1983)	(1946)	(2001)	(1985)	(1983)	(1996)	(1947)	(1993)	(1970)	(1986)
MIN	0.00	0.00	0.47	0.10	2.05	7.53	3.38	1.69	0.66	0.02	0.00	0.02
(WY)	(1954)	(1954)	(1954)	(1954)	(1989)	(1957)	(1956)	(1934)	(1956)	(1934)	(1934)	(1953)

05496000 WYACONDA RIVER ABOVE CANTON, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	287		113		266	
HIGHEST ANNUAL MEAN					861	1993
LOWEST ANNUAL MEAN					14.2	1989
HIGHEST DAILY MEAN	12,400	May 13	3,430	Jul 10	16,500	Sep 22, 1986
LOWEST DAILY MEAN	1.8	Dec 11	0.56	Jan 11	0.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	2.1	Dec 6	0.70	Jan 9	0.00	Many Years
MAXIMUM PEAK FLOW	---		3,840	Jul 11	17,700	Jun 30, 1933
MAXIMUM PEAK STAGE	---		16.91	Jul 11	31.33	Sep 22, 1986
INSTANTANEOUS LOW FLOW	---		0.42	Jan 14,15	0.00	Many Years
ANNUAL RUNOFF (INCHES)	9.90		3.89		9.21	
10 PERCENT EXCEEDS	534		187		552	
50 PERCENT EXCEEDS	22		14		31	
90 PERCENT EXCEEDS	2.7		1.9		2.2	

e Estimated



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

REMARKS.--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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	15	e6.6	e4.7	3.9	25	17	1,050	27	30	12	73
2	7.3	14	e6.1	e4.3	3.7	23	16	659	25	111	11	51
3	7.4	13	5.8	e4.1	4.5	e20	15	224	30	50	12	32
4	14	12	e5.8	e3.9	4.0	e17	22	172	30	27	11	22
5	12	11	e5.6	e3.7	4.0	e14	25	2,960	27	22	9.0	15
6	14	11	e5.4	e3.5	3.2	12	20	1,630	30	26	8.4	12
7	13	11	e5.4	e3.4	3.5	e12	36	447	49	28	7.9	9.2
8	10	10	e5.7	e3.3	2.5	e12	39	224	72	48	7.3	7.7
9	8.0	11	e5.9	3.0	2.3	e11	41	247	52	2,740	7.6	6.6
10	6.8	10	e6.1	3.8	2.3	e10	34	1,020	103	2,430	6.9	9.6
11	6.5	11	e6.1	3.4	2.4	e10	31	1,420	178	734	6.0	7.5
12	6.6	10	e6.1	3.3	2.4	20	27	644	133	235	5.7	6.7
13	6.8	9.3	e6.4	3.3	2.5	28	22	250	74	122	5.7	13
14	6.4	8.7	e6.3	3.4	3.0	65	19	145	43	82	5.8	29
15	6.7	9.3	e6.2	3.2	15	103	16	103	35	59	5.7	111
16	6.2	9.1	e5.7	3.2	14	93	14	83	33	45	6.5	76
17	5.9	8.5	5.4	2.9	8.2	78	12	70	27	37	5.0	45
18	6.3	8.7	7.5	2.9	7.8	65	15	59	23	31	4.7	34
19	7.4	9.4	8.3	2.9	15	60	14	52	20	28	4.5	190
20	6.6	9.3	17	2.7	22	58	28	45	17	24	4.5	109
21	6.6	9.2	11	2.6	e33	51	82	202	15	21	4.4	58
22	6.3	9.2	8.0	2.6	e156	45	94	80	15	18	4.6	1,140
23	6.0	9.2	e6.5	2.5	e128	38	56	60	15	16	4.2	367
24	6.7	9.4	e5.4	2.5	69	32	42	52	15	15	3.8	121
25	9.5	9.2	e4.6	2.4	50	31	535	53	14	14	4.1	65
26	11	e12	e4.2	2.3	39	25	1,270	47	20	12	4.5	46
27	13	e14	3.9	2.3	32	24	436	44	57	12	4.8	44
28	13	e12	4.6	2.3	28	29	192	40	71	25	5.3	35
29	16	e10	4.8	2.4	---	27	161	33	50	19	11	26
30	15	e8.1	6.1	2.3	---	21	123	31	36	16	12	23
31	15	---	5.4	2.7	---	19	---	30	---	13	22	---
MEAN	9.10	10.5	6.38	3.09	23.6	34.8	115	393	44.5	229	7.35	92.8
MAX	16	15	17	4.7	156	103	1,270	2,960	178	2,740	22	1,140
MIN	5.9	8.1	3.9	2.3	2.3	10	12	30	14	12	3.8	6.6
IN.	0.02	0.03	0.02	0.01	0.05	0.09	0.28	1.00	0.11	0.58	0.02	0.23

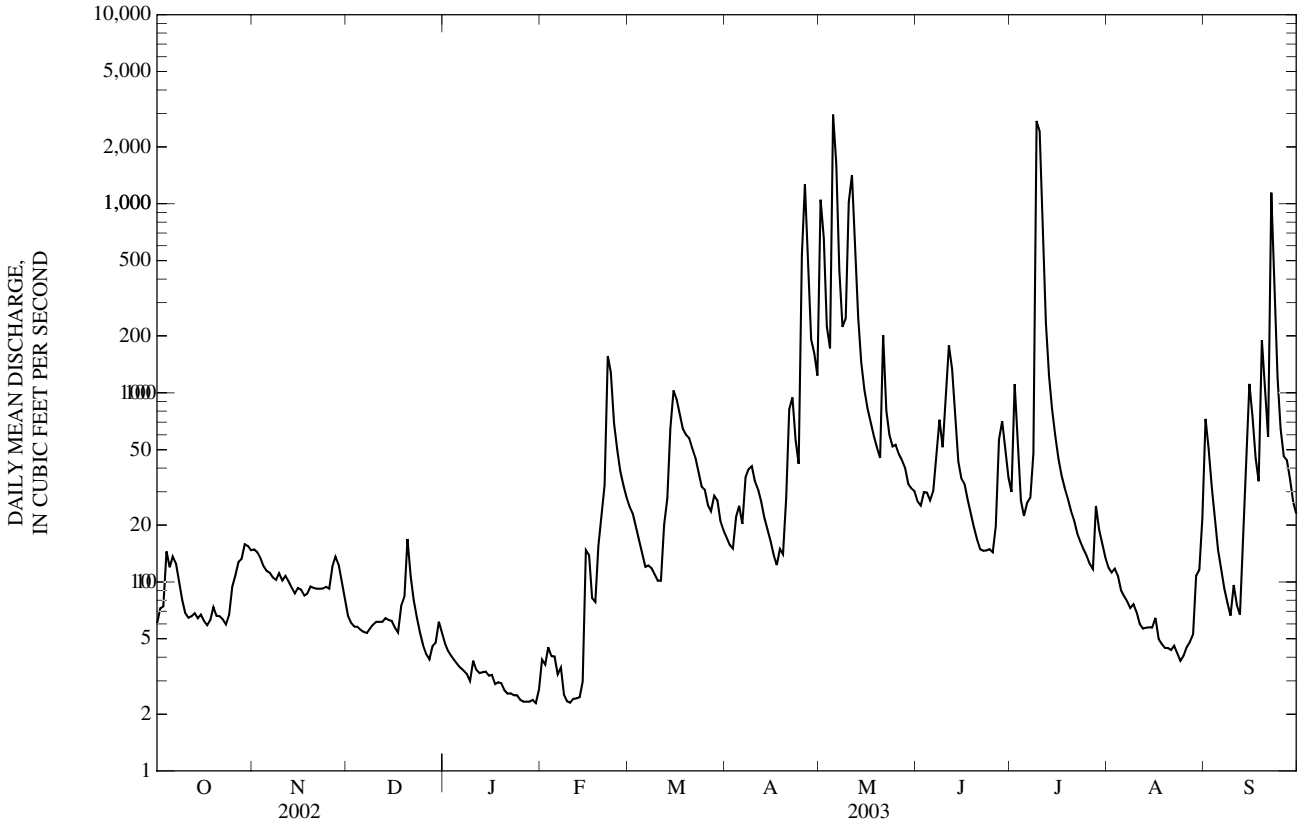
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2003, BY WATER YEAR (WY)

MEAN	181	191	167	191	355	451	522	473	418	295	127	178
MAX	1,496	1,347	1,521	1,679	1,346	2,336	3,171	2,941	3,148	3,320	2,149	1,966
(WY)	(1987)	(1929)	(1983)	(1974)	(1937)	(1979)	(1973)	(1996)	(1947)	(1993)	(1970)	(1970)
MIN	0.01	1.06	0.73	0.14	2.43	7.91	7.15	1.71	0.07	0.00	0.00	0.51
(WY)	(1957)	(1957)	(1957)	(1940)	(1989)	(1956)	(1956)	(1934)	(1934)	(1934)	(1934)	(1953)

05497000 NORTH FABIUS RIVER AT MONTICELLO, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1922 - 2003	
ANNUAL MEAN	287		81.4		295	
HIGHEST ANNUAL MEAN					923	1993
LOWEST ANNUAL MEAN					18.0	1989
HIGHEST DAILY MEAN	15,600	May 13	2,960	May 5	17,900	Apr 23, 1973
LOWEST DAILY MEAN	3.9	Dec 27	2.3	Jan 26-28,30,Feb 9,10	0.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	4.8	Dec 24	2.4	Jan 24	0.00	Many Years
MAXIMUM PEAK FLOW	---		4,110	May 5	20,700	Apr 22, 1973
MAXIMUM PEAK STAGE	---		17.74	May 5	33.03	Apr 22, 1973
INSTANTANEOUS LOW FLOW	---		1.6	Jan 9	0.00	Many Years
ANNUAL RUNOFF (INCHES)	8.61		2.44		8.88	
10 PERCENT EXCEEDS	618		110		570	
50 PERCENT EXCEEDS	28		14		45	
90 PERCENT EXCEEDS	6.6		3.8		4.2	

e Estimated



05498000 MIDDLE FABIUS RIVER NEAR MONTICELLO, MO

LOCATION.--Lat 40°05'37", long 91°44'08", in SE 1/4 sec.12, T.61 N., R.8 W., Lewis County, Hydrologic Unit 07110002, on downstream side 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 and crest-stage gage. Datum of gage is 540.46 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 4, 1967, nonrecording gage at present site and datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	5.2	4.1	3.1	2.1	18	6.3	915	27	15	15	408
2	2.6	5.3	3.5	3.1	2.0	16	e5.3	1,160	25	12	12	155
3	3.1	5.7	2.8	3.0	2.2	e16	4.8	418	28	60	11	76
4	4.7	4.9	2.6	3.2	e2.1	e15	11	324	27	41	9.7	37
5	3.3	4.8	2.6	3.1	e2.1	e15	25	1,910	23	21	7.9	20
6	2.8	5.2	2.6	2.9	e2.0	e14	10	3,500	29	19	7.0	13
7	2.2	6.6	2.7	2.9	e2.0	e13	29	807	46	12	6.5	9.3
8	2.2	6.7	3.1	3.2	e1.9	e13	28	339	45	108	6.1	7.3
9	3.2	8.2	3.5	2.9	e1.9	e12	21	273	53	2,620	5.7	5.7
10	3.1	8.4	3.5	2.5	e1.9	e12	30	1,170	130	3,550	5.4	4.8
11	2.8	8.6	3.1	2.2	e2.0	11	27	1,420	156	1,480	5.1	4.5
12	2.6	13	3.3	2.2	e2.0	11	19	1,120	232	396	4.8	4.5
13	2.4	11	3.4	2.2	e2.0	18	14	355	117	179	4.9	8.8
14	2.3	7.5	3.4	2.1	e2.0	306	11	210	65	105	5.1	176
15	2.2	5.8	3.7	1.8	12	219	8.5	157	43	69	4.8	381
16	1.9	4.7	3.8	1.9	9.4	119	8.4	128	41	48	4.5	146
17	1.9	3.7	3.6	2.2	3.1	82	13	105	91	35	4.0	64
18	2.0	3.4	6.3	2.4	1.9	62	20	88	52	30	3.8	63
19	2.1	4.2	7.0	2.4	2.4	58	22	75	31	25	3.8	812
20	1.9	5.1	5.6	2.3	2.7	56	34	64	22	20	3.6	470
21	1.9	4.9	4.9	2.1	e7.1	39	97	102	18	17	3.5	340
22	2.0	5.1	5.5	2.1	e28	32	86	145	16	15	3.2	1,860
23	1.9	5.6	7.8	2.4	e162	29	85	82	14	13	2.9	596
24	2.1	5.4	8.0	2.2	149	21	70	64	13	11	2.7	187
25	2.7	5.5	6.5	2.0	119	18	593	57	13	10	2.7	91
26	2.9	8.6	5.0	2.1	70	13	1,070	48	16	9.9	2.5	58
27	3.1	10	4.9	2.0	47	10	568	43	19	9.3	2.3	45
28	3.3	9.3	4.4	1.8	26	15	243	39	36	256	2.5	41
29	4.3	7.0	3.8	1.9	---	15	210	34	26	63	5.5	32
30	5.1	5.1	3.8	2.0	---	9.5	200	32	18	34	8.0	27
31	4.8	---	3.4	2.1	---	7.3	---	31	---	21	19	---
MEAN	2.75	6.48	4.26	2.40	23.9	41.8	119	491	49.1	300	5.98	205
MAX	5.1	13	8.0	3.2	162	306	1,070	3,500	232	3,550	19	1,860
MIN	1.9	3.4	2.6	1.8	1.9	7.3	4.8	31	13	9.3	2.3	4.5
IN.	0.01	0.02	0.01	0.01	0.06	0.12	0.34	1.44	0.14	0.88	0.02	0.58

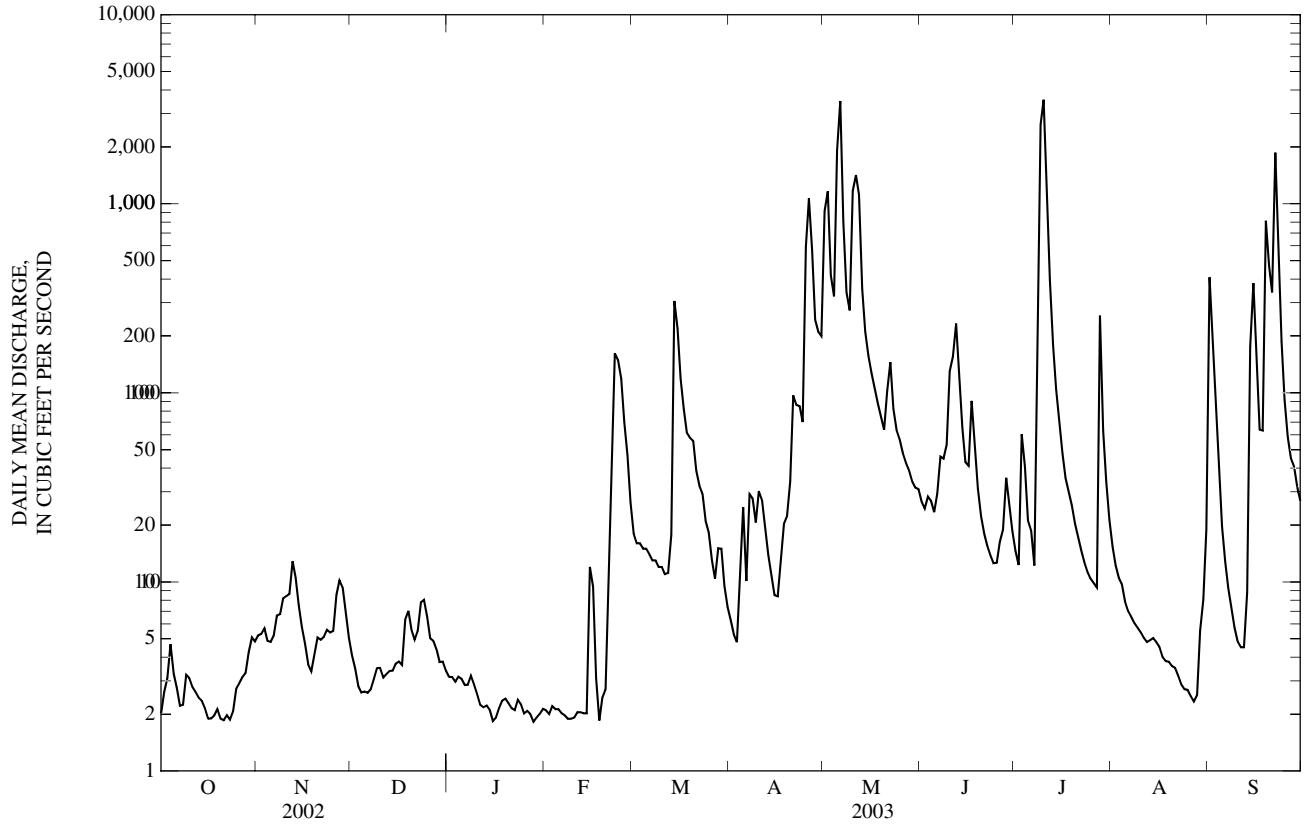
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2003, BY WATER YEAR (WY)

MEAN	157	171	154	198	332	444	495	496	311	301	112	151
MAX	1,368	1,481	1,418	1,179	1,359	1,521	2,719	2,776	2,582	3,038	1,758	1,815
(WY)	(1987)	(1986)	(1983)	(1969)	(1969)	(1979)	(1973)	(1996)	(1947)	(1993)	(1970)	(1970)
MIN	0.00	0.00	0.11	0.31	1.23	6.32	3.83	1.48	1.04	0.78	0.56	0.09
(WY)	(1954)	(1954)	(1957)	(1957)	(1957)	(1957)	(1956)	(1989)	(1956)	(1988)	(1988)	(1953)

05498000 MIDDLE FABIUS RIVER NEAR MONTICELLO, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1946 - 2003	
ANNUAL MEAN	304		105		276	
HIGHEST ANNUAL MEAN					837	1993
LOWEST ANNUAL MEAN					18.7	1989
HIGHEST DAILY MEAN	16,500	May 13	3,550	Jul 10	16,500	May 13, 2002
LOWEST DAILY MEAN	1.7	Sep 14-16,30	1.8	Jan 15,28	0.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	1.8	Sep 12	2.0	Oct 16	0.00	Several Years
MAXIMUM PEAK FLOW	---		3,940	May 6	17,700	Apr 23, 1973
MAXIMUM PEAK STAGE	---		15.00	May 6	27.14	Apr 23, 1973
INSTANTANEOUS LOW FLOW	---		1.4	Feb 19	0.00	Several Years
ANNUAL RUNOFF (INCHES)	10.50		3.63		9.56	
10 PERCENT EXCEEDS	501		182		570	
50 PERCENT EXCEEDS	16		9.9		38	
90 PERCENT EXCEEDS	2.6		2.2		2.8	

e Estimated



05499900 TROUBLESOME CREEK NEAR EWING, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 36°59'52", long 91°50'37", in NE ¼ NE ¼ SE ¼ sec.13, T.60 N., R.9 W., Lewis County, Hydrologic Unit 07110003, approximately 2.0 mi west of Ewing on U.S. Highway 156.

DRAINAGE AREA.--2.88 mi^2.

PERIOD OF RECORD.--November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
04...	1600	Environmental	0.18	6.5	53	7.1	697	5.4	260	74.2	17.9	13.3
JAN												
06...	1540	Environmental	--	8.3	65	7.3	834	4.3	--	--	--	--
MAR												
04...	1025	Environmental	0.12	6.3	46	7.0	248	0.7	--	--	--	--
MAY												
20...	1055	Environmental	6.1	8.0	85	7.2	298	17.5	120	35.6	7.65	6.62
JUL												
21...	1630	Environmental	4.2	8.3	108	7.5	173	27.1	--	--	--	--
SEP												
02...	1700	Environmental	99	7.5	84	7.3	179	20.0	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
04...	35.1	173	172	210	<1	60.9	0.2	39.5	432	54	1.7	<0.04	13.1
JAN													
06...	--	215	214	262	<1	--	--	--	--	<10	1.5	0.08	5.76
MAR													
04...	--	121	120	147	<1	--	--	--	--	36	1.9	0.27	0.31
MAY													
20...	11.4	100	101	123	<1	11.2	0.2	24.6	193	39	1.1	E.03n	0.76
JUL													
21...	--	73	75	91	<1	--	--	--	--	27	1.0	E.02	<0.06
SEP													
02...	--	57	56	68	<1	--	--	--	--	168d	1.4	<0.04	0.98

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
04...	0.089	0.05	0.06	0.23	17k	80	140	M	640	0.8	E.02	<0.2	<6
JAN													
06...	0.044	<0.02	E.03	0.13	20k	<4b	7k	--	--	--	--	--	--
MAR													
04...	0.015	E.01	0.05	0.24	3k	2k	56	--	--	--	--	--	--
MAY													
20...	0.031	E.01n	E.03n	0.17	150	280	320	2	756	1.5	<0.04	<0.2	<6
JUL													
21...	<0.008	E.02	0.04	0.20	300	420	420k	--	--	--	--	--	--
SEP													
02...	0.017	<0.18d	0.12	0.32	1,700k	1,200k	2,000k	--	--	--	--	--	--

05499900 TROUBLESOME CREEK NEAR EWING, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
04...	42	<0.08	1	275	<0.02	<0.5	1	4
JAN								
06...	--	--	--	--	--	--	--	--
MAR								
04...	--	--	--	--	--	--	--	--
MAY								
20...	27	<0.08	2	208	E.01	E.4	M	3
JUL								
21...	--	--	--	--	--	--	--	--
SEP								
02...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

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 mi^2.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 825: 1936.

GAGE.--Water-stage recorder. Datum of gage is 482.91 ft above National Geodetic Vertical Datum of 1929 (levels by the 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.--Water-discharge records fair except for estimated daily discharges, which are poor. 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	6.5	7.4	6.6	e4.4	22	19	692	30	20	84	741
2	3.1	5.1	6.6	7.8	e4.4	21	16	1,980	28	21	55	629
3	3.1	5.1	5.7	7.9	e4.3	20	14	984	29	19	220	212
4	6.9	4.4	4.8	7.7	e4.3	19	14	456	27	16	126	111
5	9.3	4.5	4.0	7.7	e4.4	17	14	1,790	27	46	49	66
6	7.2	4.3	3.4	7.3	e4.3	15	13	3,050	30	66	34	43
7	4.8	4.4	3.3	6.9	e4.3	14	25	2,020	39	45	24	31
8	4.1	5.4	3.9	6.9	e4.3	12	38	575	52	35	18	23
9	3.9	6.1	4.3	6.3	e4.2	15	41	430	44	770	15	18
10	3.7	6.5	4.3	5.8	e4.3	16	34	486	72	2,630	13	15
11	3.7	13	4.7	5.1	e4.3	16	25	3,070	199	3,300	11	13
12	3.4	11	5.0	4.8	e4.3	17	19	2,410	135	946	9.4	12
13	3.4	8.2	5.2	4.6	e4.3	17	16	1,040	90	432	8.4	19
14	2.8	6.6	5.2	4.5	6.3	17	16	436	100	265	7.9	23
15	3.0	6.3	5.4	4.5	11	17	16	268	78	178	7.6	631
16	3.1	6.1	5.7	4.5	50	27	15	188	55	119	6.6	435
17	3.0	5.7	5.2	4.4	85	79	22	142	41	81	6.1	193
18	3.7	5.5	8.4	4.3	70	56	72	115	33	66	5.7	104
19	8.4	5.3	13	4.4	54	71	77	98	28	53	5.0	213
20	6.5	5.1	10	4.5	e65	122	63	85	23	42	4.8	587
21	6.0	4.8	11	4.5	e71	94	95	73	19	35	4.7	426
22	7.5	5.0	9.5	4.3	e77	56	76	63	17	28	3.8	1,690
23	6.5	5.3	8.0	4.0	e65	37	58	54	15	22	3.2	1,950
24	6.2	5.4	7.5	4.0	e53	28	53	50	15	18	2.9	706
25	7.2	5.4	7.2	4.1	e41	25	450	52	18	16	2.7	343
26	6.6	5.4	6.6	4.3	e27	21	769	48	140	15	2.6	214
27	5.3	5.1	6.2	4.1	22	19	558	45	86	13	2.3	268
28	5.1	13	6.2	4.1	22	23	400	39	35	945	3.2	175
29	6.7	12	6.5	4.3	---	23	304	34	23	1,000	8.6	116
30	7.0	8.6	7.2	4.4	---	22	199	36	21	288	7.3	72
31	6.5	---	7.0	e4.4	---	24	---	35	---	130	12	---
MEAN	5.17	6.50	6.40	5.26	27.7	31.7	118	672	51.6	376	24.6	336
MAX	9.3	13	13	7.9	85	122	769	3,070	199	3,300	220	1,950
MIN	2.7	4.3	3.3	4.0	4.2	12	13	34	15	13	2.3	12
IN.	0.01	0.01	0.01	0.01	0.05	0.06	0.21	1.25	0.09	0.70	0.05	0.60

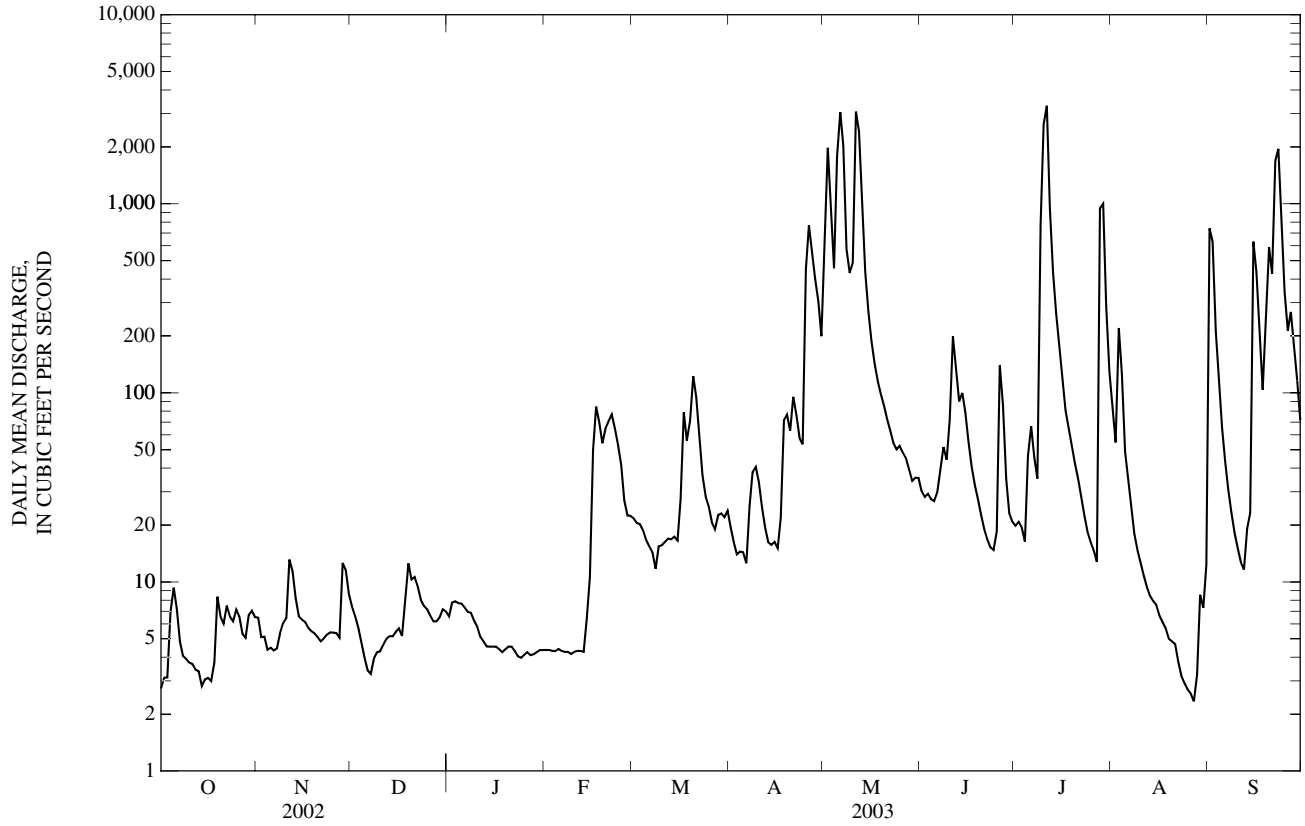
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2003, BY WATER YEAR (WY)

MEAN	257	286	246	294	529	691	764	784	493	379	165	193
MAX	2,690	3,103	2,137	2,000	2,340	2,659	3,989	4,078	3,891	3,647	2,335	2,841
(WY)	(1987)	(1986)	(1983)	(1965)	(1982)	(1973)	(1973)	(1995)	(1947)	(1993)	(1970)	(1970)
MIN	0.00	0.00	1.52	2.12	4.78	15.0	13.4	7.56	5.68	0.71	0.00	0.39
(WY)	(1957)	(1957)	(1964)	(1954)	(1989)	(1956)	(1989)	(1989)	(1977)	(1988)	(1936)	(1953)

05500000 SOUTH FABIUS RIVER NEAR TAYLOR, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1935 - 2003	
ANNUAL MEAN	441		139		416	
HIGHEST ANNUAL MEAN					1,147	1993
LOWEST ANNUAL MEAN					27.4	1989
HIGHEST DAILY MEAN	15,400	May 15	3,300	Jul 11	18,800	Jun 8, 1947
LOWEST DAILY MEAN	2.0	Sep 11,12	2.3	Aug 27	0.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	2.5	Sep 22	3.0	Aug 22	0.00	Several Years
MAXIMUM PEAK FLOW	---		3,760	Jul 11	19,700	Jun 8, 1947
MAXIMUM PEAK STAGE	---		7.45	Jul 11	19.50	Jun 8, 1947
INSTANTANEOUS LOW FLOW	---		2.1	Aug 27,28	0.00	Several Years
ANNUAL RUNOFF (INCHES)	9.67		3.05		9.12	
10 PERCENT EXCEEDS	806		294		964	
50 PERCENT EXCEEDS	14		16		58	
90 PERCENT EXCEEDS	3.9		4.3		4.3	

e Estimated



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.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
08...	1230	Environmental	3.9	9.3	96	7.9	415	16.2	--	--	--	--
NOV												
05...	0850	Environmental	4.5	9.6	80	7.8	417	6.4	190	54.3	12.5	4.41
DEC												
18...	1235	Environmental	7.7	12.9	110	8.1	451	6.5	--	--	--	--
JAN												
07...	0900	Environmental	6.9	14.1	101	8.2	502	1.3	180	52.4	12.3	2.83
07...	0901	Blank	--	--	--	--	--	--	--	0.02	<0.008	<0.10
FEB												
20...	0920	Environmental	65	12.9	90	7.5	416	0.3	--	--	--	--
MAR												
04...	1145	Environmental	18	14.8	114	7.7	394	3.1	--	--	--	--
APR												
08...	1415	Environmental	44	11.7	95	7.9	469	6.5	--	--	--	--
MAY												
20...	1310	Environmental	85	12.6	142	7.4	345	20.9	150	46.1	9.00	6.60
JUN												
17...	1030	Environmental	42	9.9	123	8.2	427	25.5	--	--	--	--
JUL												
22...	0820	Environmental	29	5.9	75	7.1	222	25.9	90	25.8	6.22	5.49
AUG												
06...	0840	Environmental	35	5.1	63	7.1	157	25.2	--	--	--	--
SEP												
03...	0820	Environmental	226	7.1	79	7.2	203	19.6	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
08...	--	142	141	173	<1	--	--	--	--	<10	0.45	<0.04	<0.06
NOV													
05...	12.5	166	168	205	<1	10.3	<0.2	41.2	249	13	0.43	<0.04	<0.06
DEC													
18...	--	172	173	211	<1	--	--	--	--	<10	0.36	<0.04	E.03
JAN													
07...	11.6	196	196	240	<1	10.8	<0.17	63.3	307	<10	0.28	<0.04	<0.06
07...	<0.09	--	--	--	--	<0.20	<0.17	<0.2	<10	<10	<0.10	<0.04	<0.06
FEB													
20...	--	141	143	174	<1	--	--	--	--	<10	0.86	0.07	0.51
MAR													
04...	--	133	133	162	<1	--	--	--	--	<10	0.56	<0.04	E.29n
APR													
08...	--	152	155	189	<1	--	--	--	--	13	0.55	<0.04	<0.06
MAY													
20...	9.89	112	113	138	<1	9.60	0.2	37.6	229	17	0.73	<0.04	0.61
JUN													
17...	--	144	145	177	<1	--	--	--	--	<10	1.0	<0.04	0.29
JUL													
22...	6.36	77	79	96	<1	7.11	0.2	16.0	135	16	0.73	<0.04	0.09
AUG													
06...	--	48	47	57	<1	--	--	--	--	27	0.98	0.09	0.72
SEP													
03...	--	66	66	80	<1	--	--	--	--	34	1.2	<0.04	0.76

05500000 SOUTH FABIUS RIVER NEAR TAYLOR, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
08...	<0.008	E.01	E.03	E.04	55	70k	23	--	--	--	--	--	--
NOV													
05...	<0.008	<0.02	E.02	E.04	7k	17k	32	<2	146	0.9	<0.04	<0.2	<6
DEC													
18...	<0.008	<0.02	E.03	E.03	24	130	335	--	--	--	--	--	--
JAN													
07...	<0.008	<0.02	<0.04	E.03	1k	10k	30	E1	21	0.4	<0.04	<0.2	<6
07...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<6
FEB													
20...	0.045	0.15	0.21	0.26	52	174k	1,330	--	--	--	--	--	--
MAR													
04...	0.009	E.01	E.03	0.08	<2b	4k	12k	--	--	--	--	--	--
APR													
08...	E.005	E.01	E.02	0.07	100	163k	126	--	--	--	--	--	--
MAY													
20...	0.021	0.02	0.04	0.12	30k	66	64	4	371	1.5	<0.04	<0.2	<6
JUN													
17...	0.016	<0.02	E.02	0.07	90k	88	60	--	--	--	--	--	--
JUL													
22...	E.005	E.01	0.06	0.10	82	116	78	3	248	2.4	<0.04	<0.2	<7
AUG													
06...	0.031	<0.02	0.09	0.22	52	330	118	--	--	--	--	--	--
SEP													
03...	0.013	<0.18d	0.14	0.27	760	1,920k	1,740	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT								
08...	--	--	--	--	--	--	--	--
NOV								
05...	12	<0.08	M	17.7	<0.02	E.4	M	E1
DEC								
18...	--	--	--	--	--	--	--	--
JAN								
07...	28	<0.08	<1	13.9	<0.02	<0.5	19	2
07...	<10	<0.08	<1	<2.0	<0.02	<0.5	M	E1
FEB								
20...	--	--	--	--	--	--	--	--
MAR								
04...	--	--	--	--	--	--	--	--
APR								
08...	--	--	--	--	--	--	--	--
MAY								
20...	19	<0.08	1	108	<0.02	0.7	1	4
JUN								
17...	--	--	--	--	--	--	--	--
JUL								
22...	10	0.13	M	63.9	<0.02	E.4	2	E2
AUG								
06...	--	--	--	--	--	--	--	--
SEP								
03...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

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 National Geodetic Vertical Datum of 1929 (levels by the 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.--Records poor. 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, at present datum.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.69	e3.5	2.1	6.3	4.0	15	22	185	17	26	6.3	926
2	0.75	e3.5	1.9	6.9	4.2	15	19	443	16	262	4.5	320
3	0.91	e3.5	1.9	6.8	4.7	14	16	244	20	193	3.5	112
4	2.5	e3.5	2.0	6.5	4.1	15	17	162	21	121	2.7	77
5	8.3	e3.4	2.1	6.1	4.8	16	18	777	20	70	2.3	45
6	6.3	e3.4	2.1	6.1	4.9	14	18	588	22	42	2.0	27
7	5.2	3.4	2.4	6.0	4.7	15	26	286	35	29	1.8	17
8	4.4	3.3	2.5	6.0	4.7	14	46	162	44	21	1.6	11
9	4.0	3.1	2.3	5.7	4.5	14	54	237	34	23	1.4	7.8
10	3.5	3.1	2.1	5.2	4.3	15	41	709	55	37	1.3	6.3
11	2.9	3.0	2.3	4.9	4.5	19	30	2,080	78	17	1.2	4.6
12	2.7	2.6	2.7	4.5	4.2	19	23	699	101	48	1.3	4.3
13	3.4	2.7	3.4	4.5	3.9	19	19	270	88	53	1.4	8.8
14	3.2	2.7	11	4.4	4.6	20	15	142	120	28	1.4	21
15	3.0	2.7	8.4	4.1	120	22	13	105	73	e16	1.6	227
16	2.7	2.6	7.4	4.0	134	25	12	82	44	12	2.2	137
17	2.4	2.6	7.1	3.7	32	22	271	71	34	8.5	2.1	83
18	2.7	2.7	11	3.6	20	19	189	58	27	e7.4	1.9	45
19	8.5	2.5	16	3.4	19	43	118	50	20	6.6	1.6	30
20	12	2.4	14	3.4	98	167	106	42	17	7.0	1.4	21
21	6.6	2.3	17	3.2	129	109	147	36	13	e5.5	1.2	17
22	5.4	2.2	14	3.1	120	63	104	31	11	3.8	1.0	227
23	5.3	2.2	9.9	3.0	78	40	75	28	10	3.1	1.0	379
24	5.0	2.3	8.3	2.9	51	28	75	27	10	2.6	1.0	162
25	e4.5	2.4	7.8	3.0	32	22	329	34	45	2.4	0.88	78
26	e4.2	2.3	7.3	3.1	26	17	349	31	661	2.1	0.86	48
27	e3.9	2.2	7.0	3.0	20	15	193	29	161	2.0	1.2	35
28	e3.8	2.2	6.9	3.2	16	19	159	24	74	20	1.5	34
29	e3.7	2.1	6.9	3.1	---	24	252	20	43	11	2.0	28
30	e3.6	2.1	6.9	3.1	---	36	161	22	32	7.0	2.4	17
31	e3.6	---	7.0	3.6	---	28	---	20	---	9.6	12	---
MEAN	4.18	2.75	6.57	4.40	34.2	29.8	97.2	248	64.9	35.4	2.21	105
MAX	12	3.5	17	6.9	134	167	349	2,080	661	262	12	926
MIN	0.69	2.1	1.9	2.9	3.9	14	12	20	10	2.0	0.86	4.3
IN.	0.01	0.01	0.02	0.01	0.10	0.09	0.29	0.77	0.19	0.11	0.01	0.31

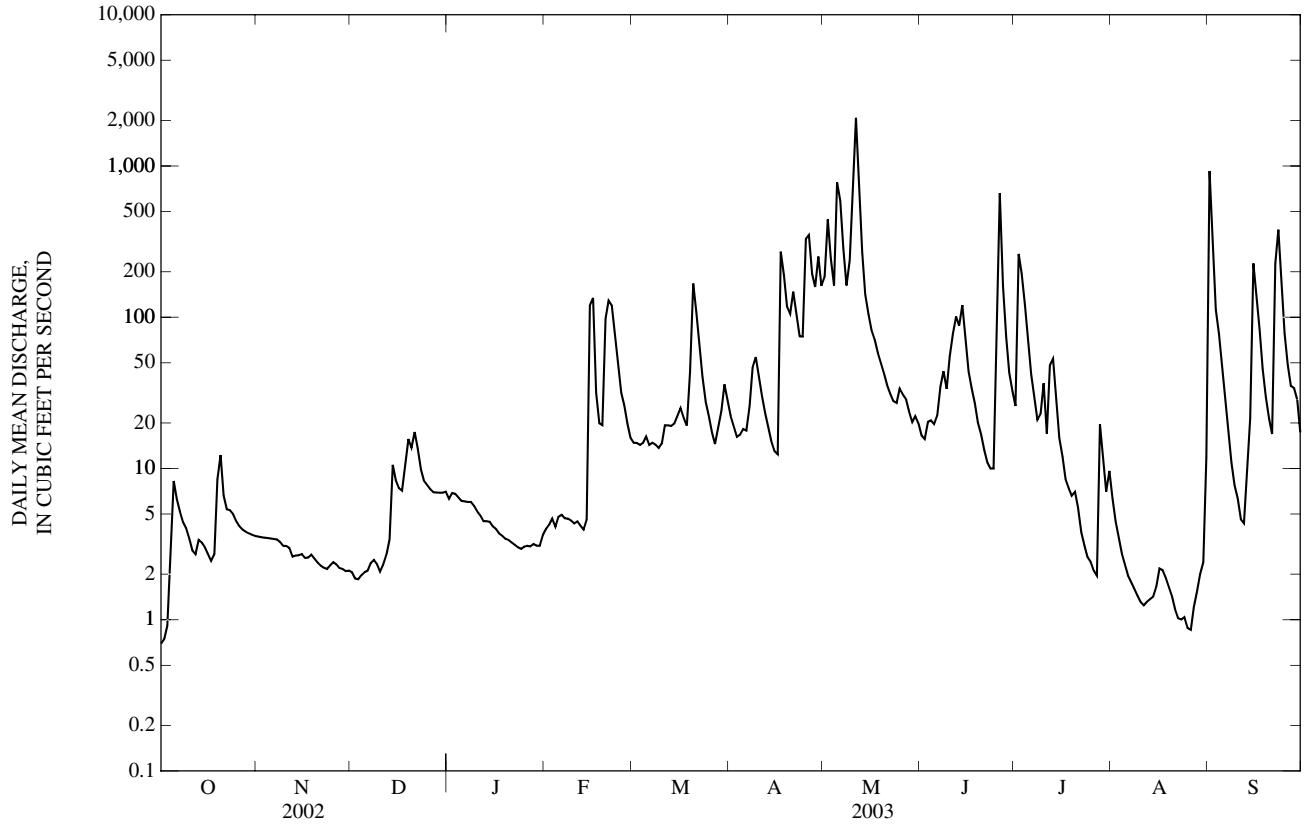
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2003, BY WATER YEAR (WY)

MEAN	146	173	163	181	318	434	482	499	308	238	103	121
MAX	1,742	2,639	1,832	991	1,720	2,783	2,691	2,322	2,296	2,100	1,357	1,351
(WY)	(1987)	(1986)	(1983)	(1969)	(1982)	(1973)	(1973)	(2002)	(1947)	(1993)	(1970)	(1970)
MIN	0.00	0.00	0.23	0.66	0.92	6.54	24.8	15.5	4.77	0.52	0.00	0.17
(WY)	(1957)	(1957)	(1957)	(1954)	(1954)	(1956)	(2000)	(1989)	(1936)	(1936)	(1936)	(1940)

05501000 NORTH RIVER AT PALMYRA, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1935 - 2003	
ANNUAL MEAN	299		52.9		260	
HIGHEST ANNUAL MEAN					748	1973
LOWEST ANNUAL MEAN					22.1	1989
HIGHEST DAILY MEAN	16,000	May 9	2,080	May 11	32,600	Apr 21, 1973
LOWEST DAILY MEAN	0.69	Oct 1	0.69	Oct 1	0.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	0.91	Sep 27	1.0	Aug 21	0.00	Several Years
MAXIMUM PEAK FLOW	---		5,490	May 11	57,400	Apr 21, 1973
MAXIMUM PEAK STAGE	---		16.24	May 11	29.70	Apr 21, 1973
INSTANTANEOUS LOW FLOW	---		0.66	Oct 1,2	0.00	Several Years
ANNUAL RUNOFF (INCHES)	10.89		1.93		9.49	
10 PERCENT EXCEEDS	439		131		456	
50 PERCENT EXCEEDS	16		11		38	
90 PERCENT EXCEEDS	2.3		2.1		3.4	

e Estimated



05502000 BEAR CREEK AT HANNIBAL, MO

LOCATION.--Lat 39°40'43", long 91°24'41", in SE 1/4 NW 1/4 sec.1, T.56 N., R.5 W., Ralls County, Hydrologic Unit 07110004, at bridge on Industrial Drive, on right downstream bank, and 4.65 mi upstream from mouth.

DRAINAGE AREA.--31.0 mi^2.

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

REVISED RECORDS.--WSP 1115: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 508.91 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 26, 1948, nonrecording gage; 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.--Records poor. Flow partially regulated by Bear Creek flood control reservoir, 1.0 mi upstream, since Aug. 7, 1961. U.S.G.S. satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,500 ft^3/s, Aug. 3, 1957; gage height, 14.05 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.38	1.6	1.4	2.1	2.2	3.4	5.4	7.6	3.3	4.6	1.2	48
2	0.54	1.3	1.4	2.2	2.0	3.5	4.8	7.0	3.5	2.6	0.98	98
3	0.77	1.5	1.3	2.3	2.2	3.3	4.6	5.6	4.2	2.3	0.76	145
4	1.9	1.5	1.3	2.1	8.4	3.7	5.7	31	3.8	1.9	0.65	115
5	1.1	1.6	1.3	2.2	1.7	3.6	5.2	98	3.1	1.6	0.54	87
6	1.0	1.7	1.3	2.3	1.6	3.2	4.7	21	4.6	1.5	0.51	86
7	0.81	1.5	1.3	2.4	1.6	3.3	6.4	9.8	5.8	1.5	0.45	85
8	0.76	1.6	1.4	2.7	1.5	3.5	6.4	8.2	3.9	1.2	0.37	58
9	0.73	1.6	1.4	2.8	1.5	3.3	5.4	9.1	3.0	2.4	0.23	4.7
10	0.74	1.7	1.4	2.6	1.6	2.9	4.7	55	11	3.0	0.05	3.0
11	0.69	1.5	2.3	2.1	1.6	2.8	4.2	73	9.0	1.9	0.04	2.6
12	0.73	1.5	1.8	1.9	1.6	3.4	4.2	27	5.0	1.5	0.04	2.7
13	0.74	1.5	1.7	1.9	1.6	7.3	3.6	9.0	51	1.3	0.07	5.8
14	0.71	1.7	1.6	1.8	2.3	4.6	3.4	7.5	35	1.1	0.47	6.9
15	0.98	1.6	1.6	1.7	90	4.0	3.1	7.2	6.5	0.98	0.52	7.8
16	0.72	1.5	1.6	1.7	76	3.7	4.5	6.5	4.4	0.86	0.36	3.4
17	0.73	1.4	1.8	1.7	23	3.5	9.0	6.0	3.5	0.92	0.12	2.7
18	1.3	1.4	10	1.7	6.9	3.6	6.0	5.5	3.1	1.2	0.00	3.5
19	2.4	2.2	9.1	1.7	35	28	5.3	5.3	2.7	1.1	0.00	3.6
20	1.7	3.3	3.1	1.8	85	32	22	4.7	2.3	0.96	0.00	2.9
21	1.2	1.7	2.4	1.7	41	9.7	10	4.1	2.2	0.80	0.00	14
22	0.93	1.5	2.2	1.6	10	6.4	6.3	3.9	2.0	0.64	0.00	71
23	0.91	1.4	2.1	1.4	6.1	5.5	5.3	3.8	1.9	0.59	0.00	66
24	1.1	1.6	2.1	e1.7	4.6	5.3	9.5	4.3	1.8	0.56	0.00	53
25	1.8	1.8	2.1	1.8	3.6	6.2	46	5.8	39	0.48	0.00	6.2
26	1.9	1.9	1.9	e1.7	3.5	5.5	16	4.4	6.7	0.42	0.00	14
27	1.3	2.1	1.9	1.8	3.4	4.9	8.0	3.6	4.2	0.37	0.00	30
28	1.2	1.6	2.0	1.7	3.3	10	18	3.2	3.8	3.9	0.16	8.2
29	2.0	1.6	2.0	1.7	---	12	17	2.9	23	7.1	0.08	5.2
30	2.1	1.5	2.3	1.5	---	6.4	8.2	3.9	64	1.6	0.55	4.1
31	2.1	---	2.2	2.3	---	5.7	---	4.0	---	1.1	68	---
MEAN	1.16	1.66	2.30	1.95	15.1	6.59	8.76	14.4	10.6	1.68	2.46	34.8
MAX	2.4	3.3	10	2.8	90	32	46	98	64	7.1	68	145
MIN	0.38	1.3	1.3	1.4	1.5	2.8	3.1	2.9	1.8	0.37	0.00	2.6
IN.	0.04	0.06	0.09	0.07	0.51	0.25	0.32	0.54	0.38	0.06	0.09	1.25

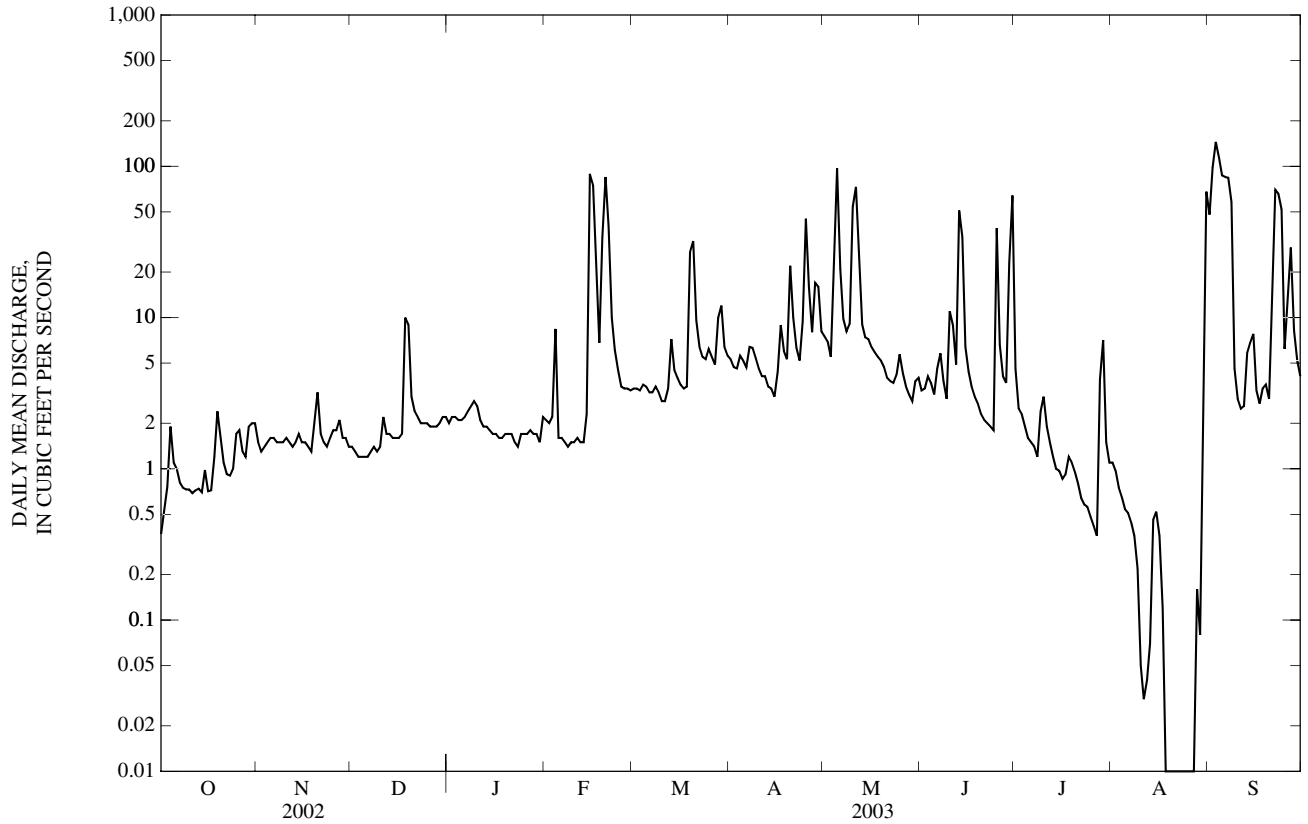
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2003[a], BY WATER YEAR (WY)

MEAN	13.6	19.2	17.7	15.4	31.8	36.9	38.0	39.9	21.7	18.6	14.1	14.3
MAX	116	225	155	84.0	136	125	193	183	76.5	193	141	190
(WY)	(1970)	(1986)	(1983)	(1969)	(1997)	(1973)	(1973)	(2002)	(1982)	(1981)	(1993)	(1970)
MIN	0.02	0.15	0.11	0.27	0.85	2.86	2.94	2.25	0.58	0.03	0.15	0.01
(WY)	(1964)	(1964)	(1964)	(1977)	(1964)	(1981)	(2000)	(2000)	(1963)	(1977)	(1962)	(1988)

05502000 BEAR CREEK AT HANNIBAL, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1962 - 2003[a]	
ANNUAL MEAN	25.9		8.34		23.4	
HIGHEST ANNUAL MEAN					57.9	1993
LOWEST ANNUAL MEAN					5.33	1989
HIGHEST DAILY MEAN	521	May 21	145	Sep 3	1,470	Sep 25, 1970
LOWEST DAILY MEAN	0.38	Oct 1	0.00	Aug 18-27	0.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	0.55	Sep 25	0.00	Aug 18	0.00	Several Years
MAXIMUM PEAK FLOW	---		516	Aug 31	3,120	Sep 23, 1970
MAXIMUM PEAK STAGE	---		5.26	Aug 31	9.24	May 14, 1970
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Several Years
ANNUAL RUNOFF (INCHES)	11.36		3.65		10.24	
10 PERCENT EXCEEDS	76		16		51	
50 PERCENT EXCEEDS	3.0		2.3		4.5	
90 PERCENT EXCEEDS	0.97		0.70		0.58	

e Estimated
[a] Post-regulation period.



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 the U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 702.30 ft above sea level.

REMARKS.--Records poor. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1947 reached a stage of 19.7 ft, discharge 26,900 ft^3/s, according to information furnished by the U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	10	3.1	e4.0	e13	e7.0	5.9	1,110	5.1	8.8	13	296
2	3.0	10	4.5	e3.5	e18	e5.9	5.8	615	6.9	106	45	262
3	3.0	22	3.8	e3.8	e20	e3.8	5.1	191	13	47	53	115
4	4.2	20	3.4	e4.5	e13	e5.4	8.9	525	7.7	19	19	e36
5	4.5	13	5.1	e4.0	e11	e3.7	18	3,520	8.2	10	13	e18
6	3.9	9.5	4.0	e5.0	e16	e3.3	13	1,140	30	6.8	11	e11
7	10	7.1	3.5	e5.2	e12	e4.2	36	296	35	3.8	8.9	e8.0
8	9.9	6.0	3.7	e5.0	e11	e7.0	37	178	49	1.9	7.8	e6.8
9	6.7	5.2	3.9	e4.5	e11	e6.5	31	197	25	520	6.5	e5.6
10	e5.0	4.1	4.1	e3.8	e11	e4.9	41	629	170	450	5.9	e4.5
11	e4.0	3.9	4.3	e3.6	e9.3	e4.7	26	2,320	152	175	5.5	3.7
12	e5.0	3.9	e4.0	e3.8	e9.0	e6.1	23	674	103	99	4.4	5.9
13	e4.8	3.4	e3.7	e4.0	e11	82	12	209	53	59	3.4	106
14	e4.3	3.6	e3.4	e5.2	e15	151	8.7	126	71	47	3.1	576
15	e3.8	5.2	e3.2	e4.0	e23	84	8.6	94	86	40	2.7	316
16	e3.5	4.2	e3.0	e5.0	e16	64	14	70	42	34	1.9	108
17	e3.2	3.9	4.7	e4.2	e35	49	134	55	27	195	1.7	45
18	e3.0	4.0	5.9	e4.0	e20	32	54	44	20	168	1.6	24
19	6.6	3.9	3.7	e3.8	e12	33	30	38	17	86	1.7	87
20	3.1	4.0	4.5	e4.0	e24	35	108	35	16	52	1.5	172
21	2.3	4.2	14	e5.0	e81	25	59	58	12	35	1.1	152
22	2.1	3.5	22	e5.9	e43	39	97	62	9.8	24	0.70	450
23	2.4	3.3	12	e4.5	e11	37	55	34	7.7	19	2.0	207
24	4.5	3.2	7.1	e3.5	e11	27	62	27	7.0	15	2.2	66
25	9.4	3.1	9.6	e3.0	e13	22	306	28	7.8	10	1.5	26
26	7.7	3.8	15	e3.5	e14	18	398	21	16	8.0	1.1	32
27	7.2	3.5	e4.5	e3.0	e8.6	13	199	23	35	7.7	5.3	23
28	8.5	4.0	e5.0	e3.4	e6.0	16	143	17	38	24	2.6	13
29	32	4.4	e4.0	e4.7	---	22	140	11	19	20	e6.8	9.6
30	22	4.2	e3.5	e6.0	---	14	148	9.1	11	16	11	7.6
31	17	---	e3.2	e8.5	---	9.5	---	6.8	---	13	164	---
MEAN	6.76	6.14	5.79	4.38	17.8	26.9	74.2	399	36.7	74.8	13.2	106
MAX	32	22	22	8.5	81	151	398	3,520	170	520	164	576
MIN	2.1	3.1	3.0	3.0	6.0	3.3	5.1	6.8	5.1	1.9	0.70	3.7
IN.	0.02	0.02	0.02	0.01	0.05	0.09	0.23	1.26	0.11	0.24	0.04	0.33

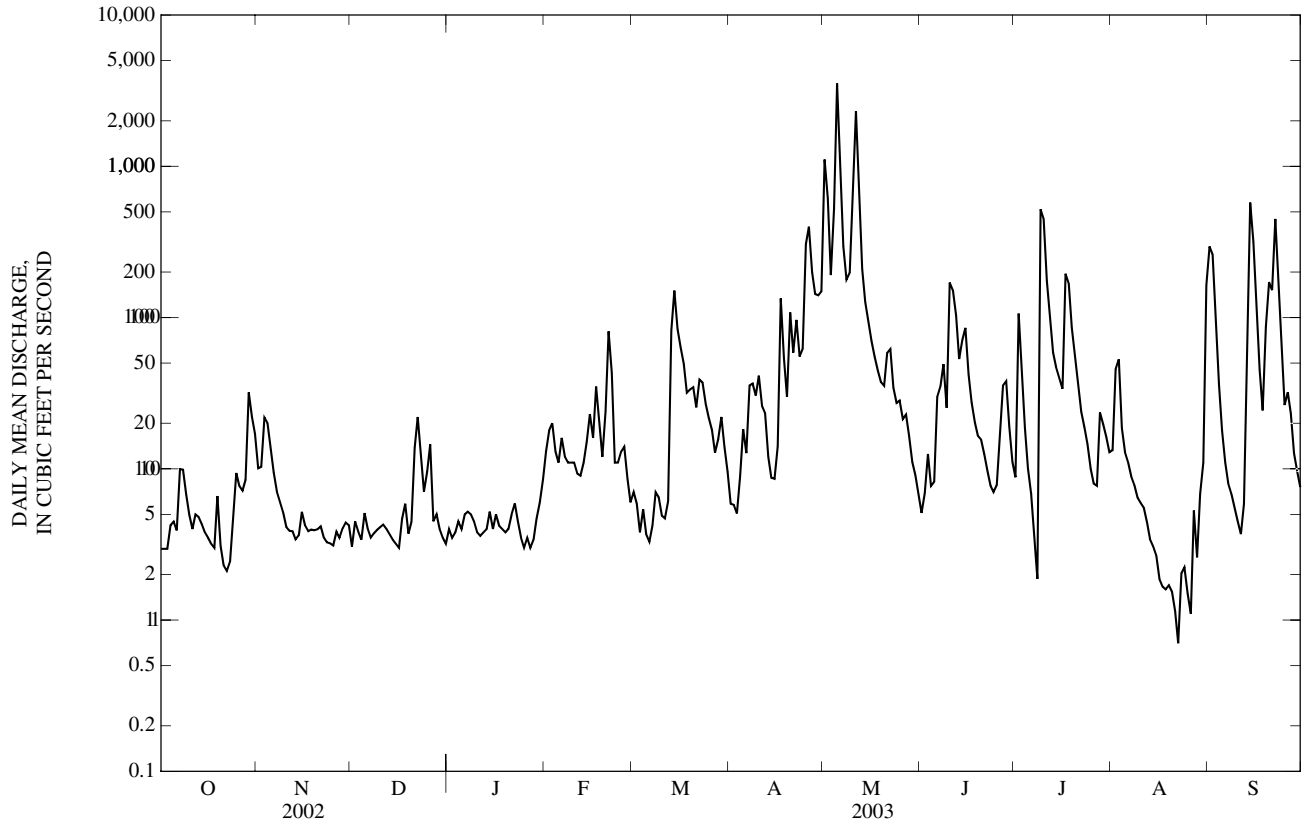
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2003, BY WATER YEAR (WY)

MEAN	171	267	186	123	339	403	450	633	272	362	85.3	105
MAX	1,201	1,426	1,319	576	1,599	1,177	2,036	2,631	1,074	3,033	441	937
(WY)	(1987)	(1986)	(1983)	(1999)	(1982)	(1979)	(1983)	(1995)	(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)

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

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1974 - 2003	
ANNUAL MEAN	295		64.8		283	
HIGHEST ANNUAL MEAN					767	1993
LOWEST ANNUAL MEAN					30.1	2000
HIGHEST DAILY MEAN	25,000	May 13	3,520	May 5	25,000	May 13, 2002
LOWEST DAILY MEAN	2.1	Oct 22	0.70	Aug 22	0.18	Aug 7, 1988
ANNUAL SEVEN-DAY MINIMUM	3.0	Sep 6	1.4	Aug 20	0.44	Oct 20, 1991
MAXIMUM PEAK FLOW	---		5,520	May 5	42,000[a]	May 12, 2002
MAXIMUM PEAK STAGE	---		12.82	May 5	20.91	May 12, 2002
INSTANTANEOUS LOW FLOW	---		0.10	Aug 22,23	0.10	Aug 22,23, 2003
ANNUAL RUNOFF (INCHES)	10.96		2.41		10.53	
10 PERCENT EXCEEDS	349		136		499	
50 PERCENT EXCEEDS	13		10		30	
90 PERCENT EXCEEDS	3.4		3.4		4.1	

e Estimated
[a] Discharge determined by indirect measurement of peak flow.



05502500 NORTH FORK SALT RIVER NEAR SHELBINA, MO

LOCATION.--Lat 39°44'29", long 92°02'26", in SW ¼ NE ¼ 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.

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 National Geodetic Vertical Datum of 1929. 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 U.S. Army Corps of Engineers, St. Louis District, at site 100 ft downstream; Oct. 1, 1979, to Sept. 1981, gage-height data collected by the U.S. Geological Survey at site 100 ft downstream.

REMARKS.--Records good except for estimated daily discharges and discharges below 50 ft^3/s, which are poor. Water is pumped from river at the gage by the 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

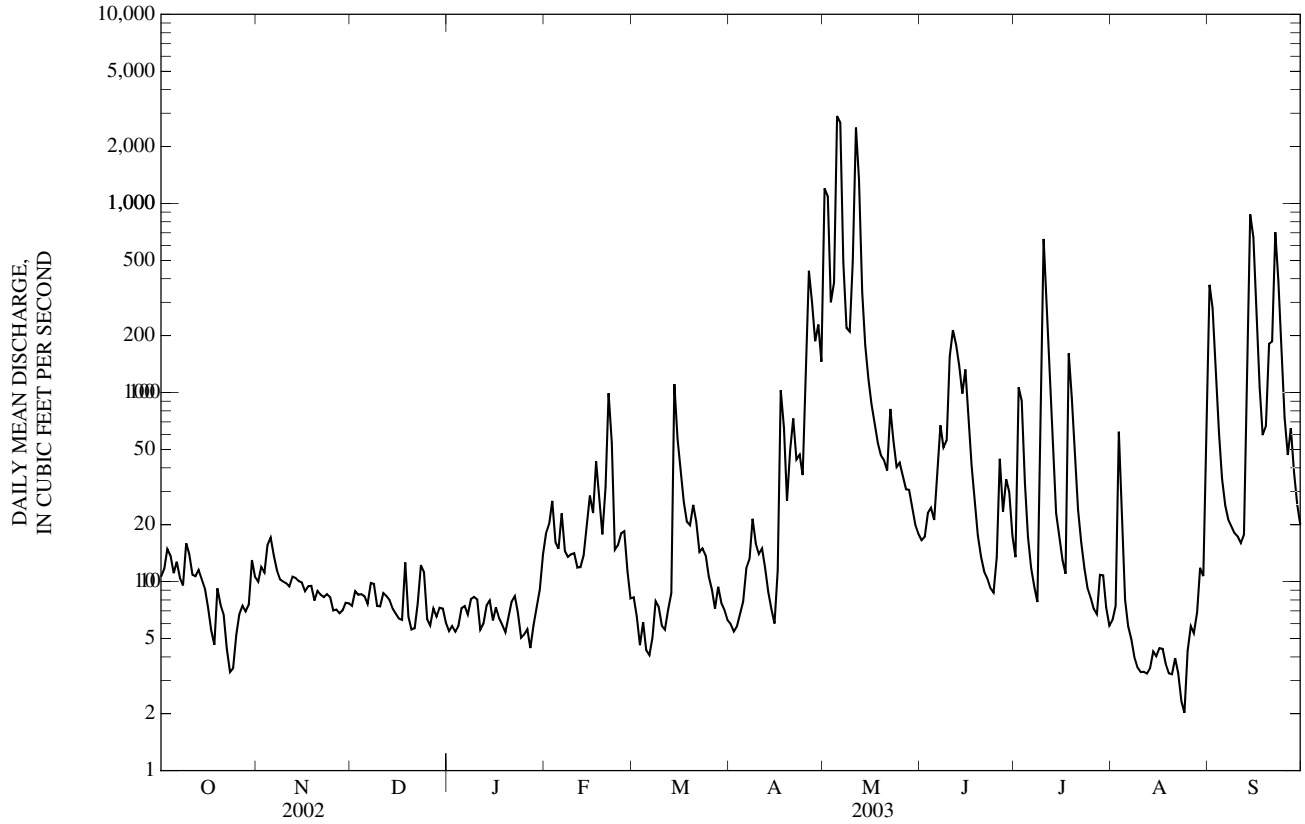
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	10	7.4	5.5	18	8.3	6.0	1,200	17	13	6.3	371
2	12	12	8.9	5.8	20	6.5	5.5	1,090	17	106	7.4	278
3	15	11	8.5	5.4	27	4.6	5.8	300	23	90	62	147
4	14	16	8.6	5.8	16	6.1	6.8	381	25	33	19	61
5	11	17	8.4	7.2	15	4.3	7.8	2,900	21	17	8.0	35
6	13	14	7.6	7.4	23	4.1	12	2,680	36	12	5.8	25
7	10	11	9.8	6.7	15	5.0	13	489	67	9.4	5.0	21
8	9.5	10	9.7	8.1	14	7.9	21	220	51	7.8	4.0	20
9	16	10	7.4	8.3	14	7.4	16	210	56	136	3.5	18
10	14	9.8	7.4	8.1	14	5.8	14	492	155	649	3.3	17
11	11	9.4	8.7	5.6	12	5.6	15	2,520	214	215	3.3	16
12	11	11	8.4	6.0	12	7.1	12	1,340	179	90	3.3	18
13	12	10	8.0	7.5	14	8.7	8.8	340	139	41	3.5	179
14	10	10	7.2	8.0	20	111	7.2	178	99	23	4.3	874
15	9.2	9.9	6.8	6.2	28	57	6.0	118	132	17	4.0	660
16	7.3	8.9	6.4	7.3	23	39	11	87	71	13	4.4	255
17	5.5	9.5	6.3	6.4	43	26	103	68	41	11	4.4	107
18	4.6	9.5	13	5.9	27	21	65	54	26	161	3.7	59
19	9.2	7.9	6.5	5.4	18	20	27	47	17	94	3.3	66
20	7.5	8.9	5.6	6.5	32	25	50	44	14	42	3.2	181
21	6.7	8.5	5.7	7.8	99	21	73	39	11	24	3.9	186
22	4.4	8.3	7.7	8.4	54	14	44	82	10	16	3.3	704
23	3.3	8.6	12	6.8	15	15	47	56	9.2	12	2.3	390
24	3.5	8.3	11	5.0	16	14	37	40	8.7	9.3	2.0	156
25	5.2	7.0	6.3	5.2	18	11	151	43	13	8.2	4.3	74
26	6.7	7.1	5.9	5.6	18	9.0	440	36	45	7.2	5.8	47
27	7.4	6.8	7.2	4.4	11	7.2	297	31	23	6.7	5.3	65
28	7.0	7.1	6.5	5.9	8.1	9.4	187	31	35	11	6.9	38
29	7.5	7.7	7.3	7.2	---	7.7	229	24	30	11	12	26
30	13	7.7	7.2	9.1	---	7.1	145	20	17	7.3	11	20
31	11	---	6.1	14	---	6.2	---	18	---	5.8	37	---
MEAN	9.31	9.76	7.85	6.85	23.0	16.2	68.8	490	53.4	61.2	8.24	170
MAX	16	17	13	14	99	111	440	2,900	214	649	62	874
MIN	3.3	6.8	5.6	4.4	8.1	4.1	5.5	18	8.7	5.8	2.0	16
IN.	0.02	0.02	0.02	0.02	0.05	0.04	0.16	1.17	0.12	0.15	0.02	0.40

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

MEAN	140	170	143	210	376	444	533	564	431	329	117	156
MAX	1,208	1,327	835	1,319	1,475	1,417	1,944	3,559	4,171	4,119	1,214	1,831
(WY)	(1999)	(1993)	(1972)	(1965)	(1997)	(1948)	(1944)	(2002)	(1947)	(1993)	(1970)	(1970)
MIN	0.00	0.00	0.00	0.01	1.80	6.41	7.24	12.2	2.93	0.00	0.00	0.00
(WY)	(1953)	(1954)	(1954)	(1954)	(1934)	(1956)	(1989)	(2000)	(1988)	(1934)	(1936)	(1953)

05502500 NORTH FORK SALT RIVER NEAR SHELBINA, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	423		77.5		303	
HIGHEST ANNUAL MEAN					1,037	1993
LOWEST ANNUAL MEAN					36.2	1989
HIGHEST DAILY MEAN	20,500	May 14	2,900	May 5	20,500	May 14, 2002
LOWEST DAILY MEAN	2.8	Sep 11	2.0	Aug 24	0.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	3.7	Sep 7	3.1	Aug 18	0.00	Many Years
MAXIMUM PEAK FLOW	---		4,170	May 6	24,600	May 13, 2002
MAXIMUM PEAK STAGE	---		13.12	May 6	27.40	Jun 7, 1947
INSTANTANEOUS LOW FLOW	---		1.8	Aug 23,24	0.00	Many Years
ANNUAL RUNOFF (INCHES)	11.93		2.19		8.56	
10 PERCENT EXCEEDS	604		149		660	
50 PERCENT EXCEEDS	15		12		31	
90 PERCENT EXCEEDS	6.0		5.5		2.1	



05503800 CROOKED CREEK NEAR PARIS, MO

LOCATION.--Lat 39°35'06", long 91°59'36", NE $^1/_4$ NW $^1/_4$ SW $^1/_4$ sec.2, T.55 N., R.10 W., Monroe County, Hydrologic Unit 07110005, on right bank downstream from county road bridge, 7.0 mi north of Paris, 1.4 mi north of State Route 15, and at mile 8.9.

DRAINAGE AREA.--80.0 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 650.00 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 8, 1967, wire-weight gage and Nov. 9, 1967, to Sept. 30, 1979, recording gage at datum 50 ft lower.

REMARKS.--Records fair. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 21, 1973 reached a stage of 15.53 ft; discharge, 12,100 ft^3/s, according to information furnished by the U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.00	0.00	0.00	0.06	0.04	2.4	0.75	83	3.4	1.7	0.00	426
2	e0.00	0.00	0.00	0.12	0.15	2.2	0.51	367	3.5	1.2	0.00	139
3	e0.00	0.00	0.00	0.13	0.21	2.0	0.37	34	4.4	0.88	0.00	27
4	e0.00	0.00	0.00	0.12	0.19	2.0	0.43	21	4.2	0.67	0.00	11
5	e0.00	0.00	0.00	0.14	0.14	2.1	0.47	205	3.7	0.49	8.4	5.8
6	e0.00	0.00	0.00	0.15	0.15	1.9	0.53	64	11	0.40	3.3	3.8
7	e0.00	0.00	0.00	0.14	0.12	1.7	0.77	21	22	0.31	1.4	2.7
8	e0.00	0.00	0.00	0.12	0.08	1.4	1.2	12	19	0.24	0.64	2.0
9	e0.00	0.00	0.00	0.10	0.07	1.7	1.1	68	9.9	0.21	0.23	1.5
10	0.00	0.00	0.00	0.09	0.08	1.6	0.92	299	31	0.32	0.08	1.3
11	0.00	0.00	0.00	0.07	0.09	1.4	0.68	468	91	0.52	0.01	1.0
12	0.00	0.00	0.00	0.05	0.09	1.5	0.52	67	27	0.90	0.00	0.97
13	0.00	0.00	0.00	0.05	0.09	2.2	0.49	27	35	0.83	0.00	5.4
14	0.00	0.00	0.00	0.05	0.32	2.4	0.43	17	45	1.7	0.00	523
15	0.00	0.00	0.00	0.03	61	2.6	0.39	12	18	1.1	0.00	120
16	0.00	0.00	0.00	0.03	25	2.4	0.40	8.7	8.7	0.76	0.00	24
17	0.00	0.00	0.00	0.02	10	2.6	33	6.4	4.9	0.54	0.00	10
18	0.02	0.00	0.03	0.01	13	2.7	36	5.5	3.1	0.41	0.00	5.9
19	0.01	0.00	0.10	0.01	16	5.2	15	4.8	2.1	0.34	0.00	4.0
20	0.00	0.00	0.22	0.01	21	8.5	23	5.2	1.5	0.22	0.00	2.9
21	0.00	0.00	0.26	0.01	23	5.6	15	4.7	1.2	0.17	0.00	2.8
22	0.00	0.00	0.22	0.01	39	6.5	7.0	3.9	0.96	0.13	0.00	294
23	0.00	0.00	0.18	0.01	22	8.2	4.1	3.5	0.82	0.08	0.00	73
24	0.00	0.00	0.16	0.01	14	4.7	9.5	3.6	0.75	0.05	0.00	17
25	0.00	0.00	0.13	0.02	8.1	3.5	40	5.7	1.7	0.02	0.00	7.4
26	0.00	0.00	0.09	0.06	5.0	2.4	56	5.0	2.2	0.01	0.00	4.3
27	0.00	0.00	0.09	0.04	3.6	1.4	19	4.2	23	0.00	0.00	3.3
28	0.00	0.00	0.08	0.06	2.8	2.3	72	4.0	11	0.04	0.00	7.7
29	0.00	0.00	0.08	0.04	---	3.7	207	3.9	4.6	0.03	0.00	6.1
30	0.00	0.00	0.07	0.02	---	1.8	41	3.7	2.6	0.02	0.00	3.5
31	0.00	---	0.07	0.04	---	1.1	---	3.5	---	0.01	123	---
MEAN	0.00	0.00	0.06	0.06	9.48	2.96	19.6	59.4	13.2	0.46	4.42	57.9
MAX	0.02	0.00	0.26	0.15	61	8.5	207	468	91	1.7	123	523
MIN	0.00	0.00	0.00	0.01	0.04	1.1	0.37	3.5	0.75	0.00	0.00	0.97
IN.	0.00	0.00	0.00	0.00	0.12	0.04	0.27	0.86	0.18	0.01	0.06	0.81

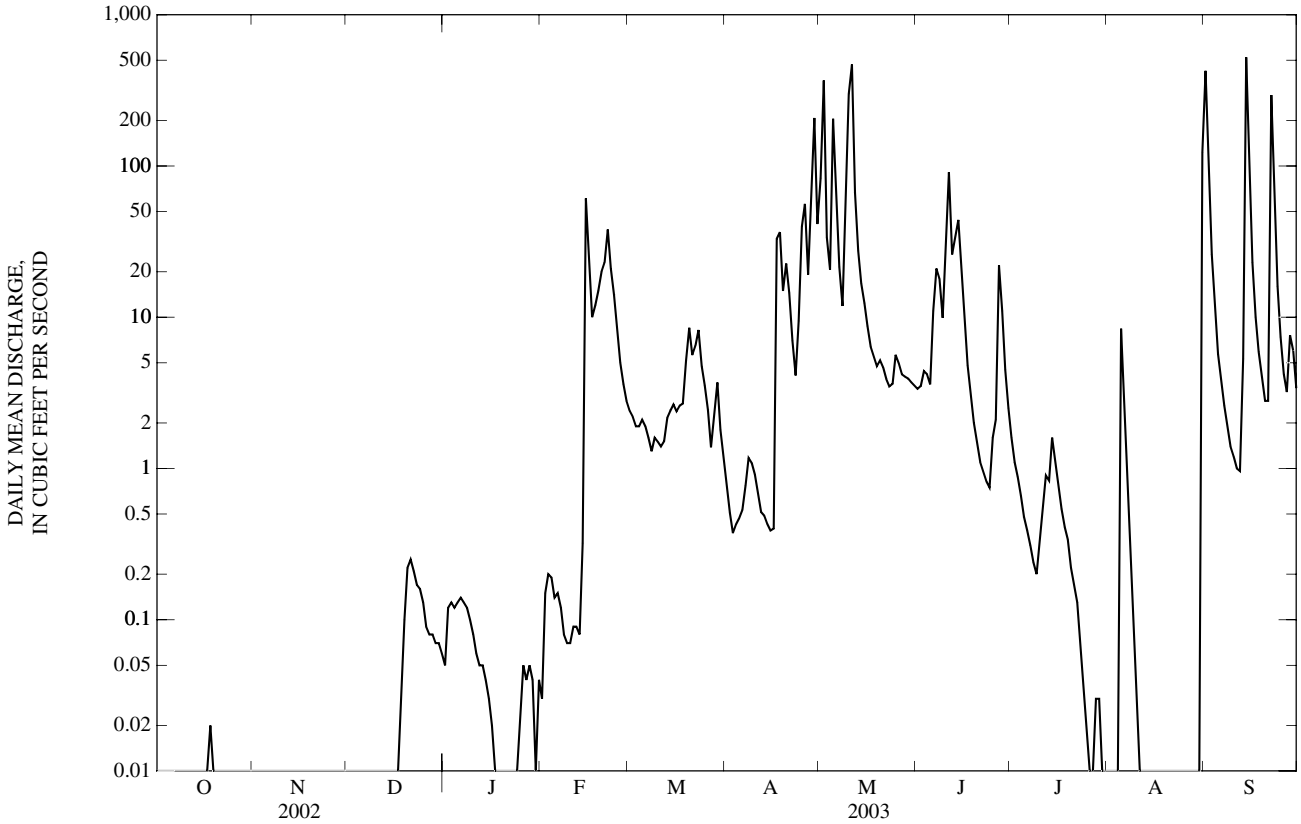
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2003, BY WATER YEAR (WY)

MEAN	24.5	56.3	48.8	32.1	78.7	78.1	87.7	146	70.4	72.7	22.2	36.7
MAX	321	550	247	162	359	244	319	669	250	554	223	510
(WY)	(1987)	(1986)	(1983)	(1999)	(1985)	(1998)	(1983)	(1995)	(1998)	(1993)	(1993)	(1993)
MIN	0.00	0.00	0.00	0.00	0.00	0.07	0.16	1.53	0.03	0.00	0.00	0.00
(WY)	(1980)	(1981)	(1989)	(1989)	(1989)	(1989)	(1989)	(1988)	(1988)	(1988)	(1988)	(198)

05503800 CROOKED CREEK NEAR PARIS, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1980 - 2003	
ANNUAL MEAN	55.2		13.9		62.8	
HIGHEST ANNUAL MEAN					179	1993
LOWEST ANNUAL MEAN					7.38	1989
HIGHEST DAILY MEAN	3,280	May 9	523	Sep 14	7,150	May 7, 1996
LOWEST DAILY MEAN	0.00	Many Days	0.00	Many Days	0.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	0.00	At Times	0.00	At Times	0.00	Many Years
MAXIMUM PEAK FLOW	---		866	May 11	9,460	May 7, 1996
MAXIMUM PEAK STAGE	---		5.72	May 11	13.62	May 7, 1996
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Many Years
ANNUAL RUNOFF (INCHES)	9.36		2.36		10.66	
10 PERCENT EXCEEDS	42		23		86	
50 PERCENT EXCEEDS	0.76		0.40		2.9	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated



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 ZZ, 3.6 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" (05504900) October 1968 to September 1975 and as "at Santa Fe" (05505000) February 1940 to September 1968 and October 1975 to September 1986.

GAGE.--Water-stage recorder. Datum of gage is 644.87 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 5, 1940, nonrecording gage; Feb. 5, 1940, to Sept. 30, 1968, and Oct. 1, 1975 to Sept. 30, 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 5.78 ft lower.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Gage was removed due to bridge construction Oct. 23, 2002 to May 13, 2003. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, unknown, probably occurred May 10, maximum recorded 3,170 ft^3/s, June 14, gage height 13.21 ft; minimum recorded 0.29 ft^3/s, Aug. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	---	---	---	---	---	---	---	8.1	25	1.3	1,110
2	4.3	---	---	---	---	---	---	---	9.6	120	1.1	390
3	5.7	---	---	---	---	---	---	---	22	79	7.0	86
4	8.6	---	---	---	---	---	---	---	60	35	4.7	35
5	11	---	---	---	---	---	---	---	48	22	4.6	20
6	14	---	---	---	---	---	---	---	29	16	3.7	13
7	8.0	---	---	---	---	---	---	---	27	13	2.4	9.7
8	5.5	---	---	---	---	---	---	---	21	11	1.6	6.7
9	4.9	---	---	---	---	---	---	---	18	9.4	1.7	5.3
10	5.1	---	---	---	---	---	---	---	16	11	1.4	4.5
11	4.9	---	---	---	---	---	---	---	36	14	1.5	4.1
12	4.4	---	---	---	---	---	---	---	69	11	1.0	6.5
13	3.4	---	---	---	---	---	---	---	1,580	9.8	0.70	16
14	2.5	---	---	---	---	---	---	e148	2,650	8.7	1.0	112
15	2.0	---	---	---	---	---	---	e111	342	7.7	0.84	143
16	3.3	---	---	---	---	---	---	e87	139	5.3	0.59	47
17	3.3	---	---	---	---	---	---	e85	82	6.2	0.47	23
18	3.3	---	---	---	---	---	---	e71	57	5.1	3.0	16
19	4.1	---	---	---	---	---	---	e61	41	5.1	2.3	18
20	4.7	---	---	---	---	---	---	e55	31	4.7	1.4	20
21	9.1	---	---	---	---	---	---	e44	24	3.1	1.1	17
22	5.6	---	---	---	---	---	---	32	22	2.5	1.7	442
23	---	---	---	---	---	---	---	27	20	2.2	1.4	242
24	---	---	---	---	---	---	---	24	18	1.7	0.85	63
25	---	---	---	---	---	---	---	27	203	1.2	0.55	30
26	---	---	---	---	---	---	---	35	1,060	0.86	0.46	19
27	---	---	---	---	---	---	---	31	272	1.4	0.41	15
28	---	---	---	---	---	---	---	23	81	2.1	1.7	58
29	---	---	---	---	---	---	---	16	45	1.3	3.0	29
30	---	---	---	---	---	---	---	12	30	0.91	2.3	20
31	---	---	---	---	---	---	---	9.6	---	1.3	34	---
MEAN	---	---	---	---	---	---	---	---	235	14.1	2.90	101
MAX	---	---	---	---	---	---	---	---	2,650	120	34	1,110
MIN	---	---	---	---	---	---	---	---	8.1	0.86	0.41	4.1
IN.	---	---	---	---	---	---	---	---	1.13	0.07	0.01	0.48

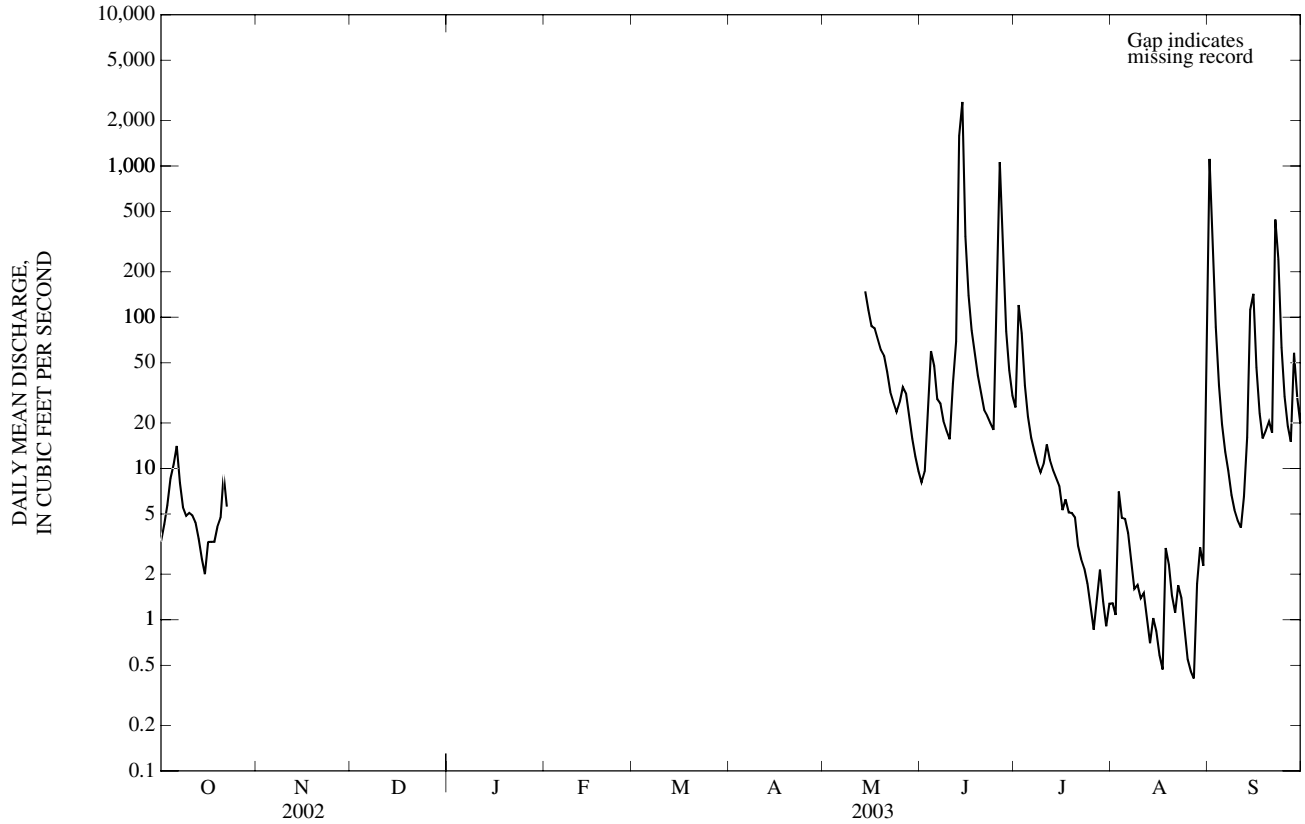
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

MEAN	123	127	127	139	227	300	334	312	244	198	55.4	127
MAX	1,646	1,378	1,447	792	1,031	1,715	1,734	2,238	1,307	2,415	544	1,830
(WY)	(1942)	(1986)	(1983)	(1974)	(1985)	(1973)	(1944)	(1943)	(1942)	(1969)	(1982)	(1993)
MIN	0.006	0.36	0.58	1.18	1.91	2.74	3.42	5.92	3.28	1.31	0.46	0.22
(WY)	(1954)	(1954)	(1964)	(1963)	(1954)	(1954)	(2000)	(1980)	(1988)	(1944)	(1964)	(1960)

05504800 SOUTH FORK SALT RIVER ABOVE SANTA FE, MO—Continued

SUMMARY STATISTICS	WATER YEARS 1940 - 2003	
ANNUAL MEAN	193	
HIGHEST ANNUAL MEAN	509	1969
LOWEST ANNUAL MEAN	10.7	1954
HIGHEST DAILY MEAN	24,000	Oct 13, 1969
LOWEST DAILY MEAN	0.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	0.00	Many Years
MAXIMUM PEAK FLOW	31,800	Sep 23, 1993
MAXIMUM PEAK STAGE	28.66	Sep 23, 1993
INSTANTANEOUS LOW FLOW	0.00	Many Years
ANNUAL RUNOFF (INCHES)	11.24	
10 PERCENT EXCEEDS	317	
50 PERCENT EXCEEDS	16	
90 PERCENT EXCEEDS	1.6	

e Estimated



05506100 LONG BRANCH NEAR SANTA FE, MO

LOCATION.--Lat 39°21'21", long 91°50'03", in NE ¼ SE ¼ SE ¼ sec. 19, T.53 N., R.8 W., Monroe County, Hydrologic Unit 07110006, on left bank on west side of concrete ford on County Road 614, 2 mi southwest of Santa Fe.

DRAINAGE AREA.--180 mi^2.

PERIOD OF RECORD.--December 1994 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 625.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair except for discharges below 10 ft^3/s, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

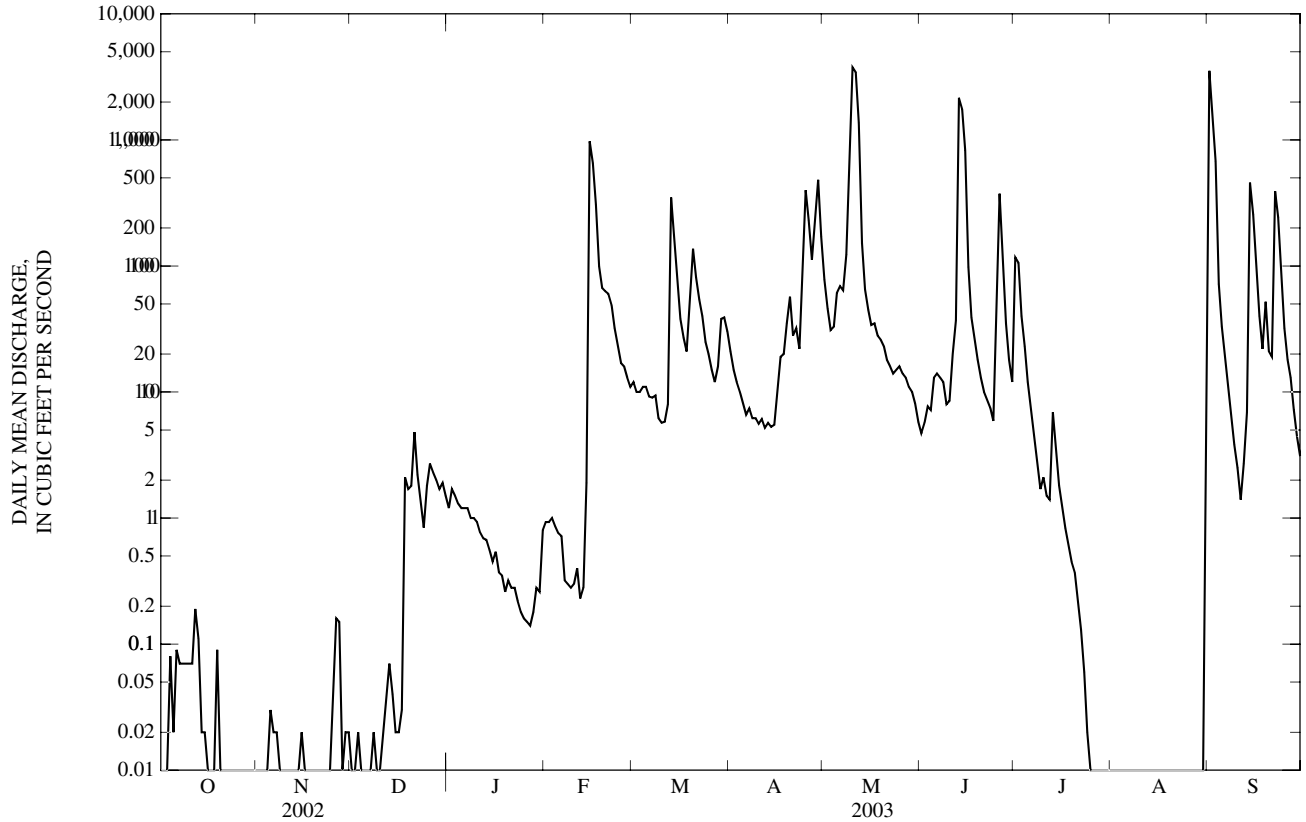
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.01	0.01	1.3	0.94	13	21	78	4.8	117	0.00	3,540
2	0.00	0.01	0.01	1.8	0.94	10	16	46	5.7	106	0.00	1,520
3	0.00	0.01	0.02	1.5	1.1	11	13	31	7.8	40	0.00	681
4	0.08	0.01	0.02	1.3	0.87	11	10	33	7.2	23	0.00	73
5	0.03	0.04	0.01	1.3	0.77	11	8.2	61	14	13	0.00	33
6	0.10	0.03	0.00	1.3	0.72	9.3	6.7	69	15	6.9	0.00	19
7	0.08	0.03	0.01	1.3	0.32	9.0	7.5	65	14	4.1	0.00	12
8	0.08	0.02	0.02	1.1	0.31	9.5	6.3	123	12	2.6	0.00	6.7
9	0.08	0.01	0.02	1.1	0.29	6.2	6.3	691	8.1	1.8	0.00	3.9
10	0.08	0.01	0.01	0.93	0.31	5.8	5.7	3,760	8.6	2.2	0.00	2.5
11	0.08	0.01	0.03	0.77	0.41	5.9	6.2	3,440	21	1.5	0.00	1.4
12	0.20	0.01	0.04	0.69	0.23	8.0	5.3	1,360	37	1.4	0.00	2.7
13	0.12	0.01	0.08	0.67	0.28	350	5.7	153	2,160	7.0	0.00	6.9
14	0.03	0.01	0.05	0.56	1.9	151	5.3	65	1,760	3.5	0.00	459
15	0.03	0.03	0.03	0.46	973	70	5.5	45	826	1.9	0.00	255
16	0.01	0.02	0.03	0.55	653	39	9.9	34	99	1.2	0.00	92
17	0.01	0.01	0.03	0.37	307	27	19	36	40	0.83	0.00	40
18	0.01	0.01	2.2	0.35	100	21	20	29	27	0.61	0.00	22
19	0.10	0.01	1.8	0.26	68	56	35	27	18	0.46	0.00	53
20	0.02	0.01	1.8	0.33	64	138	58	24	13	0.37	0.00	21
21	0.01	0.01	4.8	0.29	60	81	29	19	10	0.23	0.00	19
22	0.00	0.01	2.2	0.29	49	55	33	16	8.8	0.13	0.00	391
23	0.00	0.01	1.3	0.22	32	41	22	15	7.6	0.06	0.00	243
24	0.00	0.01	0.85	0.19	24	26	107	15	5.9	0.03	0.00	86
25	0.01	0.05	1.9	0.16	18	20	400	16	35	0.01	0.00	33
26	0.01	0.16	2.7	0.16	17	16	231	15	374	0.00	0.00	19
27	0.01	0.15	2.3	0.15	14	13	112	13	107	0.00	0.00	13
28	0.01	0.01	2.0	0.19	12	16	226	12	36	0.00	0.00	7.2
29	0.02	0.02	1.8	0.29	---	38	483	10	18	0.00	0.00	4.4
30	0.01	0.03	2.0	0.26	---	39	172	8.1	13	0.00	0.00	3.1
31	0.01	---	1.6	0.80	---	31	---	5.8	---	0.00	195	---
MEAN	0.04	0.03	0.96	0.68	85.7	43.2	69.5	333	190	10.8	6.29	255
MAX	0.20	0.16	4.8	1.8	973	350	483	3,760	2,160	117	195	3,540
MIN	0.00	0.01	0.00	0.15	0.23	5.8	5.3	5.8	4.8	0.00	0.00	1.4
IN.	0.00	0.00	0.01	0.00	0.50	0.28	0.43	2.13	1.18	0.07	0.04	1.58

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2003, BY WATER YEAR (WY)

MEAN	39.9	37.2	9.73	162	296	133	229	374	200	139	58.5	35.9
MAX	266	246	32.0	534	1,053	487	636	1,062	514	943	254	255
(WY)	(1999)	(1999)	(1999)	(1999)	(1997)	(1998)	(1999)	(1995)	(1998)	(1998)	(2000)	(2003)
MIN	0.01	0.00	0.61	0.11	17.6	13.1	1.25	16.4	23.2	4.23	0.04	0.00
(WY)	(2000)	(2000)	(2000)	(2000)	(1996)	(2000)	(2000)	(2000)	(1996)	(2002)	(1999)	(1999)

05506100 LONG BRANCH NEAR SANTA FE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1995 - 2003	
ANNUAL MEAN	123		82.5		135	
HIGHEST ANNUAL MEAN					237	1999
LOWEST ANNUAL MEAN					35.8	2000
HIGHEST DAILY MEAN	3,670	May 9	3,760	May 10	12,400	Feb 21, 1997
LOWEST DAILY MEAN	0.00	Many Days	0.00	Many Days	0.00	Many Days 1999-2003
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 5,Sep 11	0.00	Jul 26	0.00	At TImes
MAXIMUM PEAK FLOW	---		6,920	May 10	16,700	Jul 4, 1998
MAXIMUM PEAK STAGE	---		13.97	May 10	22.43	Jul 4, 1998
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Many Days 1999-2003
ANNUAL RUNOFF (INCHES)	9.29		6.22		10.20	
10 PERCENT EXCEEDS	102		95		182	
50 PERCENT EXCEEDS	2.0		2.0		8.7	
90 PERCENT EXCEEDS	0.00		0.00		0.04	



05506350 MIDDLE FORK SALT RIVER NEAR HOLLIDAY, MO

LOCATION.--Lat 39°31'32", long 92°07'40", in NE ¼ SW ¼ NW ¼ sec. 27, T. 55 N., R. 11 W., Monroe County, Hydrologic Unit 07110006, on right bank, downstream side of Highway A bridge, approximately 2.1 mi north of Holliday.

DRAINAGE AREA.--313 mi^2.

PERIOD OF RECORD.--Dec. 17, 1998 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 651.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	4.9	e3.2	e4.9	e2.6	18	21	594	12	130	8.7	2,040
2	3.7	4.6	e2.5	e4.6	e2.6	17	18	1,310	13	34	6.2	614
3	4.9	4.5	e2.5	e4.3	4.4	16	16	e341	20	16	5.3	167
4	5.8	3.6	e2.4	e4.1	4.0	17	14	e391	20	12	87	74
5	4.9	4.8	e2.4	e3.9	3.5	17	13	e555	22	12	39	31
6	5.7	5.4	e2.7	e3.8	3.2	16	12	e680	48	11	16	18
7	5.4	4.3	e2.4	e3.6	2.9	15	16	e479	126	10	10	13
8	11	3.3	e2.3	e3.7	2.6	16	20	e429	83	8.1	7.2	9.9
9	15	3.2	e2.4	e4.3	2.4	16	19	e981	54	6.8	5.6	7.8
10	12	2.8	e2.8	e3.7	2.2	15	20	e2,240	46	9.4	4.6	6.6
11	8.9	2.8	e2.4	e3.3	2.2	14	22	2,650	34	8.5	4.0	6.0
12	7.4	2.6	e2.3	e3.2	2.3	17	21	1,040	120	6.7	3.7	8.2
13	6.1	2.8	e2.3	e3.2	2.4	68	17	419	1,210	5.8	3.4	534
14	4.9	3.1	e2.2	e3.1	3.2	72	15	160	1,060	5.4	3.3	912
15	3.8	3.1	e2.3	e3.1	210	51	13	92	473	5.4	3.2	590
16	2.2	3.0	e2.2	e3.1	141	38	28	65	176	5.0	3.1	249
17	2.7	3.2	4.1	e3.0	90	30	251	52	84	4.7	3.0	96
18	3.5	e3.0	6.1	e3.0	61	25	106	42	46	4.7	3.0	41
19	6.1	e2.7	7.0	e3.0	67	43	86	35	30	385	3.1	24
20	6.6	e2.5	10	e3.1	75	119	120	34	22	219	3.3	20
21	6.3	e2.4	9.4	e3.5	71	91	70	30	17	56	3.4	71
22	4.5	e2.3	7.4	e4.0	107	51	54	26	13	22	3.6	1,090
23	2.0	e3.1	6.5	e3.1	87	35	48	24	12	13	3.3	251
24	4.0	e2.7	7.9	e2.8	65	26	128	23	11	9.6	3.5	137
25	6.0	e2.5	6.8	e2.8	50	27	223	33	11	7.2	2.9	71
26	3.1	e2.6	6.0	e2.8	34	25	179	40	282	5.9	3.7	37
27	3.0	e2.5	e5.6	e2.7	25	19	134	43	137	4.9	5.8	63
28	3.7	e2.4	e5.4	e2.7	21	26	209	29	59	6.7	4.6	59
29	5.2	e2.4	e5.6	e2.6	---	67	924	20	27	6.3	6.0	24
30	5.9	e2.4	e6.1	e2.6	---	35	279	16	48	5.3	6.1	17
31	5.2	---	e5.3	e2.6	---	25	---	14	---	7.6	349	---
MEAN	5.57	3.18	4.47	3.36	40.9	34.4	103	416	144	33.7	19.8	243
MAX	15	5.4	10	4.9	210	119	924	2,650	1,210	385	349	2,040
MIN	2.0	2.3	2.2	2.6	2.2	14	12	14	11	4.7	2.9	6.0
IN.	0.02	0.01	0.02	0.01	0.14	0.13	0.37	1.53	0.51	0.12	0.07	0.87

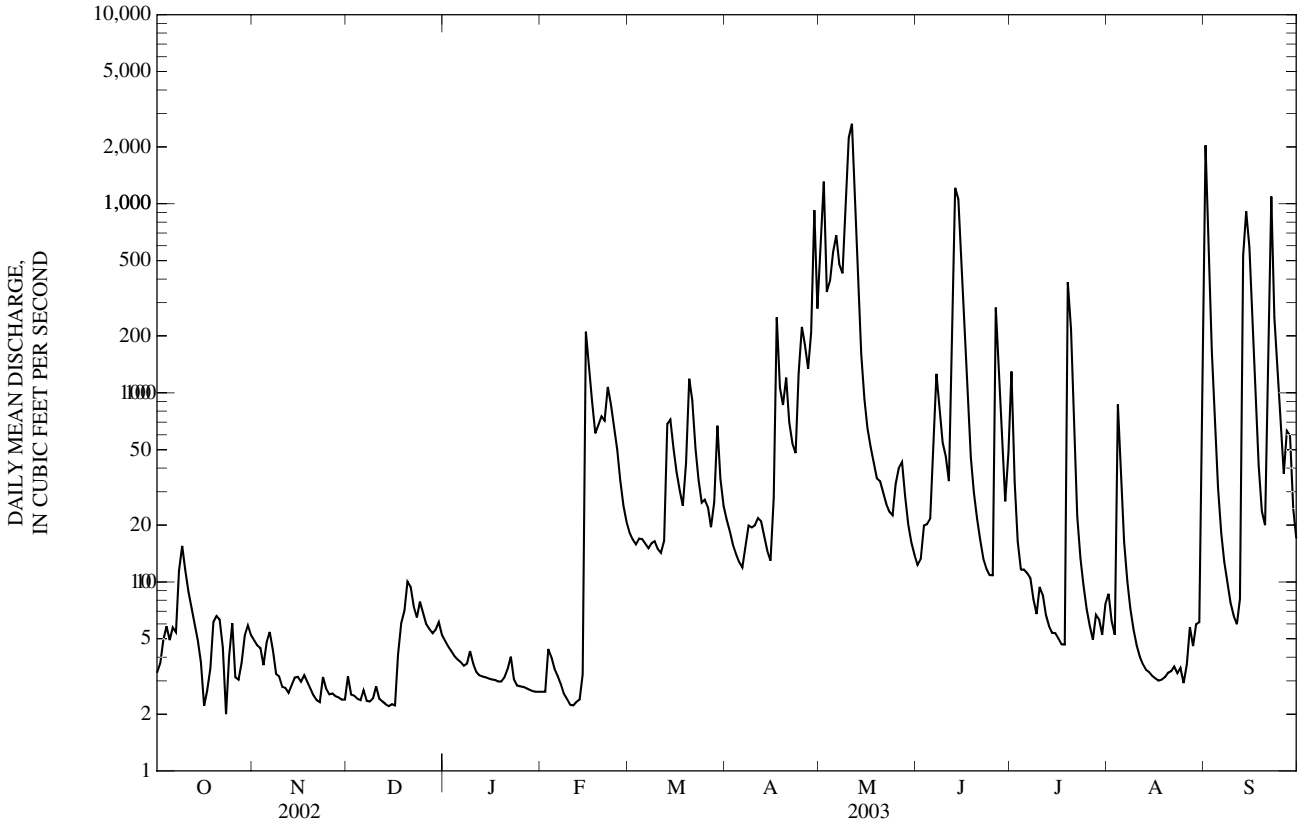
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

MEAN	30.4	23.6	7.24	234	367	215	325	668	309	88.9	28.9	61.4
MAX	93.2	78.8	13.1	611	1,136	490	771	2,021	978	237	99.9	243
(WY)	(2002)	(2001)	(2002)	(1999)	(2001)	(1999)	(1999)	(2002)	(2001)	(1999)	(2000)	(2003)
MIN	5.57	1.12	4.47	2.12	29.7	34.4	3.89	21.9	72.3	33.7	2.64	2.82
(WY)	(2003)	(2000)	(2003)	(2000)	(2000)	(2003)	(2000)	(2000)	(1999)	(2003)	(1999)	(2002)

05506350 MIDDLE FORK SALT RIVER NEAR HOLLIDAY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL MEAN	260		87.6		174	
HIGHEST ANNUAL MEAN					296	2001
LOWEST ANNUAL MEAN					44.5	2000
HIGHEST DAILY MEAN	8,730	May 9	2,650	May 11	8,730	May 9, 2002
LOWEST DAILY MEAN	1.2	Sep 10	2.0	Oct 23	0.22	Oct 19, 1999
ANNUAL SEVEN-DAY MINIMUM	1.8	Sep 8	2.4	Dec 10	0.46	Oct 17, 1999
MAXIMUM PEAK FLOW	---		2,910	May 11	9,360	May 9, 2002
MAXIMUM PEAK STAGE	---		15.93	May 11	21.53	May 9, 2002
INSTANTANEOUS LOW FLOW	---		2.0	Oct 23	0.18	Oct 18, 1999
ANNUAL RUNOFF (INCHES)	11.28		3.80		7.56	
10 PERCENT EXCEEDS	333		171		236	
50 PERCENT EXCEEDS	10		9.9		13	
90 PERCENT EXCEEDS	2.5		2.7		2.4	

e Estimated



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 and 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.--WRD MO 1973: 1970(M).

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

REMARKS.--No estimated daily discharges. Records fair except discharges below 10 ft^3/s, which are poor. 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 33,300 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

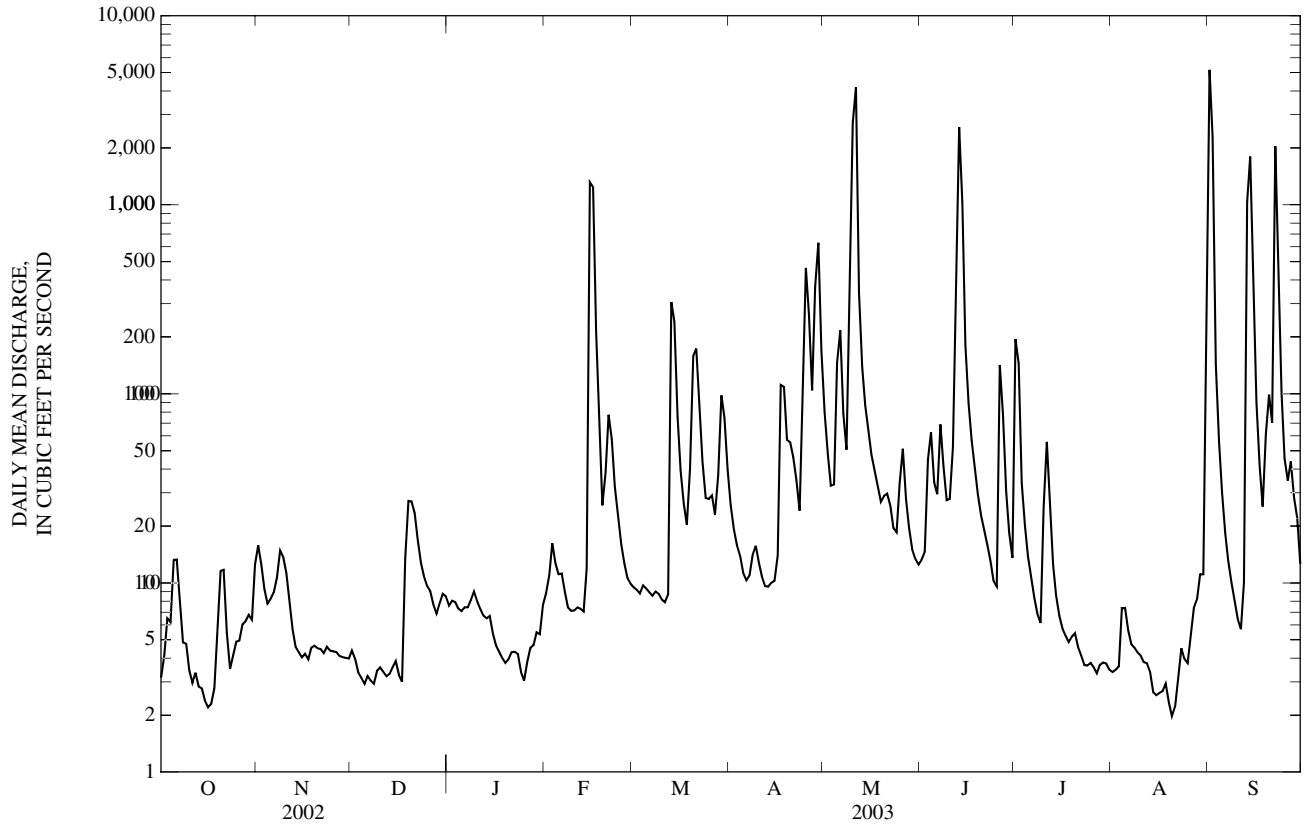
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	16	4.4	7.6	8.8	9.5	26	80	13	195	3.4	5,170
2	4.1	13	4.0	8.0	11	9.2	19	48	15	144	3.5	2,290
3	6.5	9.3	3.3	7.9	16	8.8	16	33	45	34	3.6	145
4	6.2	7.8	3.1	7.3	13	9.7	14	33	63	20	7.3	56
5	13	8.2	2.9	7.1	11	9.3	11	146	34	14	7.4	30
6	13	8.9	3.2	7.4	11	8.9	10	216	29	11	5.6	18
7	7.7	11	3.0	7.4	8.9	8.6	11	79	69	8.3	4.7	13
8	4.8	15	2.9	8.1	7.4	9.0	14	51	41	6.9	4.6	10
9	4.8	14	3.4	9.0	7.1	8.8	16	687	27	6.1	4.3	8.2
10	3.5	11	3.6	8.0	7.1	8.2	13	2,710	28	25	4.1	6.5
11	3.0	7.9	3.4	7.3	7.4	7.9	11	4,180	52	56	3.8	5.7
12	3.4	5.7	3.2	6.7	7.3	8.7	9.6	343	482	26	3.8	10
13	2.8	4.6	3.3	6.5	7.1	305	9.6	139	2,580	13	3.4	1,040
14	2.8	4.3	3.6	6.7	12	242	10	87	1,030	8.6	2.6	1,800
15	2.4	4.0	3.9	5.4	1,320	76	10	63	180	6.7	2.6	323
16	2.2	4.2	3.3	4.7	1,240	39	14	48	89	5.7	2.6	90
17	2.3	3.9	3.0	4.3	214	26	111	39	57	5.3	2.7	42
18	2.8	4.5	14	4.0	90	20	109	32	40	4.9	2.9	25
19	6.0	4.7	27	3.8	26	40	57	27	29	5.2	2.3	61
20	12	4.5	27	3.9	38	158	55	29	23	5.4	2.0	99
21	12	4.5	23	4.3	77	173	46	30	19	4.6	2.2	70
22	5.4	4.3	17	4.3	57	81	35	26	16	4.1	3.1	2,040
23	3.5	4.6	13	4.2	32	44	24	20	13	3.7	4.5	421
24	4.1	4.4	11	3.4	22	28	110	19	10	3.7	4.0	101
25	4.9	4.3	9.6	3.0	16	28	463	34	9.5	3.8	3.8	45
26	4.9	4.3	9.1	3.8	13	29	264	51	142	3.6	5.3	35
27	6.1	4.1	7.7	4.5	11	23	104	28	78	3.3	7.4	44
28	6.3	4.0	6.9	4.7	9.9	37	369	20	30	3.7	8.2	28
29	6.8	4.0	7.8	5.5	---	98	630	15	18	3.8	11	22
30	6.4	4.0	8.8	5.4	---	75	170	13	14	3.8	11	13
31	12	---	8.5	7.7	---	40	---	13	---	3.5	966	---
MEAN	5.77	6.83	8.00	5.87	118	53.8	92.0	301	176	20.7	35.6	469
MAX	13	16	27	9.0	1,320	305	630	4,180	2,580	195	966	5,170
MIN	2.2	3.9	2.9	3.0	7.1	7.9	9.6	13	9.5	3.3	2.0	5.7
IN.	0.03	0.04	0.05	0.03	0.61	0.31	0.51	1.74	0.98	0.12	0.21	2.62

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2003, BY WATER YEAR (WY)

MEAN	97.6	124	125	121	207	256	326	280	197	154	47.8	115
MAX	1,077	1,248	750	533	935	1,154	1,651	1,554	1,005	1,409	268	1,381
(WY)	(1987)	(1986)	(1983)	(1974)	(1985)	(1973)	(1973)	(1995)	(1969)	(1981)	(2000)	(1993)
MIN	0.25	1.24	0.94	0.95	2.07	3.02	4.76	10.0	1.61	1.06	0.82	0.63
(WY)	(1981)	(1981)	(1989)	(1977)	(1989)	(1981)	(2000)	(1992)	(1988)	(1988)	(1980)	(1988)

05506800 ELK FORK SALT RIVER NEAR MADISON, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1969 - 2003	
ANNUAL MEAN	139		107		170	
HIGHEST ANNUAL MEAN					380	1993
LOWEST ANNUAL MEAN					23.6	1976
HIGHEST DAILY MEAN	4,890	May 9	5,170	Sep 1	24,100	Apr 21, 1973
LOWEST DAILY MEAN	0.64	Sep 12	2.0	Aug 20	0.00	Aug 4, 1976
ANNUAL SEVEN-DAY MINIMUM	1.1	Sep 7	2.5	Aug 15	0.00	Aug 4, 1976
MAXIMUM PEAK FLOW	---		5,790	Sep 1	42,300	Apr 21, 1973
MAXIMUM PEAK STAGE	---		18.32	Sep 1	33.40	Apr 21, 1973
INSTANTANEOUS LOW FLOW	---		1.9	Aug 20,21	0.00	Aug 4, 1970
ANNUAL RUNOFF (INCHES)	9.43		7.25		11.58	
10 PERCENT EXCEEDS	147		110		265	
50 PERCENT EXCEEDS	8.8		10		14	
90 PERCENT EXCEEDS	2.4		3.5		1.3	



05507600 LICK CREEK AT PERRY, MO

LOCATION.--Lat 39°25'53", long 91°40'34", near center of NW ¼ SW ¼ 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 the U.S. Army Corps of Engineers.

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

REMARKS.--No estimated daily discharges. Records fair. U.S. Army Corps of Engineers satellite telemeter at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

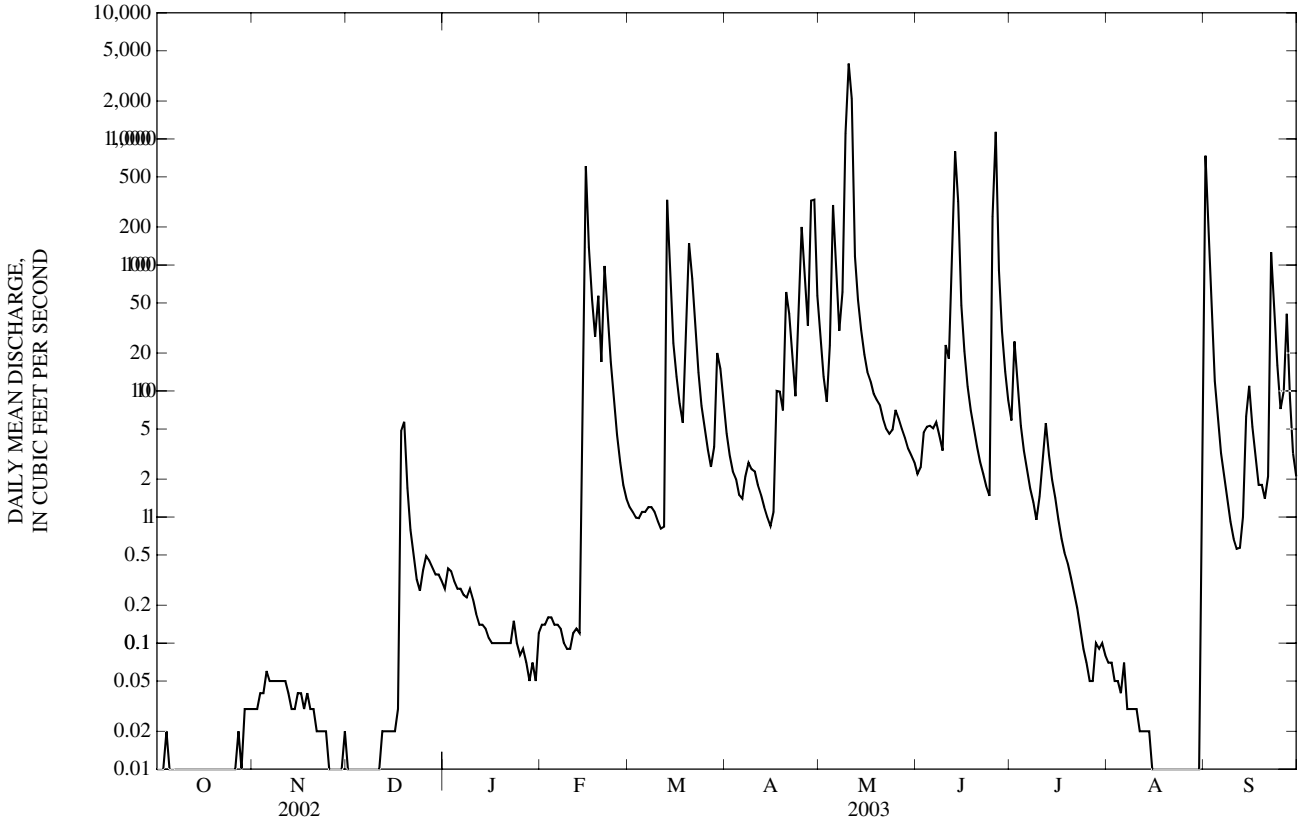
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.03	0.02	0.27	0.15	1.3	4.7	26	2.2	5.8	0.08	735
2	0.00	0.03	0.02	0.40	0.14	1.2	3.2	13	2.5	25	0.07	114
3	0.00	0.04	0.02	0.38	0.17	0.99	2.4	8.2	4.7	11	0.06	31
4	0.03	0.04	0.02	0.31	0.17	0.99	2.0	23	5.2	5.3	0.05	12
5	0.01	0.06	0.02	0.27	0.14	1.1	1.6	300	5.3	3.3	0.05	5.9
6	0.02	0.05	0.01	0.27	0.15	1.1	1.4	81	5.0	2.3	0.08	3.2
7	0.02	0.05	0.02	0.24	0.14	1.2	2.1	30	5.6	1.7	0.03	2.1
8	0.01	0.05	0.02	0.24	0.11	1.2	2.7	62	4.4	1.3	0.04	1.4
9	0.01	0.05	0.02	0.27	0.10	1.1	2.4	1,110	3.4	0.95	0.04	0.92
10	0.00	0.05	0.02	0.23	0.10	0.93	2.3	3,950	23	1.5	0.03	0.68
11	0.00	0.05	0.02	0.18	0.13	0.82	1.9	2,080	18	2.7	0.03	0.56
12	0.00	0.05	0.02	0.14	0.14	0.85	1.6	117	137	5.6	0.02	0.58
13	0.00	0.03	0.02	0.14	0.12	328	1.3	53	796	3.1	0.02	1.1
14	0.00	0.03	0.02	0.13	1.2	70	1.0	30	321	2.0	0.02	6.4
15	0.00	0.04	0.02	0.11	609	25	0.85	19	48	1.4	0.02	12
16	0.00	0.04	0.02	0.10	139	13	1.1	14	21	0.96	0.01	5.3
17	0.00	0.04	0.03	0.11	54	8.1	10	12	11	0.68	0.01	3.1
18	0.00	0.04	4.9	0.10	27	5.7	9.9	9.5	7.0	0.52	0.00	1.9
19	0.01	0.04	5.8	0.10	57	43	7.0	8.5	5.0	0.44	0.00	1.8
20	0.00	0.03	1.7	0.11	175	149	61	7.7	3.6	0.34	0.00	1.5
21	0.00	0.03	0.79	0.10	98	79	42	6.0	2.7	0.26	0.00	2.1
22	0.00	0.02	0.50	0.10	36	35	20	5.0	2.2	0.19	0.00	126
23	0.00	0.02	0.33	0.15	17	14	9.2	4.6	1.7	0.13	0.00	49
24	0.00	0.02	0.27	0.10	9.1	7.6	52	4.9	1.5	0.09	0.00	17
25	0.02	0.02	0.39	0.09	4.5	5.0	201	7.1	242	0.07	0.00	7.2
26	0.02	0.02	0.49	0.09	2.7	3.4	83	6.0	1,140	0.06	0.00	10
27	0.02	0.02	0.45	0.08	1.9	2.5	33	5.0	90	0.06	0.00	41
28	0.02	0.02	0.41	0.06	1.5	3.7	324	4.2	30	0.11	0.00	8.8
29	0.03	0.02	0.36	0.07	---	20	329	3.5	14	0.09	0.00	3.2
30	0.03	0.02	0.35	0.05	---	15	58	3.1	8.4	0.10	0.00	2.2
31	0.03	---	0.31	0.13	---	8.0	---	2.7	---	0.09	12	---
MEAN	0.01	0.04	0.56	0.17	44.1	27.3	42.4	258	98.7	2.49	0.41	40.2
MAX	0.03	0.06	5.8	0.40	609	328	329	3,950	1,140	25	12	735
MIN	0.00	0.02	0.01	0.05	0.10	0.82	0.85	2.7	1.5	0.06	0.00	0.56
IN.	0.00	0.00	0.01	0.00	0.44	0.30	0.45	2.86	1.06	0.03	0.00	0.43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2003, BY WATER YEAR (WY)

MEAN	13.5	76.0	65.2	50.7	113	83.6	114	139	74.8	78.7	27.0	41.5
MAX	95.9	652	442	190	441	340	541	532	300	482	143	748
(WY)	(1987)	(1986)	(1983)	(2001)	(1997)	(1984)	(1994)	(2002)	(1998)	(1981)	(1982)	(1993)
MIN	0.00	0.00	0.05	0.00	1.67	0.41	2.15	1.27	0.04	0.03	0.00	0.00
(WY)	(1989)	(2000)	(1980)	(1980)	(1981)	(1981)	(2000)	(1988)	(1988)	(1994)	(1994)	(1999)

05507600 LICK CREEK AT PERRY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1980 - 2003	
ANNUAL MEAN	85.8		42.9		72.7	
HIGHEST ANNUAL MEAN					188	1993
LOWEST ANNUAL MEAN					15.1	1980
HIGHEST DAILY MEAN	3,580	May 7	3,950	May 10	7,880	Sep 23, 1993
LOWEST DAILY MEAN	0.00	Many Days	0.00	Many Days	0.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 2,Sep 3,16,Oct 10	0.00	Oct 10,Aug 18	0.00	Many Years
MAXIMUM PEAK FLOW	---		6,800	May 10	11,800	May 7, 1996
MAXIMUM PEAK STAGE	---		18.37	May 10	22.25	May 7, 1996
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Many Years
ANNUAL RUNOFF (INCHES)	11.20		5.60		9.50	
10 PERCENT EXCEEDS	45		45		83	
50 PERCENT EXCEEDS	1.2		0.85		3.6	
90 PERCENT EXCEEDS	0.00		0.01		0.02	



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 current year. 1984 to Sept. 30, 1991, available in files at the U.S. Army Corps of Engineers.

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

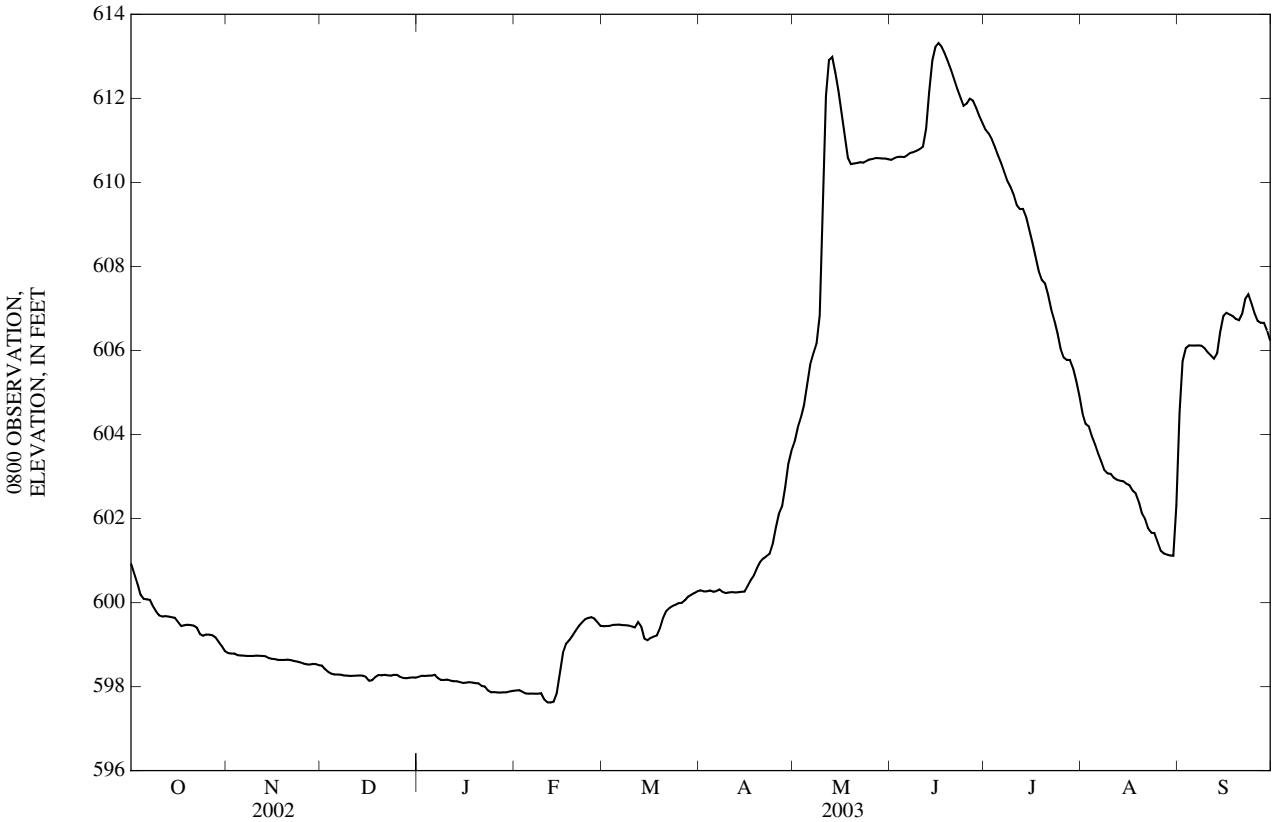
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,380,000 ac-ft, Sept. 27, 1993, elevation, 636.77 ft; minimum, 386,000 ac-ft, Oct. 10, 1984, elevation, 596.60 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 698,000 ac-ft, June 17, elevation, 613.33 ft; minimum, 405,000 ac-ft, Feb. 11-13, elevation, 597.62 ft, Feb. 11 and 13.

ELEVATION, IN FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
OBSERVATION AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	601.09	598.80	598.50	598.21	597.90	599.42	600.29	603.66	610.54	611.36	604.79	602.91
2	600.85	598.80	598.50	598.25	597.91	599.45	600.29	603.91	610.54	611.21	604.35	605.33
3	600.61	598.78	598.37	598.26	597.92	599.44	600.25	604.29	610.60	611.14	604.20	605.96
4	600.39	598.79	598.34	598.25	597.86	599.45	600.28	604.45	610.61	610.98	604.19	606.10
5	600.09	598.73	598.29	598.27	597.83	599.48	600.29	604.83	610.61	610.78	603.85	606.13
6	600.09	598.75	598.29	598.26	597.83	599.47	600.24	605.36	610.60	610.59	603.73	606.11
7	600.07	598.73	598.29	598.29	597.84	599.48	600.29	605.82	610.67	610.40	603.47	606.12
8	600.06	598.73	598.28	598.16	597.83	599.46	600.32	605.97	610.72	610.17	603.30	606.12
9	599.84	598.73	598.26	598.16	597.83	599.46	600.22	606.25	610.72	609.97	603.08	606.11
10	599.76	598.73	598.26	598.16	597.85	599.45	600.23	607.13	610.77	609.85	603.07	606.03
11	599.66	598.74	598.25	598.17	597.62	599.42	600.25	610.57	610.80	609.65	603.06	605.92
12	599.67	598.73	598.26	598.13	597.63	599.41	600.25	612.81	610.87	609.36	602.93	605.86
13	599.68	598.73	598.26	598.13	597.62	599.60	600.24	612.96	611.48	609.37	602.92	605.78
14	599.66	598.72	598.27	598.13	597.65	599.34	600.25	613.00	612.49	609.37	602.89	606.01
15	599.65	598.66	598.26	598.10	597.92	599.05	600.26	612.44	613.11	609.09	602.89	606.66
16	599.63	598.66	598.22	598.08	598.55	599.13	600.26	612.05	613.28	608.76	602.80	606.91
17	599.49	598.65	598.10	598.10	598.94	599.17	600.47	611.49	613.33	608.46	602.79	606.89
18	599.42	598.63	598.18	598.11	599.06	599.20	600.57	610.95	613.18	608.12	602.60	606.84
19	599.48	598.64	598.25	598.09	599.13	599.22	600.69	610.41	613.01	607.77	602.60	606.81
20	599.47	598.63	598.29	598.08	599.25	599.48	600.88	610.45	612.82	607.64	602.29	606.72
21	599.46	598.65	598.26	598.08	599.37	599.72	601.01	610.45	612.61	607.58	602.04	606.72
22	599.45	598.62	598.29	597.99	599.47	599.84	601.07	610.47	612.37	607.21	601.96	606.94
23	599.38	598.61	598.26	598.01	599.55	599.89	601.12	610.49	612.16	606.86	601.67	607.38
24	599.19	598.59	598.26	597.86	599.62	599.93	601.18	610.46	611.96	606.64	601.66	607.32
25	599.22	598.57	598.29	597.87	599.64	599.96	601.49	610.54	611.76	606.30	601.65	607.02
26	599.25	598.54	598.27	597.87	599.66	600.00	601.94	610.55	611.94	605.90	601.34	606.82
27	599.23	598.53	598.21	597.86	599.60	599.99	602.20	610.56	612.02	605.80	601.18	606.64
28	599.22	598.52	598.20	597.86	599.50	600.09	602.34	610.59	611.91	605.76	601.16	606.67
29	599.15	598.55	598.20	597.87	---	600.17	602.94	610.57	611.71	605.78	601.13	606.65
30	599.02	598.53	598.22	597.86	---	600.20	603.49	610.57	611.53	605.47	601.12	606.38
31	598.93	---	598.22	597.90	---	600.24	---	610.57	---	605.19	601.11	---
MEAN	599.68	598.67	598.27	598.08	598.51	599.60	600.85	609.18	611.69	608.47	602.64	606.33
MAX	601.09	598.80	598.50	598.29	599.66	600.24	603.49	613.00	613.33	611.36	604.79	607.38
MIN	598.93	598.52	598.10	597.86	597.62	599.05	600.22	603.66	610.54	605.19	601.11	602.91

05507700 MARK TWAIN LAKE NEAR CENTER, MO—Continued



RESERVOIR STORAGE, ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
OBSERVATION AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	458,000	422,000	418,000	414,000	409,000	431,000	444,000	502,000	635,000	652,000	523,000	489,000
2	454,000	422,000	418,000	414,000	409,000	431,000	444,000	506,000	635,000	649,000	515,000	533,000
3	450,000	422,000	416,000	414,000	409,000	431,000	444,000	513,000	636,000	648,000	512,000	544,000
4	446,000	422,000	415,000	414,000	409,000	431,000	444,000	516,000	636,000	644,000	511,000	547,000
5	441,000	421,000	415,000	414,000	408,000	432,000	444,000	523,000	636,000	640,000	506,000	547,000
6	441,000	421,000	415,000	414,000	408,000	432,000	444,000	533,000	636,000	636,000	504,000	547,000
7	441,000	421,000	415,000	415,000	408,000	432,000	444,000	541,000	638,000	632,000	499,000	547,000
8	440,000	421,000	415,000	413,000	408,000	432,000	445,000	544,000	639,000	627,000	496,000	547,000
9	437,000	421,000	414,000	413,000	408,000	432,000	443,000	549,000	639,000	623,000	492,000	547,000
10	436,000	421,000	414,000	413,000	408,000	431,000	443,000	566,000	640,000	621,000	492,000	546,000
11	435,000	421,000	414,000	413,000	405,000	431,000	444,000	636,000	640,000	616,000	492,000	543,000
12	435,000	421,000	414,000	412,000	405,000	431,000	444,000	686,000	642,000	610,000	490,000	542,000
13	435,000	421,000	414,000	412,000	405,000	434,000	444,000	689,000	655,000	611,000	489,000	541,000
14	435,000	421,000	414,000	412,000	406,000	430,000	444,000	690,000	678,000	611,000	489,000	545,000
15	434,000	420,000	414,000	412,000	409,000	426,000	444,000	677,000	693,000	605,000	489,000	557,000
16	434,000	420,000	414,000	412,000	419,000	427,000	444,000	668,000	697,000	598,000	487,000	562,000
17	432,000	420,000	412,000	412,000	424,000	427,000	447,000	655,000	698,000	592,000	487,000	562,000
18	431,000	420,000	413,000	412,000	426,000	428,000	449,000	643,000	694,000	585,000	484,000	561,000
19	432,000	420,000	414,000	412,000	427,000	428,000	451,000	632,000	690,000	578,000	484,000	560,000
20	432,000	420,000	415,000	412,000	429,000	432,000	454,000	633,000	686,000	576,000	479,000	558,000
21	432,000	420,000	414,000	412,000	430,000	435,000	457,000	633,000	681,000	575,000	474,000	558,000
22	431,000	420,000	415,000	410,000	432,000	437,000	458,000	633,000	675,000	568,000	473,000	563,000
23	430,000	419,000	414,000	411,000	433,000	438,000	459,000	634,000	670,000	561,000	468,000	571,000
24	428,000	419,000	414,000	409,000	434,000	438,000	460,000	633,000	666,000	557,000	468,000	570,000
25	428,000	419,000	415,000	409,000	434,000	439,000	465,000	635,000	661,000	550,000	468,000	564,000
26	429,000	418,000	414,000	409,000	435,000	439,000	473,000	635,000	665,000	543,000	462,000	560,000
27	428,000	418,000	414,000	409,000	434,000	439,000	477,000	635,000	667,000	541,000	460,000	557,000
28	428,000	418,000	413,000	409,000	432,000	441,000	480,000	636,000	664,000	540,000	459,000	557,000
29	427,000	419,000	413,000	409,000	---	442,000	490,000	636,000	660,000	541,000	459,000	557,000
30	425,000	418,000	414,000	409,000	---	443,000	499,000	636,000	656,000	535,000	459,000	552,000
31	424,000	---	414,000	409,000	---	444,000	---	636,000	---	530,000	458,000	---
MEAN	435,000	420,000	414,000	412,000	418,000	434,000	454,000	609,000	660,000	593,000	485,000	551,000
MAX	458,000	422,000	418,000	415,000	435,000	444,000	499,000	690,000	698,000	652,000	523,000	571,000
MIN	424,000	418,000	412,000	409,000	405,000	426,000	443,000	502,000	635,000	530,000	458,000	489,000

05507800 SALT RIVER NEAR CENTER, MO

LOCATION.--Lat 39°34'26", long 91°34'15", NW $^1/_4$ SE $^1/_4$ SE $^1/_4$ 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 height records only by the U.S. Army Corps of Engineers.

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

REMARKS.--No estimated daily discharges. Records fair except for discharges below 30 ft^3/s, which are poor. U.S. Army Corps of Engineers satellite telemeter at station. Flow regulated by Clarence Cannon Dam, 0.5 mi upstream.

EXTREME OUTSIDE PERIOD OF RECORD.--Maximum gage height, 33.00 ft, Apr. 22, 1973, by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

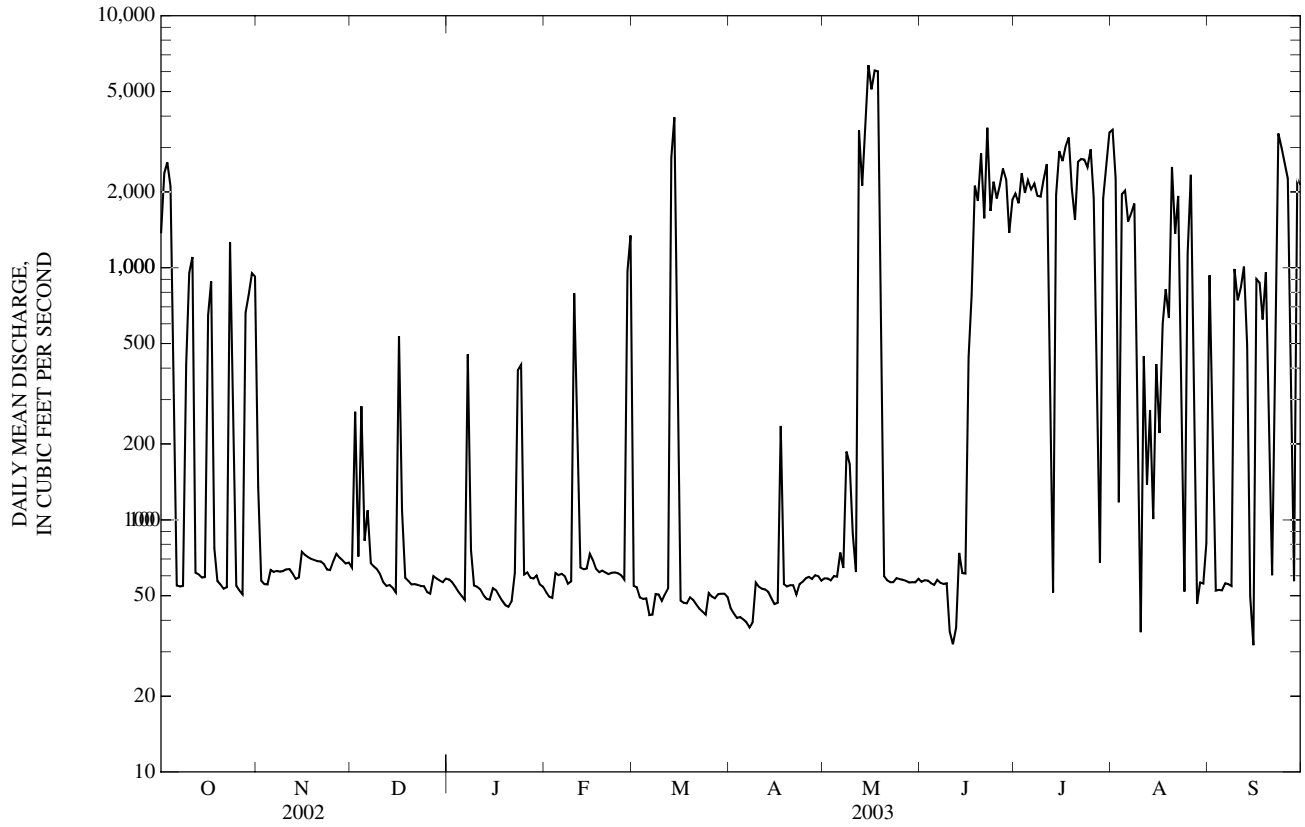
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,370	135	65	58	52	55	45	59	57	1,970	3,530	934
2	2,370	57	269	57	50	54	43	59	58	1,800	2,270	164
3	2,620	56	72	54	49	49	41	58	57	2,370	117	52
4	2,100	55	282	52	62	49	41	60	56	1,980	1,960	53
5	523	63	83	50	60	49	40	60	55	2,230	2,020	53
6	55	62	109	48	61	42	39	74	58	2,050	1,520	56
7	54	63	67	454	60	42	37	64	56	2,160	1,650	56
8	55	62	65	76	56	51	39	187	56	1,930	1,800	55
9	415	63	64	55	57	51	56	166	56	1,910	593	989
10	954	64	61	54	793	48	54	88	36	2,240	36	743
11	1,100	64	57	53	218	51	53	62	32	2,580	445	839
12	62	61	55	50	65	54	53	3,510	37	778	138	1,010
13	61	58	55	49	64	2,730	52	2,120	74	52	273	492
14	59	59	54	48	64	3,950	49	3,610	62	1,950	101	50
15	59	75	52	54	73	147	46	6,360	61	2,900	415	32
16	649	73	536	53	69	48	47	5,100	443	2,650	221	903
17	883	71	109	50	64	47	236	6,060	779	3,030	598	872
18	77	70	59	48	62	47	56	6,020	2,120	3,290	822	624
19	57	69	57	46	63	49	54	1,080	1,840	2,070	632	961
20	55	69	55	45	62	48	55	60	2,850	1,550	2,510	229
21	53	69	56	48	61	46	55	58	1,570	2,630	1,360	60
22	54	67	55	62	62	44	51	57	3,590	2,700	1,930	996
23	1,260	64	55	393	62	43	56	57	1,680	2,690	472	3,410
24	443	63	55	413	61	42	57	59	2,200	2,510	52	3,000
25	55	68	52	61	60	51	59	58	1,880	2,950	1,140	2,610
26	53	73	51	62	58	50	59	58	2,120	1,890	2,340	2,260
27	51	71	60	59	971	49	58	57	2,480	483	506	587
28	663	69	59	59	1,340	51	60	56	2,240	67	46	57
29	784	67	58	60	---	51	60	57	1,380	1,880	56	2,250
30	951	68	57	55	---	51	57	57	1,860	2,460	56	2,130
31	924	---	58	54	---	49	---	58	---	3,440	81	---
MEAN	609	67.6	91.7	89.7	171	264	56.9	1,145	995	2,103	958	884
MAX	2,620	135	536	454	1,340	3,950	236	6,360	3,590	3,440	3,530	3,410
MIN	51	55	51	45	49	42	37	56	32	52	36	32
IN.	0.30	0.03	0.04	0.04	0.08	0.13	0.03	0.56	0.47	1.03	0.47	0.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2003, BY WATER YEAR (WY)

MEAN	1,021	1,287	1,690	956	1,714	2,647	2,208	2,676	2,642	2,867	1,453	997
MAX	9,085	6,038	10,360	3,703	8,098	10,530	10,310	7,784	10,560	10,810	7,895	7,902
(WY)	(1994)	(1987)	(1983)	(1986)	(1982)	(1985)	(1983)	(2002)	(1995)	(1981)	(1993)	(1993)
MIN	4.62	14.8	31.4	30.5	81.6	87.0	56.9	67.5	126	75.2	13.9	25.3
(WY)	(1980)	(1981)	(1980)	(1980)	(1989)	(1989)	(2003)	(1989)	(1988)	(1983)	(1980)	(1983)

05507800 SALT RIVER NEAR CENTER, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1980 - 2003	
ANNUAL MEAN	1,812		624		1,848	
HIGHEST ANNUAL MEAN					3,462	1993
LOWEST ANNUAL MEAN					283	1989
HIGHEST DAILY MEAN	12,000	May 18	6,360	May 15	65,600	Jul 29, 1981
LOWEST DAILY MEAN	19	Sep 18	32	Jun 11,Sep 15	0.44	Oct 14, 1979
ANNUAL SEVEN-DAY MINIMUM	48	Jan 13	40	Apr 2	0.65	Oct 11, 1979
MAXIMUM PEAK FLOW	---		8,230	May 18	72,800	Jul 29, 1981
MAXIMUM PEAK STAGE	---		12.23	May 18	32.62	Jul 29, 1981
INSTANTANEOUS LOW FLOW	---		9.0	Sep 16	0.44	Oct 14, 1979
ANNUAL RUNOFF (INCHES)	10.47		3.61		10.69	
10 PERCENT EXCEEDS	6,450		2,240		5,450	
50 PERCENT EXCEEDS	296		62		407	
90 PERCENT EXCEEDS	53		49		45	



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 mi 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.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 477.03 ft above National Geodetic Vertical Datum of 1929. 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. 17, 1935 to April 1985, water-stage recorder 400 ft upstream same datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite telemeter at station. Flow mostly regulated by Clarence Cannon Dam, 9.9 mi upstream, since September 1979. Five percent of the drainage area, 130 mi^2, is natural drainage not regulated.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 107,000 ft^3/s, Apr. 22, 1973; gage height, 31.8 ft.

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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,250	964	60	73	e48	311	57	93	79	1,930	3,420	2,640
2	2,140	97	59	83	e47	111	51	84	81	2,000	3,180	514
3	2,690	76	264	76	e47	100	48	74	90	2,010	1,020	215
4	2,340	69	78	72	e57	95	48	88	82	2,020	556	104
5	1,890	72	291	70	e58	90	42	266	77	2,210	2,480	85
6	121	79	84	66	e57	84	40	148	83	2,060	1,360	78
7	80	75	119	63	e57	78	47	121	87	2,280	1,880	78
8	74	74	76	489	e55	78	43	95	79	1,910	1,560	74
9	350	72	68	83	e54	87	43	313	75	1,960	1,670	139
10	189	73	66	66	59	84	60	378	109	2,130	107	939
11	1,690	69	65	62	1,110	82	60	484	70	2,240	49	767
12	427	67	64	60	101	94	58	2,190	48	2,200	501	953
13	92	64	63	58	82	1,230	56	3,300	838	133	93	1,320
14	80	60	62	e56	89	4,340	56	2,310	261	548	314	115
15	77	62	60	e61	581	1,470	52	6,760	136	2,960	98	90
16	75	76	58	e59	191	86	53	5,110	221	2,810	548	55
17	1,150	75	608	e57	116	64	211	6,280	425	3,030	116	1,110
18	451	72	152	e55	100	60	150	6,200	1,960	3,270	1,170	780
19	115	71	116	e53	151	121	75	3,210	1,770	2,360	227	714
20	76	69	83	e52	207	190	118	184	2,350	1,650	1,760	977
21	69	68	78	e53	140	100	105	109	1,970	1,890	2,430	127
22	65	66	76	e62	114	73	81	100	3,070	2,840	725	541
23	81	64	73	e73	96	63	65	94	2,000	2,810	1,810	2,560
24	1,600	60	73	e472	89	58	87	95	2,090	2,350	124	3,020
25	153	55	73	e486	81	67	136	105	2,240	2,870	95	2,820
26	78	61	66	e73	80	66	117	92	2,290	3,230	2,230	2,150
27	68	69	69	e64	642	61	92	87	2,560	298	1,600	2,110
28	64	68	79	e58	1,530	73	109	83	2,300	533	101	168
29	780	66	79	e56	---	91	160	79	1,640	550	73	559
30	797	62	79	e51	---	69	105	85	1,810	2,510	76	2,270
31	1,010	---	74	e49	---	64	---	81	---	3,110	507	---
MEAN	649	99.2	107	104	216	311	80.8	1,248	1,030	2,087	1,028	936
MAX	2,690	964	608	489	1,530	4,340	211	6,760	3,070	3,270	3,420	3,020
MIN	64	55	58	49	47	58	40	74	48	133	49	55
IN.	0.30	0.04	0.05	0.05	0.09	0.14	0.04	0.58	0.46	0.97	0.48	0.42

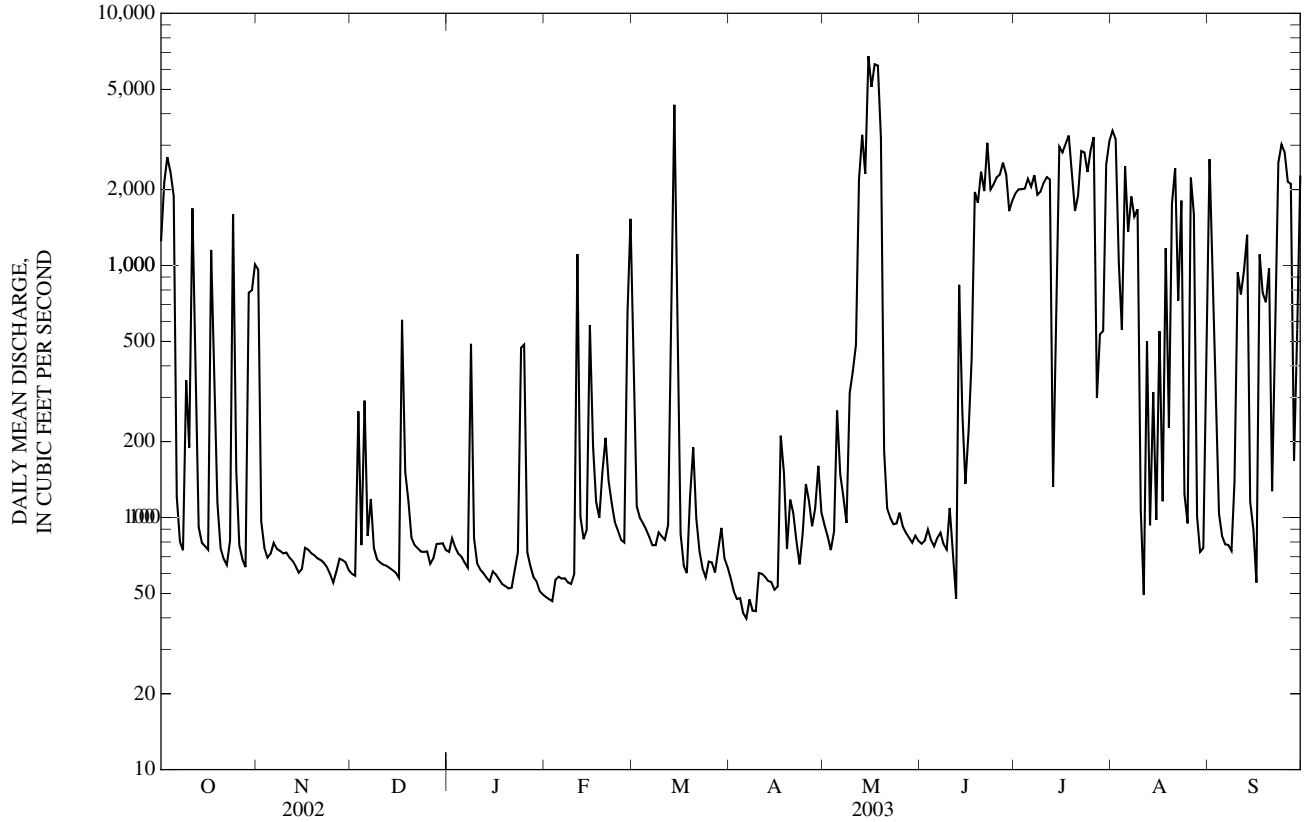
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2003,[a] BY WATER YEAR (WY)

MEAN	1,049	1,401	1,805	1,040	1,857	2,831	2,365	2,866	2,733	2,971	1,533	1,048
MAX	9,165	6,406	11,100	4,001	8,787	10,810	10,660	9,003	10,950	11,900	7,961	8,300
(WY)	(1994)	(1986)	(1983)	(1985)	(1982)	(1985)	(1983)	(2002)	(1995)	(1981)	(1993)	(1993)
MIN	16.9	18.4	48.6	37.1	84.9	90.2	80.8	93.4	128	88.4	42.8	28.5
(WY)	(1980)	(1981)	(1980)	(1981)	(1989)	(1989)	(2003)	(1989)	(1988)	(1983)	(1983)	(1983)

05508000 SALT RIVER NEAR NEW LONDON, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1980-2003[a]	
ANNUAL MEAN	2,029		663		1,960	
HIGHEST ANNUAL MEAN					3,577	1993
LOWEST ANNUAL MEAN					307	1989
HIGHEST DAILY MEAN	13,800	May 18	6,760	May 15	62,100	Jul 30, 1981
LOWEST DAILY MEAN	23	Sep 19	40	Apr 6	9.5	Nov 21, 1980
ANNUAL SEVEN-DAY MINIMUM	62	Jan 19	44	Apr 3	9.6	Nov 20, 1980
MAXIMUM PEAK FLOW	---		8,570	May 19	74,200	Jul 29, 1981
MAXIMUM PEAK STAGE	---		10.68	May 19	31.09	Jul 29, 1981
INSTANTANEOUS LOW FLOW	---		35	Jun 12	9.5	Nov 21, 1980
ANNUAL RUNOFF (INCHES)	11.11		3.63		10.74	
10 PERCENT EXCEEDS	7,450		2,270		5,720	
50 PERCENT EXCEEDS	306		94		478	
90 PERCENT EXCEEDS	64		58		58	

e Estimated
[a] Post-regulation period.



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.--Oct. 1, 1979 to current year. Mar. 27, 1930 to September 1978, fragmentary record.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 485.00 ft above National Geodetic Vertical Datum of 1929. 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 fair. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

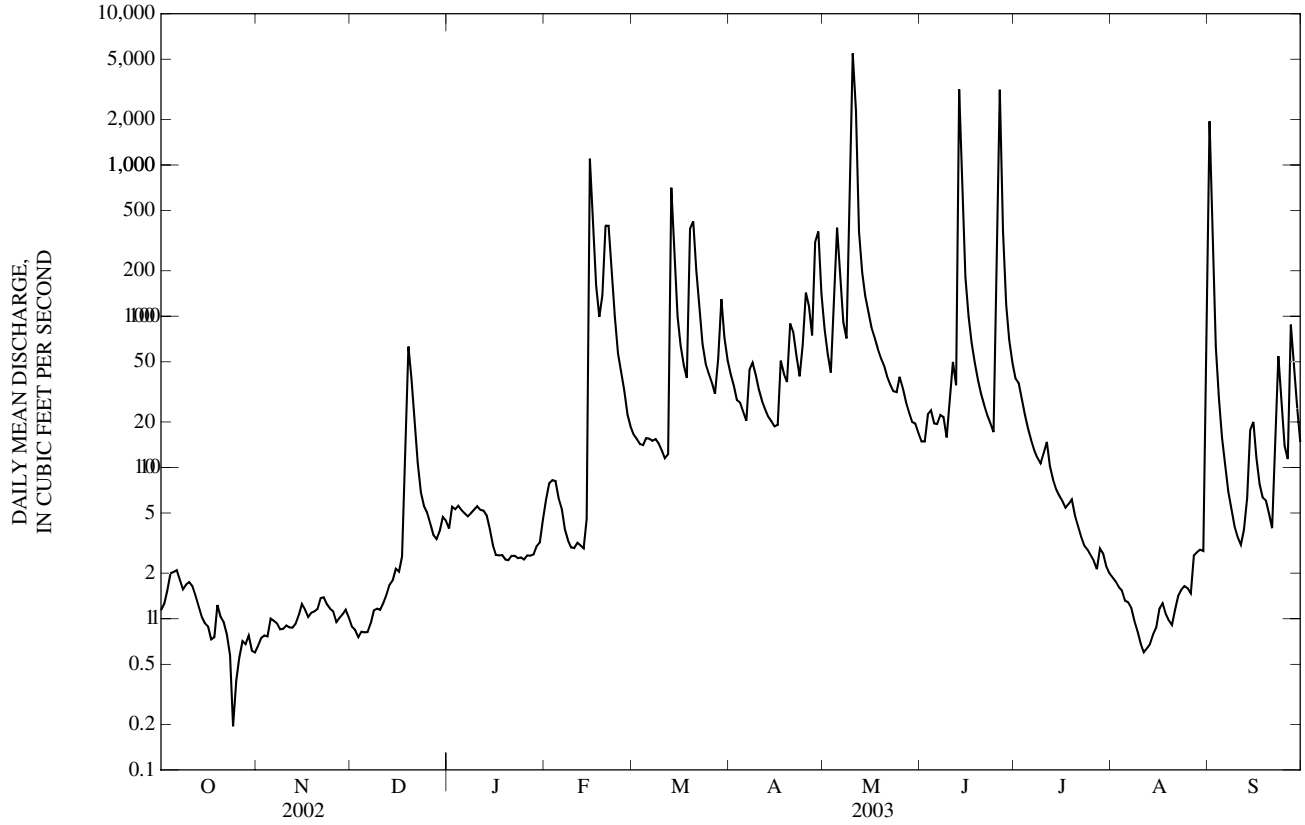
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	0.66	0.89	4.0	6.1	16	41	82	15	39	1.9	1,950
2	1.3	0.75	0.84	5.5	7.9	15	35	56	15	36	1.8	247
3	1.5	0.77	0.76	5.3	8.2	14	28	42	22	28	1.6	63
4	2.0	0.76	0.82	5.6	8.2	14	27	146	24	22	1.5	28
5	2.0	1.0	0.81	5.2	6.3	16	24	385	20	18	1.3	16
6	2.1	0.97	0.82	5.0	5.4	16	20	180	19	15	1.3	10
7	1.8	0.93	0.94	4.8	3.9	15	44	92	22	13	1.2	6.9
8	1.6	0.85	1.1	5.0	3.3	15	49	71	22	12	0.97	5.3
9	1.7	0.86	1.2	5.3	3.0	14	41	803	16	11	0.83	4.1
10	1.7	0.90	1.1	5.5	2.9	13	33	5,460	29	12	0.68	3.5
11	1.6	0.88	1.3	5.2	3.2	12	28	2,290	50	15	0.60	3.1
12	1.4	0.87	1.4	5.2	3.1	12	24	363	35	10	0.64	3.9
13	1.2	0.93	1.7	4.8	2.9	707	22	195	3,160	8.3	0.68	6.3
14	1.0	1.1	1.8	4.0	4.6	245	20	136	675	7.2	0.79	18
15	0.93	1.3	2.1	3.1	1,100	100	19	106	182	6.5	0.88	20
16	0.89	1.1	2.0	2.6	375	64	19	84	100	6.0	1.2	12
17	0.73	1.0	2.6	2.6	160	48	51	72	67	5.4	1.3	7.7
18	0.76	1.1	10	2.6	99	39	42	61	49	5.7	1.1	6.3
19	1.2	1.1	63	2.5	137	378	37	53	38	6.2	0.97	6.0
20	1.0	1.2	39	2.4	397	423	89	47	31	4.8	0.91	4.9
21	0.95	1.4	19	2.6	396	202	79	40	26	4.1	1.2	4.0
22	0.79	1.4	11	2.6	197	113	55	35	22	3.5	1.4	14
23	0.57	1.2	6.8	2.5	99	66	40	32	20	3.0	1.6	54
24	0.19	1.2	5.6	2.5	56	48	64	31	17	2.9	1.6	27
25	0.39	1.1	5.0	2.5	42	42	143	40	610	2.6	1.6	14
26	0.55	0.95	4.3	2.6	32	36	117	34	3,140	2.4	1.5	11
27	0.71	1.0	3.6	2.6	22	31	75	27	367	2.1	2.6	88
28	0.68	1.1	3.4	2.7	19	52	308	23	119	2.9	2.8	48
29	0.77	1.1	3.8	3.0	---	130	363	20	69	2.7	2.9	25
30	0.61	1.0	4.7	3.2	---	72	142	20	49	2.2	2.8	15
31	0.60	---	4.5	4.5	---	51	---	17	---	2.0	81	---
MEAN	1.11	1.02	6.64	3.79	114	97.4	69.3	356	301	10.0	3.97	90.7
MAX	2.1	1.4	63	5.6	1,100	707	363	5,460	3,160	39	81	1,950
MIN	0.19	0.66	0.76	2.4	2.9	12	19	17	15	2.0	0.60	3.1
IN.	0.01	0.01	0.04	0.02	0.58	0.55	0.38	1.99	1.63	0.06	0.02	0.49

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2003, BY WATER YEAR (WY)

MEAN	42.8	169	156	113	215	198	250	298	140	157	60.0	85.2
MAX	376	1,310	985	453	766	738	919	1,028	451	1,788	290	1,402
(WY)	(1987)	(1986)	(1983)	(1999)	(1985)	(1984)	(1994)	(2002)	(1982)	(1981)	(1995)	(1993)
MIN	0.22	0.48	1.67	2.58	3.40	9.23	14.3	15.1	2.23	0.84	0.96	0.32
(WY)	(1989)	(1990)	(1990)	(1980)	(1980)	(1981)	(2000)	(1988)	(1988)	(1988)	(1994)	(1988)

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

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1980 - 2003	
ANNUAL MEAN	169		87.4		156	
HIGHEST ANNUAL MEAN					355	1993
LOWEST ANNUAL MEAN					33.1	2000
HIGHEST DAILY MEAN	8,010	May 6	5,460	May 10	15,600	Jul 28, 1981
LOWEST DAILY MEAN	0.19	Oct 24	0.19	Oct 24	0.08	Aug 14, 1989
ANNUAL SEVEN-DAY MINIMUM	0.45	Sep 8	0.55	Oct 23	0.10	Sep 7, 1990
MAXIMUM PEAK FLOW	---		10,200	May 10	20,300	Sep 22, 1993
MAXIMUM PEAK STAGE	---		14.59	May 10	18.54	Sep 22, 1993
INSTANTANEOUS LOW FLOW	---		0.17	Oct 24	0.00	Jan 1, 1989
ANNUAL RUNOFF (INCHES)	11.17		5.76		10.32	
10 PERCENT EXCEEDS	184		115		223	
50 PERCENT EXCEEDS	12		6.3		22	
90 PERCENT EXCEEDS	0.90		0.92		1.1	



05514500 CUIVRE RIVER NEAR TROY, MO

LOCATION.--Lat 39°00'59", long 90°59'00", in SE 1/4 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 Fork and West Fork Cuivre Rivers, 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 National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1930, nonrecording gage at site 3 mi downstream at datum 4.31 ft lower; Oct. 1, 1930, to July 1939, nonrecording gage at present site and datum.

REMARKS.--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.--The highest flood since 1888 was the flood of December 1895 which reached a gage height of 27.90 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	19	7.1	97	20	97	402	608	88	257	19	9,130
2	7.2	16	7.7	80	24	91	323	420	83	201	18	3,440
3	37	19	6.5	66	25	132	266	319	98	166	17	619
4	17	17	6.3	52	24	117	213	1,850	143	139	16	295
5	10	19	6.5	47	24	105	161	6,860	136	116	16	162
6	9.2	22	6.6	43	24	98	143	2,460	112	98	15	103
7	7.6	22	6.9	40	20	90	180	1,030	154	84	15	73
8	6.7	20	6.6	44	20	82	274	2,870	164	73	14	e58
9	6.8	19	6.3	47	19	67	237	13,400	120	66	13	e49
10	6.3	17	6.4	45	19	60	192	13,100	102	88	12	e41
11	6.5	14	6.6	45	18	58	163	31,300	99	363	12	e36
12	7.4	14	7.1	42	17	61	146	7,810	208	155	11	31
13	6.4	14	7.4	38	17	942	129	1,670	6,880	102	12	32
14	5.5	14	7.4	33	22	1,460	120	932	7,910	75	14	35
15	5.5	14	7.6	28	3,450	621	109	676	1,630	62	14	81
16	5.4	12	7.2	26	4,840	356	102	513	438	51	12	102
17	5.2	12	8.1	23	1,130	249	309	421	225	44	11	72
18	5.7	12	449	21	505	191	399	352	164	46	10	49
19	7.2	12	1,240	20	542	2,100	268	304	128	51	9.2	33
20	6.3	11	647	20	1,320	8,240	216	264	103	46	9.0	26
21	6.4	10	280	18	886	7,040	243	225	87	41	9.2	25
22	6.8	9.7	142	17	499	1,580	263	200	75	33	7.6	61
23	6.6	9.7	84	15	341	755	218	187	65	28	7.2	339
24	6.7	9.2	64	13	254	530	229	178	58	26	6.6	296
25	11	8.3	55	13	175	419	2,910	198	259	24	6.5	115
26	13	8.0	44	13	142	364	2,170	205	14,000	23	6.6	68
27	13	7.6	38	12	125	317	781	200	6,480	23	6.0	54
28	11	7.9	32	14	111	391	649	160	1,330	22	5.9	82
29	20	9.4	31	14	---	2,410	3,290	120	561	21	11	64
30	29	7.7	58	15	---	742	1,270	106	356	19	9.9	48
31	25	---	118	18	---	513	---	97	---	18	12	---
MEAN	10.4	13.6	110	32.9	522	977	546	2,872	1,409	82.6	11.5	521
MAX	37	22	1,240	97	4,840	8,240	3,290	31,300	14,000	363	19	9,130
MIN	5.2	7.6	6.3	12	17	58	102	97	58	18	5.9	25
IN.	0.01	0.02	0.14	0.04	0.60	1.25	0.67	3.67	1.74	0.11	0.01	0.64

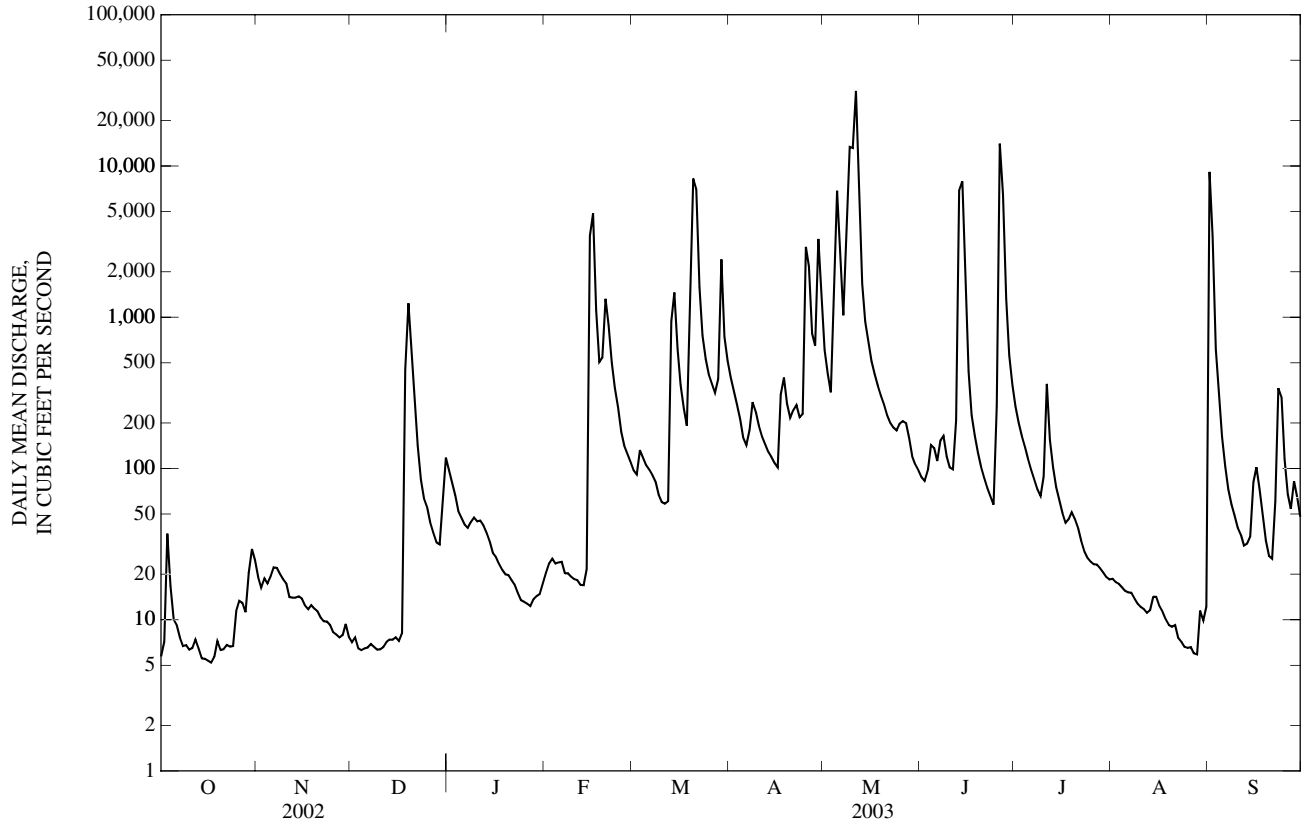
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	393	502	498	533	865	995	1,207	1,109	720	547	288	446
MAX	6,704	4,503	5,924	2,465	4,250	3,596	6,126	6,311	4,735	4,366	1,994	9,098
(WY)	(1942)	(1986)	(1983)	(1949)	(1962)	(1922)	(1994)	(1929)	(1970)	(1981)	(1923)	(1993)
MIN	0.10	1.30	1.11	1.63	1.80	2.51	25.8	17.1	11.0	0.44	0.23	0.24
(WY)	(1965)	(1954)	(1964)	(1954)	(1954)	(1954)	(1954)	(1934)	(1936)	(1934)	(1936)	(1964)

05514500 CUIVRE RIVER NEAR TROY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	860		592		674	
HIGHEST ANNUAL MEAN					2,186	1993
LOWEST ANNUAL MEAN					27.3	1954
HIGHEST DAILY MEAN	36,600	May 7	31,300	May 11	76,400	Oct 5, 1941
LOWEST DAILY MEAN	5.2	Oct 17	5.2	Oct 17	0.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	5.8	Sep 11	5.8	Oct 14	0.00	At Times
MAXIMUM PEAK FLOW	---		42,300	May 11	120,000	Oct 5, 1941
MAXIMUM PEAK STAGE	---		27.68	May 11	33.40	Oct 5, 1941
INSTANTANEOUS LOW FLOW	---		4.4	Oct 2,16-18	0.00	Several Years
ANNUAL RUNOFF (INCHES)	12.94		8.91		10.14	
10 PERCENT EXCEEDS	1,250		823		1,240	
50 PERCENT EXCEEDS	66		54		91	
90 PERCENT EXCEEDS	7.2		7.3		6.0	

e Estimated



05514500 CUIVRE RIVER NEAR TROY, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

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

REMARKS.--National Stream-Quality Accounting Network station October 1986 through September 1994. Ambient Water-Quality Monitoring Network station October 1994 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
05...	1145	Environmental	21	10.1	89	7.5	385	8.5	170	52.3	9.14	3.96
JAN												
07...	1200	Environmental	42	14.2	103	7.7	374	1.7	--	--	--	--
MAR												
04...	1500	Environmental	117	13.7	112	7.3	346	5.5	--	--	--	--
MAY												
20...	1630	Environmental	265	10.9	124	7.7	385	21.1	180	58.7	8.46	4.13
JUL												
22...	1200	Environmental	34	8.6	110	7.6	416	27.3	--	--	--	--
SEP												
03...	1140	Environmental	641	6.5	74	7.2	186	20.5	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
05...	8.88	163	164	201	<1	14.9	<0.2	18.5	221	11	0.32	<0.04	0.21
JAN													
07...	--	150	149	182	<1	--	--	--	--	<10	0.36	<0.04	1.02
MAR													
04...	--	125	126	153	<1	--	--	--	--	12	0.51	<0.21	1.92
MAY													
20...	9.41	151	152	185	<1	12.4	<0.2	23.0	242	41	0.64	<0.04	1.45
JUL													
22...	--	167	168	205	<1	--	--	--	--	25	0.98	E.03	<0.06
SEP													
03...	--	66	68	83	<1	--	--	--	--	42	1.1	<0.04	0.92

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
05...	<0.008	<0.02	<0.04	0.05	12k	64k	104	<2	130	0.6	<0.04	<0.2	<6
JAN													
07...	E.006	0.03	<0.04	0.09	4k	6k	31	--	--	--	--	--	--
MAR													
04...	E.030n	E.06n	0.08	0.13	3k	10k	22	--	--	--	--	--	--
MAY													
20...	0.012	<0.02	E.02	0.10	29k	100	129	2	426	0.8	<0.04	<0.2	<6
JUL													
22...	<0.008	<0.02	<0.04	0.09	96	143k	70	--	--	--	--	--	--
SEP													
03...	E.005n	E.09nd	0.15	0.34	1,500	1,560k	1,760	--	--	--	--	--	--

05514500 CUIVRE RIVER NEAR TROY, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
05...	19	<0.08	M	229	<0.02	<0.5	M	E1
JAN								
07...	--	--	--	--	--	--	--	--
MAR								
04...	--	--	--	--	--	--	--	--
MAY								
20...	<10	<0.08	2	203	<0.02	0.8	2	2
JUL								
22...	--	--	--	--	--	--	--	--
SEP								
03...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

05514840 DARDENNE CREEK AT O'FALLON, MO

LOCATION.--Lat 38°44'26", long 90°41'42", in NE ¼ NE ¼ SE ¼ sec.16, T.46 N., R.3 E., St. Charles County, Hydrologic Unit 07110009, attached to downstream side of State Highway K bridge, 4.2 mi south of Interstate 70.

DRAINAGE AREA.--61.0 mi^2.

PERIOD OF RECORD.--Nov. 18, 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--No estimated daily discharges. Records fair. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

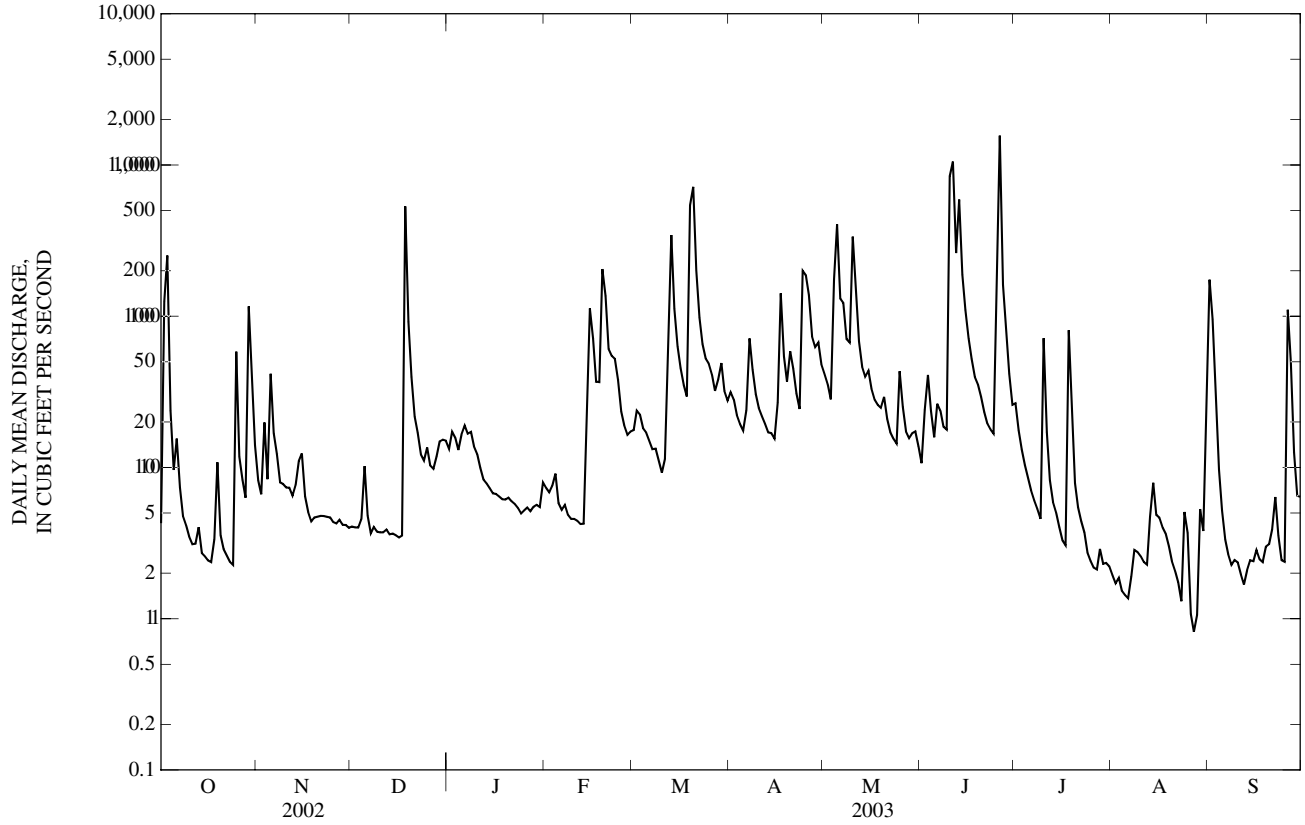
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	8.2	4.1	13	7.3	18	31	41	11	27	1.9	174
2	125	6.6	4.0	17	6.9	24	28	35	24	18	1.7	95
3	252	20	4.0	16	7.6	22	22	28	41	13	1.9	33
4	24	8.4	4.6	13	9.1	18	19	176	24	10	1.5	9.7
5	9.6	42	10	17	5.8	17	18	405	16	8.5	1.4	5.2
6	16	17	4.8	19	5.2	15	24	131	26	7.0	1.4	3.3
7	7.4	12	3.7	17	5.7	13	71	123	24	6.0	1.9	2.7
8	4.8	8.0	4.0	17	4.9	13	44	71	19	5.3	2.8	2.3
9	4.1	7.8	3.8	14	4.6	11	31	67	18	4.6	2.8	2.4
10	3.5	7.4	3.7	12	4.6	9.2	25	336	843	72	2.6	2.4
11	3.1	7.3	3.7	10	4.4	11	22	151	1,050	17	2.4	2.0
12	3.1	6.5	3.9	8.3	4.2	46	19	68	262	8.2	2.3	1.7
13	4.0	7.6	3.6	7.8	4.3	344	17	46	591	5.9	4.7	2.1
14	2.7	11	3.7	7.3	24	112	17	40	188	5.0	7.9	2.4
15	2.6	12	3.6	6.7	112	63	16	44	110	4.0	4.9	2.4
16	2.4	6.4	3.4	6.7	71	45	27	33	71	3.3	4.7	2.8
17	2.4	5.0	3.5	6.4	37	35	142	28	52	3.1	4.0	2.5
18	3.4	4.4	532	6.2	37	29	54	26	40	81	3.7	2.4
19	11	4.7	92	6.1	205	541	37	25	36	21	3.0	3.0
20	3.6	4.7	40	6.3	136	716	59	29	29	7.9	2.4	3.1
21	2.9	4.8	22	6.0	61	201	45	21	23	5.5	2.1	3.9
22	2.6	4.8	17	5.7	55	98	31	17	20	4.4	1.7	6.4
23	2.4	4.7	12	5.4	52	66	24	16	18	3.7	1.3	3.6
24	2.3	4.7	11	5.0	38	52	199	14	17	2.7	5.1	2.4
25	58	4.3	14	5.2	23	49	186	43	145	2.4	3.7	2.4
26	12	4.3	10	5.4	19	41	138	25	1,560	2.2	1.1	110
27	8.3	4.5	9.8	5.1	16	32	73	17	161	2.1	0.82	50
28	6.3	4.2	12	5.5	17	38	63	16	77	2.9	1.1	13
29	116	4.2	15	5.7	---	49	67	17	42	2.3	5.3	6.5
30	32	4.0	15	5.5	---	32	48	17	26	2.3	3.8	6.4
31	14	---	15	8.0	---	28	---	14	---	2.2	27	---
MEAN	24.1	8.38	28.7	9.33	34.9	89.9	53.2	68.4	185	11.6	3.64	18.6
MAX	252	42	532	19	205	716	199	405	1,560	81	27	174
MIN	2.3	4.0	3.4	5.0	4.2	9.2	16	14	11	2.1	0.82	1.7
IN.	0.45	0.15	0.54	0.18	0.60	1.70	0.97	1.29	3.39	0.22	0.07	0.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

MEAN	21.5	21.1	37.7	27.3	64.5	65.3	69.0	118	147	15.1	8.75	9.38
MAX	33.4	45.1	91.2	74.2	101	116	138	271	220	23.1	17.8	18.6
(WY)	(2002)	(2002)	(2002)	(2002)	(2001)	(2002)	(2002)	(2002)	(2000)	(2000)	(2000)	(2003)
MIN	6.93	8.38	4.14	3.84	34.9	22.9	20.1	10.5	65.3	8.97	3.64	3.37
(WY)	(2001)	(2003)	(2001)	(2000)	(2003)	(2000)	(2000)	(2001)	(2001)	(2001)	(2003)	(2001)

05514840 DARDENNE CREEK AT O'FALLON, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL MEAN	73.0		44.5		51.3	
HIGHEST ANNUAL MEAN					82.2	2002
LOWEST ANNUAL MEAN					27.2	2001
HIGHEST DAILY MEAN	2,330	Jun 12	1,560	Jun 26	4,140	Jun 24, 2000
LOWEST DAILY MEAN	1.4	Sep 5,6	0.82	Aug 27	0.82	Aug 27, 2003
ANNUAL SEVEN-DAY MINIMUM	1.6	Sep 2	1.7	Aug 1	1.3	Sep 17, 2000
MAXIMUM PEAK FLOW	---		3,470	Jun 26	5,770	Jun 24, 2000
MAXIMUM PEAK STAGE	---		14.62	Jun 26	19.14	Jun 24, 2000
INSTANTANEOUS LOW FLOW	---		0.78	Aug 27	0.53	Sep 20, 2000
ANNUAL RUNOFF (INCHES)	16.26		9.91		11.43	
10 PERCENT EXCEEDS	144		85		92	
50 PERCENT EXCEEDS	14		11		11	
90 PERCENT EXCEEDS	3.6		2.4		2.5	



05514860 DARDENNE CREEK AT OLD TOWN ST. PETERS, MO

LOCATION.--Lat 38°48'12", long 90°38'06", in SE ¼ SW ¼ SW ¼ sec.24, T.47 N., R.3 E., St. Charles County, Hydrologic Unit 07110009, on left bank 0.6 mi upstream from State Highway C.

DRAINAGE AREA.--102 mi^2.

PERIOD OF RECORD.--Nov. 18, 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--Records fair except for estimated daily discharges, which are poor. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	51	8.7	42	36	60	33	60	27	100	8.2	549
2	116	36	9.6	55	22	84	36	46	56	241	15	e186
3	1,470	137	10	74	21	58	29	30	208	52	48	e89
4	172	69	11	52	20	48	30	435	82	37	14	e30
5	62	243	14	60	17	46	26	909	48	31	8.8	e18
6	96	89	23	111	13	41	67	318	110	28	5.4	e13
7	58	42	15	71	16	34	217	425	96	23	8.8	e11
8	25	25	11	60	12	28	70	201	61	20	5.5	e9.5
9	17	13	10	49	10	26	39	179	39	20	5.5	e9.7
10	13	17	10	38	9.7	19	29	789	834	258	5.2	e9.5
11	9.7	17	13	28	9.6	20	25	401	3,670	82	5.1	e9.7
12	8.7	16	13	26	8.6	181	25	185	565	32	4.9	e16
13	18	22	10	26	8.9	768	28	131	1,230	22	6.6	e8.1
14	11	25	9.0	20	164	208	20	104	330	17	16	e7.5
15	6.1	98	8.5	17	408	105	23	129	173	16	9.4	e7.2
16	5.2	41	7.9	15	235	71	50	97	109	13	7.3	e7.2
17	4.8	25	7.7	14	144	54	272	91	82	10	5.6	e6.9
18	11	23	1,980	12	145	43	104	79	70	437	4.8	6.3
19	117	17	702	12	567	915	59	64	60	193	3.6	5.8
20	30	13	182	13	357	1,800	136	104	51	51	3.9	6.0
21	12	14	96	13	153	342	74	66	41	23	2.7	11
22	7.8	12	61	11	131	176	62	46	33	18	3.6	18
23	5.5	11	45	8.9	124	114	59	36	27	17	3.0	8.7
24	6.8	11	33	7.8	101	85	489	32	27	13	3.1	6.1
25	342	12	37	8.4	71	74	411	227	87	13	6.2	3.8
26	101	13	33	9.6	51	63	300	90	3,920	9.7	5.1	255
27	41	11	31	8.7	46	44	131	54	526	9.5	2.8	316
28	30	11	40	10	49	63	127	39	149	13	2.1	31
29	578	9.9	74	13	---	76	104	37	89	12	3.6	13
30	141	10	75	11	---	42	66	54	58	11	16	11
31	73	---	71	35	---	32	---	46	---	9.5	80	---
MEAN	116	37.8	118	30.0	105	185	105	178	429	59.1	10.3	56.0
MAX	1,470	243	1,980	111	567	1,800	489	909	3,920	437	80	549
MIN	3.1	9.9	7.7	7.8	8.6	19	20	30	27	9.5	2.1	3.8
IN.	1.31	0.41	1.33	0.34	1.08	2.09	1.15	2.01	4.69	0.67	0.12	0.61

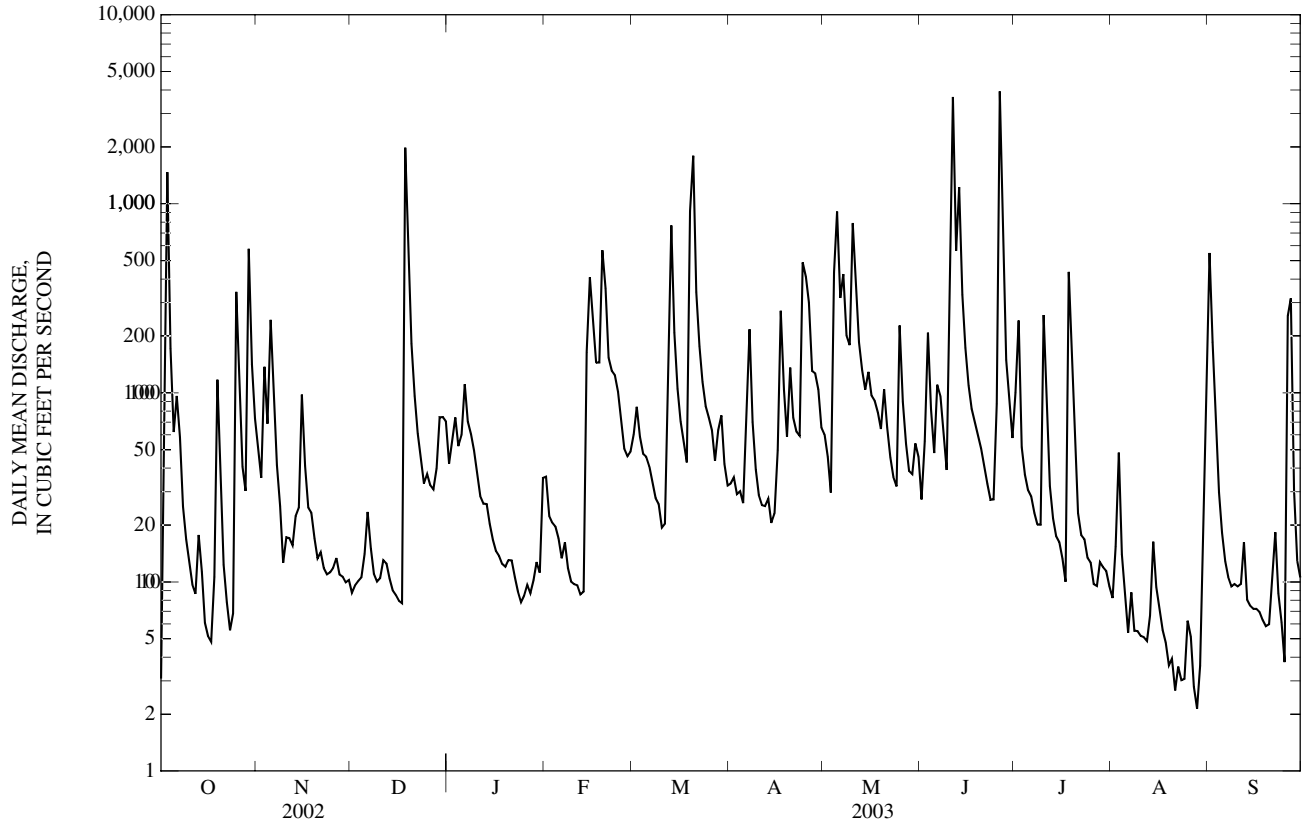
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

MEAN	70.2	51.1	83.1	60.1	130	108	127	235	309	37.8	22.5	37.6
MAX	116	83.0	160	149	193	185	237	522	429	59.1	45.3	67.7
(WY)	(2003)	(2002)	(2002)	(2002)	(2001)	(2003)	(2002)	(2002)	(2003)	(2003)	(2000)	(2002)
MIN	27.0	32.6	7.16	6.85	105	33.2	31.1	30.0	149	15.5	10.3	5.76
(WY)	(2001)	(2001)	(2001)	(2000)	(2002)	(2000)	(2000)	(2001)	(2001)	(2002)	(2003)	(2001)

05514860 DARDENNE CREEK AT OLD TOWN ST. PETERS, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL MEAN	149		119		110	
HIGHEST ANNUAL MEAN					152	2002
LOWEST ANNUAL MEAN					59.2	2001
HIGHEST DAILY MEAN	3,830	Jun 12	3,920	Jun 26	4,670	Jun 24, 2000
LOWEST DAILY MEAN	0.51	Aug 12	2.1	Aug 28	0.45	Oct 3,4, 2001
ANNUAL SEVEN-DAY MINIMUM	0.96	Sep 7	3.5	Aug 18	0.68	Sep 28, 2001
MAXIMUM PEAK FLOW	---		4,690	Jun 11	6,370	Jun 24, 2000
MAXIMUM PEAK STAGE	---		19.23	Jun 11	22.14	Jun 24, 2000
INSTANTANEOUS LOW FLOW	---		2.0	Aug 28,29	0.30	Oct 3, 2001
ANNUAL RUNOFF (INCHES)	19.77		15.80		14.64	
10 PERCENT EXCEEDS	251		237		189	
50 PERCENT EXCEEDS	29		32		21	
90 PERCENT EXCEEDS	3.0		7.6		4.3	

e Estimated



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.--
DISCHARGE: October 1, 1986 to current year. Intermittently from 1880 to 1928, computed daily 1928 to 1932 by the National Weather Service and/or the U.S. Army Corps of Engineers. 1929 to September 1986, stage only at this site. Discharge published at site 15.3 mi downstream, "Mississippi River at Alton, IL" (05587500), October 1927 to September 1986.
GAGE HEIGHT: August 1879 through September 1892, 1929 to September 1986, October 1986 to current year. Stages also available from reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 403.79 ft above National Geodetic Vertical Datum of 1929. Auxiliary water-stage recorder 15.3 mi downstream.

REMARKS.--Records poor. 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63,100	77,300	e47,900	66,400	e39,800	37,700	68,900	143,000	187,000	97,400	92,500	55,900
2	65,200	73,200	e47,700	62,800	e40,900	39,200	70,600	155,000	169,000	97,200	84,400	41,300
3	67,000	80,400	e47,900	52,800	e39,800	40,700	67,500	177,000	164,000	105,000	68,700	20,600
4	68,500	76,600	e48,400	50,400	e39,800	39,800	60,000	195,000	151,000	105,000	63,400	31,000
5	73,600	81,900	48,000	54,400	39,200	38,500	71,900	215,000	141,000	105,000	59,000	25,100
6	73,100	76,700	e49,400	55,900	e38,500	38,000	82,500	222,000	132,000	107,000	61,500	29,200
7	80,100	79,700	e47,900	49,900	e37,500	42,500	77,800	222,000	139,000	106,000	53,300	30,800
8	82,300	78,900	47,100	53,600	e36,700	35,100	77,900	220,000	128,000	112,000	56,500	28,400
9	83,000	71,600	45,500	51,000	e36,800	35,900	75,000	218,000	110,000	116,000	51,300	23,800
10	81,800	61,700	e45,200	48,500	e35,400	36,000	70,600	222,000	109,000	163,000	46,000	26,100
11	87,900	61,300	43,900	52,200	e35,700	40,100	67,200	241,000	117,000	190,000	42,900	24,900
12	91,000	63,300	45,000	53,300	e39,300	42,000	68,300	248,000	115,000	192,000	38,300	23,000
13	95,200	65,700	e48,700	47,100	e44,300	45,400	70,700	239,000	128,000	189,000	37,100	23,600
14	92,400	63,300	e51,800	35,100	e48,300	55,200	63,100	225,000	149,000	185,000	40,800	27,700
15	94,000	66,600	e52,900	31,300	e50,000	51,800	62,800	218,000	138,000	177,000	37,200	39,400
16	109,000	65,300	e51,900	43,500	e50,800	52,300	59,300	218,000	124,000	168,000	30,400	42,600
17	94,500	67,500	63,200	51,300	39,300	57,800	74,600	218,000	115,000	156,000	30,800	35,400
18	100,000	67,200	73,500	42,200	37,300	55,500	78,300	219,000	116,000	148,000	34,300	23,400
19	105,000	62,700	69,000	42,500	41,200	59,900	84,300	220,000	120,000	171,000	34,500	26,100
20	100,000	56,300	51,400	37,300	45,600	93,500	81,900	221,000	116,000	161,000	35,800	32,800
21	102,000	56,800	54,200	e36,500	47,400	99,800	79,200	220,000	110,000	135,000	34,800	33,800
22	105,000	52,700	54,500	e35,200	40,200	88,900	88,800	220,000	106,000	119,000	31,400	34,400
23	101,000	61,600	57,800	e35,600	36,800	84,000	97,800	222,000	103,000	131,000	27,900	26,400
24	98,000	59,100	65,400	e38,700	33,300	73,100	107,000	225,000	100,000	134,000	26,900	33,300
25	101,000	52,900	63,700	e37,100	34,200	72,000	110,000	228,000	84,300	127,000	40,100	33,700
26	89,200	54,400	57,900	e35,300	32,600	66,200	120,000	229,000	106,000	122,000	37,100	25,300
27	76,900	56,300	53,800	e34,500	37,800	71,400	123,000	230,000	102,000	115,000	35,200	30,700
28	79,800	48,000	45,000	34,300	37,500	67,500	123,000	230,000	97,300	105,000	33,500	27,200
29	88,200	47,500	44,000	32,800	---	66,000	134,000	227,000	92,400	108,000	27,100	29,600
30	87,700	47,000	47,700	34,600	---	61,100	143,000	221,000	91,200	103,000	22,600	32,600
31	89,300	---	59,000	33,200	---	66,500	---	205,000	---	94,000	28,300	---
MEAN	87,900	64,450	52,560	44,170	39,860	56,560	85,300	216,500	122,000	133,700	43,340	30,600
MAX	109,000	81,900	73,500	66,400	50,800	99,800	143,000	248,000	187,000	192,000	92,500	55,900
MIN	63,100	47,000	43,900	31,300	32,600	35,100	59,300	143,000	84,300	94,000	22,600	20,600
IN.	0.59	0.42	0.35	0.30	0.24	0.38	0.56	1.46	0.79	0.90	0.29	0.20

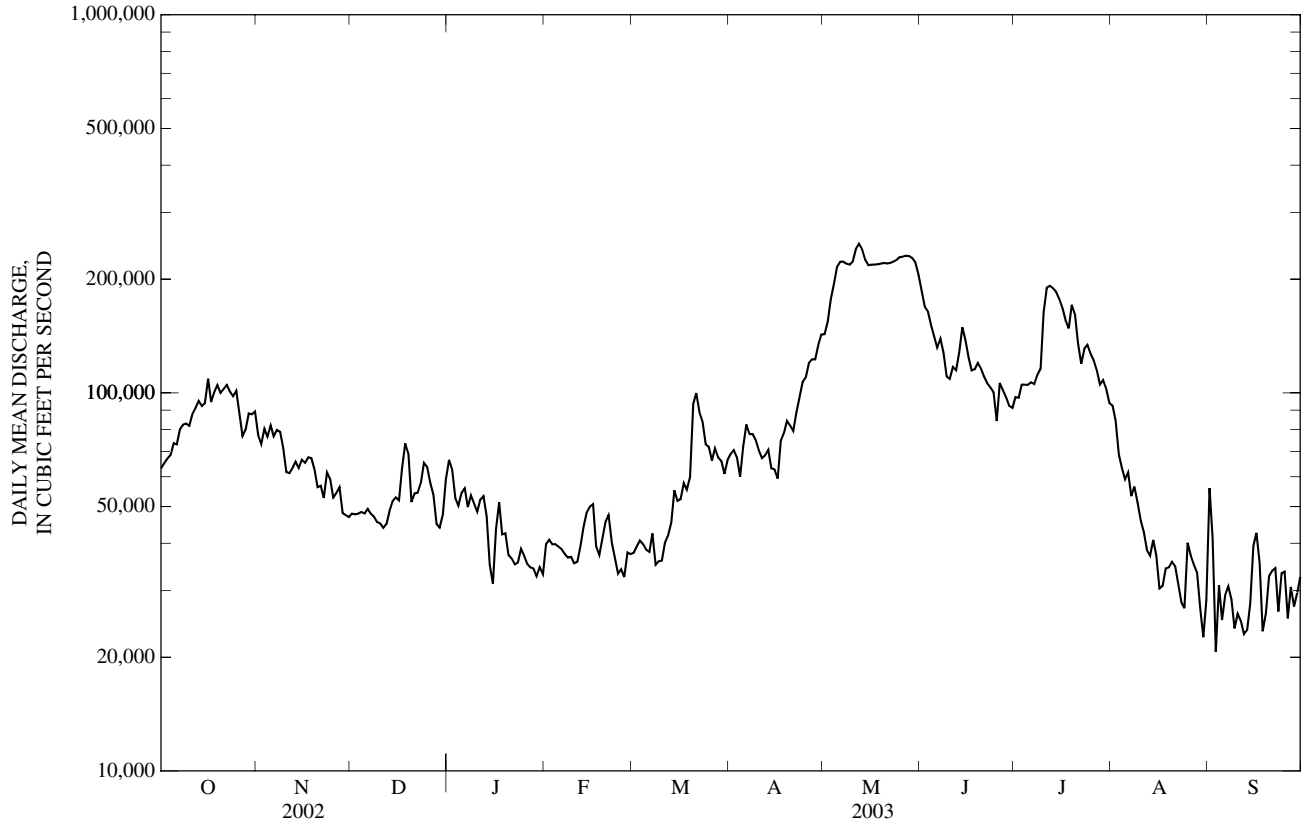
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

MEAN	87,890	90,370	84,940	76,060	94,450	139,700	180,300	206,400	176,500	148,600	102,300	80,610
MAX	334,900	171,300	169,900	161,000	158,000	217,400	342,100	333,300	273,400	469,300	416,900	309,900
(WY)	(1987)	(1987)	(1993)	(1993)	(1999)	(1997)	(1993)	(1993)	(2001)	(1993)	(1993)	(1993)
MIN	28,050	33,270	31,810	34,800	39,860	56,560	72,770	69,140	36,310	30,420	37,230	30,600
(WY)	(1989)	(1990)	(1990)	(1990)	(2003)	(2003)	(2000)	(1988)	(1988)	(1988)	(1988)	(2003)

05587450 MISSISSIPPI RIVER AT GRAFTON, IL—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1987 - 2003	
ANNUAL MEAN	124,200		81,820		122,500	
HIGHEST ANNUAL MEAN					250,700	1993
LOWEST ANNUAL MEAN					53,860	1989
HIGHEST DAILY MEAN	374,000	May 15	248,000	May 12	596,000	Aug 3, 1993
LOWEST DAILY MEAN	39,500	Jan 22	20,600	Sep 3	20,100	Dec 14, 1988
ANNUAL SEVEN-DAY MINIMUM	46,200	Dec 7	25,400	Sep 8	23,600	Dec 12, 1988
MAXIMUM PEAK FLOW	---		249,000	May 12	598,000	Aug 1, 1993
MAXIMUM PEAK STAGE	---		422.53	May 12	441.96	Aug 1, 1993
INSTANTANEOUS LOW FLOW	---		20,600	Sep 3	20,100	Dec 14, 1988
ANNUAL RUNOFF (INCHES)	9.85		6.49		9.71	
10 PERCENT EXCEEDS	272,000		170,000		246,000	
50 PERCENT EXCEEDS	94,900		63,300		94,600	
90 PERCENT EXCEEDS	53,300		33,600		43,000	

e Estimated



05587455 MISSISSIPPI RIVER BELOW GRAFTON, IL
(Ambient Water-Quality Monitoring Network)

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, and at mile 214.6 upstream from the mouth of the Ohio River.

DRAINAGE AREA.--171,300 mi^2, approximately.

PERIOD OF RECORD.--March 1989 to current year. National Stream-Quality Accounting Network station September 1989 to October 1992. National Stream-Quality Accounting Network station November 1992 to September 2002. Ambient Water-Quality Monitoring Network November 1992 to current year.

REMARKS.--Sediment records fair except for estimated daily loads, which are poor.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT: October 1989 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT CONCENTRATION: Maximum daily mean, 1,910 mg/L, May 23, 1990; minimum daily mean, 1 mg/L, Sept. 10, 1991.
SUSPENDED-SEDIMENT LOAD: Maximum daily, 1,090,000 tons, May 23, 1990; minimum daily, 186 tons, Sept. 10, 1991.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT CONCENTRATION: Maximum daily mean, 691 mg/L, May 10; minimum daily mean, 11 mg/L, Jan. 15.
SUSPENDED-SEDIMENT LOAD: Maximum daily, 420,000 tons, May 11; minimum daily, 973 tons, Jan. 15.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
21...	1320	Environmental	102,000	E56	9.7	92	8.1	366	12.7	170	41.0	15.9
NOV												
06...	1400	Environmental	76,700	19	11.5	97	8.1	431	7.6	190	46.7	18.7
DEC												
02...	1345	Environmental	e47,700	14	14.2	111	8.6	492	4.1	210	49.1	20.3
FEB												
19...	1255	Environmental	41,200	46	16.6	118	8.6	379	1.1	240	55.4	23.6
MAR												
04...	1025	Environmental	39,800	18	20.1	147	9.1	408	1.8	230	51.6	23.5
18...	1045	Environmental	55,500	32	16.6	166	8.9	516	14.0	200	46.0	21.8
APR												
21...	1405	Environmental	79,200	44	8.6	86	8.4	514	14.4	190	43.6	20.8
MAY												
05...	1345	Environmental	215,000	110	9.8	104	7.9	447	16.8	150	36.9	14.7
JUN												
02...	1300	Environmental	169,000	67	7.1	80	8.1	436	19.8	190	47.2	17.2
JUL												
07...	1335	Environmental	106,000	48	10.2	137	8.2	502	29.7	230	54.8	22.2
AUG												
04...	1345	Environmental	63,400	88	11.2	147	7.9	470	28.2	250	64.2	22.8
SEP												
08...	1405	Environmental	28,400	58	7.9	98	8.1	369	25.9	180	40.6	18.7

05587455 MISSISSIPPI RIVER BELOW GRAFTON, IL—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)
OCT														
21...	2.88	12.7	132	131	160	<1	19.6	<0.20	10.9	21.0	226	--	E.95	<0.04
NOV														
06...	2.92	18.1	143	144	176	<1	26.2	<0.20	10.9	26.5	266	--	0.74	E.03
DEC														
02...	2.93	19.8	165	165	188	6	29.5	0.20	8.2	32.7	302	20	0.77	<0.04
FEB														
19...	3.44	25.9	176	177	186	15	39.9	0.21	4.2	37.6	324	--	1.3	E.03
MAR														
04...	3.35	26.2	180	181	170	25	37.7	0.19	3.3	36.6	309	34	1.4	<0.04
18...	3.20	28.7	153	154	171	8	40.4	0.20	0.6	35.3	283	59	1.4	<0.04
APR														
21...	4.50	27.8	148	148	158	11	43.3	0.19	1.0	35.0	286	93	1.3	0.14
MAY														
05...	4.03	17.6	120	123	150	<1	29.5	<0.17	4.5	27.2	230	231	1.5	0.08
JUN														
02...	3.14	10.5	146	147	179	<1	19.5	0.20	5.2	27.3	270	296	1.4	<0.04
JUL														
07...	3.14	14.2	168	173	211	<1	24.0	0.20	5.0	34.5	293	100	0.95	E.02
AUG														
04...	3.97	16.3	160	162	197	<1	25.7	0.30	7.7	32.5	285	247	1.5	<0.04
SEP														
08...	4.53	19.8	123	125	152	<1	29.3	0.20	2.9	31.7	253	126	1.1	<0.04

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)
OCT														
21...	E1.73	E.014	E.11	E.12	E.25	110k	160	45	--	--	--	--	--	--
NOV														
06...	2.30	0.011	0.12	0.11	0.18	32	56	4k	--	--	--	--	--	--
DEC														
02...	2.23	0.008	0.07	0.08	0.15	8k	31	1k	<20	200	<8	<0.2	<6	19
FEB														
19...	2.08	0.028	0.04	0.04	0.23	28	125	490	--	--	--	--	--	--
MAR														
04...	1.81	0.029	<0.02	E.03	0.14	24	22	4k	<20	130	<8	<0.2	<6	22
18...	1.65	0.027	<0.02	E.02	0.18	56	37	5k	--	--	--	--	--	--
APR														
21...	1.44	0.027	0.06	0.08	0.22	6k	15k	2k	--	--	--	--	--	--
MAY														
05...	1.71	0.043	0.06	0.09	0.37	110	208	245	<20	2,000	<8	E.1	<6	15
JUN														
02...	3.49	0.033	--r	0.08	0.27	7k	13k	20	--	--	--	--	--	--
JUL														
07...	3.62	0.061	0.09	0.12	0.24	8k	10k	3k	43	940	<2	<0.2	<7	10
AUG														
04...	2.88	0.031	0.11	0.13	0.41	55	115	58	--	--	--	--	--	--
SEP														
08...	0.64	0.126	0.12	0.15	0.31	27	29	5k	--	--	--	--	--	--

05587455 MISSISSIPPI RIVER BELOW GRAFTON, IL—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT						
21...	--	--	--	--	--	--
NOV						
06...	--	--	--	--	--	--
DEC						
02...	E.07	M	E1.9b	<0.02	<24	<20
FEB						
19...	--	--	--	--	--	--
MAR						
04...	E.04	M	13.2	<0.02	<24	<20
18...	--	--	--	--	--	--
APR						
21...	--	--	--	--	--	--
MAY						
05...	E.04	4	2.9	E.01	<24	E20
JUN						
02...	--	--	--	--	--	--
JUL						
07...	E.05n	2	4.6	<0.02	5	20
AUG						
04...	--	--	--	--	--	--
SEP						
08...	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
e -- Estimated discharge
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
r -- Sample ruined in preparation

05587455 MISSISSIPPI RIVER BELOW GRAFTON, IL—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Day	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)
		OCTOBER			NOVEMBER			DECEMBER	
1	63,100	68	11,600	77,300	79	17,800	47,900	61	7,830
2	65,200	68	11,800	73,200	70	14,100	47,700	68	8,720
3	67,000	69	12,400	80,400	66	13,700	47,900	77	9,930
4	68,500	77	14,000	76,600	71	15,100	48,400	72	9,370
5	73,600	85	16,200	81,900	73	15,600	48,000	76	9,860
6	73,100	75	14,900	76,700	72	15,300	49,400	76	10,000
7	80,100	46	9,540	79,700	72	15,100	47,900	73	9,540
8	82,300	57	12,500	78,900	75	16,100	47,100	76	9,740
9	83,000	78	17,400	71,600	82	16,700	45,500	74	9,210
10	81,800	74	16,400	61,700	87	15,600	45,200	63	7,740
11	87,900	74	16,900	61,300	88	14,600	43,900	61	7,320
12	91,000	83	20,000	63,300	88	14,800	45,000	66	7,960
13	95,200	94	23,600	65,700	80	14,000	48,700	67	8,480
14	92,400	92	23,200	63,300	68	11,800	51,800	72	9,770
15	94,000	99	24,800	66,600	64	11,200	52,900	79	11,100
16	109,000	108	29,600	65,300	71	12,700	51,900	86	12,200
17	94,500	115	31,700	67,500	74	13,300	63,200	81	12,600
18	100,000	130	34,200	67,200	69	12,600	73,500	81	14,900
19	105,000	134	37,300	62,700	70	12,300	69,000	92	17,700
20	100,000	130	35,800	56,300	73	11,700	51,400	88	14,300
21	102,000	129	35,200	56,800	73	11,100	54,200	85	12,100
22	105,000	120	33,600	52,700	68	9,990	54,500	81	11,900
23	101,000	102	28,300	61,600	65	9,980	57,800	85	12,900
24	98,000	96	25,800	59,100	65	10,500	65,400	84	13,900
25	101,000	94	25,400	52,900	61	9,210	63,700	78	13,500
26	89,200	89	22,900	54,400	62	8,960	57,900	94	15,400
27	76,900	90	20,200	56,300	70	10,500	53,800	115	17,300
28	79,800	85	18,100	48,000	73	10,300	45,000	135	18,100
29	88,200	75	17,100	47,500	70	9,000	44,000	144	17,300
30	87,700	74	17,600	47,000	67	8,560	47,700	120	14,900
31	89,300	80	19,000	---	---	---	59,000	106	15,300
		JANUARY			FEBRUARY			MARCH	
1	66,400	107	18,100	39,800	19	1,840	37,700	109	11,100
2	62,800	108	18,900	40,900	---	3,090	39,200	113	11,700
3	52,800	120	18,700	39,800	---	3,900	40,700	112	12,100
4	50,400	130	18,100	39,800	---	3,710	39,800	108	11,700
5	54,400	136	19,200	39,200	---	3,400	38,500	107	11,300
6	55,900	131	19,500	38,500	---	3,190	38,000	104	10,800
7	49,900	124	17,700	37,500	---	2,960	42,500	100	10,800
8	53,600	97	13,500	36,700	29	2,940	35,100	98	10,200
9	51,000	63	8,960	36,800	32	3,180	35,900	100	9,610
10	48,500	54	7,250	35,400	34	3,360	36,000	101	9,820
11	52,200	39	5,340	35,700	42	4,030	40,100	97	10,000
12	53,300	22	3,160	39,300	54	5,490	42,000	113	12,500
13	47,100	20	2,760	44,300	49	5,520	45,400	138	16,300
14	35,100	16	1,730	48,300	41	5,100	55,200	131	17,800
15	31,300	11	973	50,000	89	11,800	51,800	120	17,400
16	43,500	14	1,440	50,800	129	17,500	52,300	132	18,600
17	51,300	15	1,960	39,300	95	11,600	57,800	129	19,200
18	42,200	19	2,410	37,300	77	8,010	55,500	109	16,700
19	42,500	19	2,200	41,200	71	7,550	59,900	178	27,800
20	37,300	30	3,190	45,600	48	5,640	93,500	273	56,500
21	36,500	45	4,460	47,400	39	4,910	99,800	268	69,900
22	35,200	43	4,110	40,200	35	4,160	88,900	249	63,400
23	35,600	40	3,840	36,800	70	7,220	84,000	230	53,600
24	38,700	---	4,350	33,300	100	9,440	73,100	197	41,800
25	37,100	---	4,800	34,200	105	9,580	72,000	184	36,100
26	35,300	---	4,340	32,600	121	10,900	66,200	179	33,300
27	34,500	---	3,790	37,800	119	11,300	71,400	181	33,600
28	34,300	28	2,610	37,500	110	11,200	67,500	182	34,100
29	32,800	25	2,300	---	---	---	66,000	164	29,500
30	34,600	28	2,570	---	---	---	61,100	129	22,100
31	33,200	20	1,820	---	---	---	66,500	156	26,900

05587455 MISSISSIPPI RIVER BELOW GRAFTON, IL—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Day	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)
		APRIL			MAY			JUNE	
1	68,900	229	41,900	143,000	187	72,200	187,000	265	140,000
2	70,600	247	46,500	155,000	173	69,300	169,000	288	139,000
3	67,500	213	39,700	177,000	181	81,100	164,000	310	139,000
4	60,000	190	32,700	195,000	230	116,000	151,000	296	126,000
5	71,900	184	32,800	215,000	275	152,000	141,000	248	97,700
6	82,500	173	36,000	222,000	309	183,000	132,000	205	75,400
7	77,800	154	33,300	222,000	334	200,000	139,000	195	71,200
8	77,900	129	27,000	220,000	336	200,000	128,000	195	70,200
9	75,000	120	24,800	218,000	466	276,000	110,000	196	63,000
10	70,600	126	24,700	222,000	691	411,000	109,000	197	58,200
11	67,200	124	23,000	241,000	672	420,000	117,000	208	63,600
12	68,300	130	23,800	248,000	526	347,000	115,000	243	76,200
13	70,700	158	29,700	239,000	502	330,000	128,000	260	85,300
14	63,100	157	28,300	225,000	511	320,000	149,000	267	99,800
15	62,800	137	23,300	218,000	431	257,000	138,000	258	100,000
16	59,300	127	20,900	218,000	340	200,000	124,000	220	78,000
17	74,600	121	22,000	218,000	344	203,000	115,000	215	69,300
18	78,300	110	22,600	219,000	385	227,000	116,000	217	67,400
19	84,300	82	18,000	220,000	400	237,000	120,000	210	66,800
20	81,900	69	15,400	221,000	382	227,000	116,000	207	66,000
21	79,200	68	14,800	220,000	345	205,000	110,000	197	60,100
22	88,800	72	16,300	220,000	314	187,000	106,000	183	53,500
23	97,800	91	22,900	222,000	308	184,000	103,000	161	45,400
24	107,000	118	32,600	225,000	294	177,000	100,000	169	46,500
25	110,000	144	42,300	228,000	286	175,000	84,300	234	58,200
26	120,000	169	52,300	229,000	303	187,000	106,000	282	72,700
27	123,000	181	59,300	230,000	317	197,000	102,000	307	86,000
28	123,000	189	62,600	230,000	314	195,000	97,300	277	74,400
29	134,000	188	65,100	227,000	298	184,000	92,400	227	58,200
30	143,000	186	69,300	221,000	279	169,000	91,200	228	56,600
31	---	---	---	205,000	264	152,000	---	---	---
		JULY			AUGUST			SEPTEMBER	
1	97,400	235	59,800	92,500	114	28,800	55,900	154	17,500
2	97,200	198	51,900	84,400	111	26,400	41,300	159	20,900
3	105,000	150	41,000	68,700	116	24,000	20,600	137	11,400
4	105,000	143	40,700	63,400	119	21,300	31,000	116	8,120
5	105,000	149	42,300	59,000	127	21,000	25,100	108	8,190
6	107,000	142	40,700	61,500	127	20,600	29,200	103	7,530
7	106,000	154	44,100	53,300	118	18,400	30,800	95	7,720
8	112,000	193	56,400	56,500	98	14,500	28,400	86	6,860
9	116,000	257	79,000	51,300	89	13,000	23,800	85	6,010
10	163,000	368	139,000	46,000	94	12,300	26,100	84	5,690
11	190,000	468	223,000	42,900	98	11,800	24,900	83	5,740
12	192,000	521	269,000	38,300	89	9,790	23,000	85	5,480
13	189,000	500	257,000	37,100	71	7,220	23,600	81	5,080
14	185,000	404	204,000	40,800	70	7,330	27,700	74	5,120
15	177,000	316	155,000	37,200	86	9,080	39,400	71	6,450
16	168,000	284	132,000	30,400	94	8,580	42,600	68	7,520
17	156,000	271	118,000	30,800	72	5,970	35,400	64	6,780
18	148,000	277	114,000	34,300	58	5,120	23,400	63	5,010
19	171,000	309	133,000	34,500	75	6,930	26,100	80	5,360
20	161,000	336	150,000	35,800	90	8,580	32,800	81	6,480
21	135,000	294	117,000	34,800	87	8,270	33,800	65	5,810
22	119,000	241	82,700	31,400	82	7,360	34,400	65	5,940
23	131,000	240	81,200	27,900	82	6,570	26,400	67	5,530
24	134,000	268	95,800	26,900	74	5,480	33,300	73	5,900
25	127,000	268	94,500	40,100	58	5,290	33,700	72	6,510
26	122,000	221	74,200	37,100	56	5,830	25,300	68	5,450
27	115,000	178	56,700	35,200	55	5,360	30,700	78	5,910
28	105,000	175	51,900	33,500	60	5,580	27,200	79	6,210
29	108,000	198	57,100	27,100	92	7,540	29,600	71	5,450
30	103,000	181	51,500	22,600	122	8,210	32,600	70	5,850
31	94,000	144	38,100	28,300	139	9,540	---	---	---

06813500 MISSOURI RIVER AT RULO, NE

LOCATION.--Lat 40°03'13", long 95°25'19", in NW¼ NW¼ 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 recorder. Datum of gage is 837.23 ft above National Geodetic Vertical Datum of 1929. Oct. 1949 to Sept. 12, 1950, nonrecording gage at site 80 ft upstream and Sept. 13, 1950 to Apr. 19, 1983, recording gage on downstream end of middle pier, all at same datum.

REMARKS.--Records good, except those for estimated daily discharges, which are poor. Flow regulated by upstream main-stem reservoirs. Fort Randall Dam was completed in July 1952, with storage beginning in December 1952. Gavins Point Dam was completed in July 1955, with storage beginning in December 1955. 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34,900	37,000	24,700	20,500	20,600	16,900	32,500	38,700	38,600	46,200	31,700	27,800
2	36,200	36,500	24,000	20,600	19,600	18,200	32,500	48,800	38,100	45,100	31,800	27,400
3	37,900	36,100	22,700	20,500	19,400	20,900	32,600	44,600	38,300	44,000	31,600	27,200
4	38,300	35,700	21,500	20,400	20,200	22,100	32,300	43,100	37,700	43,100	31,300	27,400
5	40,900	35,000	21,500	20,700	20,600	22,100	32,400	45,000	37,500	42,100	31,100	28,600
6	41,200	34,500	21,400	21,300	20,700	22,100	32,900	60,200	37,600	41,300	30,900	30,300
7	39,000	34,400	19,900	21,300	20,700	21,500	33,400	60,700	37,500	44,500	30,900	31,500
8	37,800	34,300	18,900	21,200	20,600	19,600	33,900	51,700	37,400	51,700	31,200	31,900
9	37,400	34,400	19,900	20,700	22,200	17,900	34,200	58,300	38,200	48,300	31,100	32,100
10	37,700	34,100	20,600	20,700	22,700	19,700	33,600	53,200	42,800	44,400	30,500	32,400
11	37,300	33,900	20,500	21,100	21,700	21,400	33,400	49,100	42,300	46,300	30,400	32,800
12	37,000	33,900	20,300	20,800	21,400	20,000	33,700	48,100	52,200	54,500	30,600	34,500
13	37,100	33,900	20,800	19,000	20,000	18,900	34,000	47,100	62,800	53,000	30,400	37,600
14	36,500	33,500	21,000	16,900	19,200	22,500	34,500	47,200	47,700	46,200	30,100	38,500
15	36,200	33,400	20,900	16,700	19,900	26,500	35,000	47,400	42,100	43,400	29,200	37,700
16	36,400	33,500	20,700	18,300	21,100	29,700	35,100	47,400	40,000	41,700	27,900	36,400
17	36,400	33,500	20,700	18,000	22,900	31,700	34,600	46,800	38,500	39,800	26,500	35,000
18	36,400	32,800	21,000	16,600	23,400	27,700	34,200	45,800	37,800	38,500	25,900	34,200
19	36,100	32,500	21,200	16,000	22,300	24,800	35,000	45,000	38,300	36,800	26,600	34,000
20	36,600	33,000	21,000	16,000	22,600	26,400	35,000	47,100	38,300	35,900	29,700	33,300
21	36,800	33,000	21,100	16,400	23,100	29,900	34,800	45,900	37,300	35,100	29,200	33,200
22	36,500	33,000	21,500	17,700	24,900	32,200	35,000	44,900	36,100	34,400	29,200	33,500
23	36,900	33,300	21,300	19,000	32,800	32,000	e35,200	43,100	38,900	34,000	28,800	32,600
24	36,800	33,400	20,000	19,400	35,200	31,300	35,300	42,000	43,300	33,300	28,300	31,800
25	36,700	33,700	19,000	18,900	28,000	30,600	35,100	41,900	41,400	33,000	27,900	31,500
26	36,900	33,900	19,000	18,800	22,800	31,100	34,700	41,200	41,800	32,800	27,600	31,300
27	36,800	33,100	19,000	18,700	18,900	30,700	34,700	40,500	47,900	32,000	27,700	31,000
28	36,600	31,100	18,500	18,900	17,200	30,300	34,800	40,000	50,400	32,000	27,700	30,800
29	36,600	29,100	18,500	19,800	---	31,000	35,300	39,400	50,900	32,300	27,700	31,000
30	37,300	26,500	19,600	20,200	---	32,400	36,000	39,400	48,400	32,000	27,700	30,800
31	37,900	---	20,300	20,400	---	32,900	---	38,900	---	31,700	27,800	---
MEAN	37,200	33,530	20,680	19,210	22,310	25,650	34,190	46,210	42,000	40,300	29,320	32,270
MAX	41,200	37,000	24,700	21,300	35,200	32,900	36,000	60,700	62,800	54,500	31,800	38,500
MIN	34,900	26,500	18,500	16,000	17,200	16,900	32,300	38,700	36,100	31,700	25,900	27,200
IN.	0.10	0.09	0.06	0.05	0.06	0.07	0.09	0.13	0.11	0.11	0.08	0.09

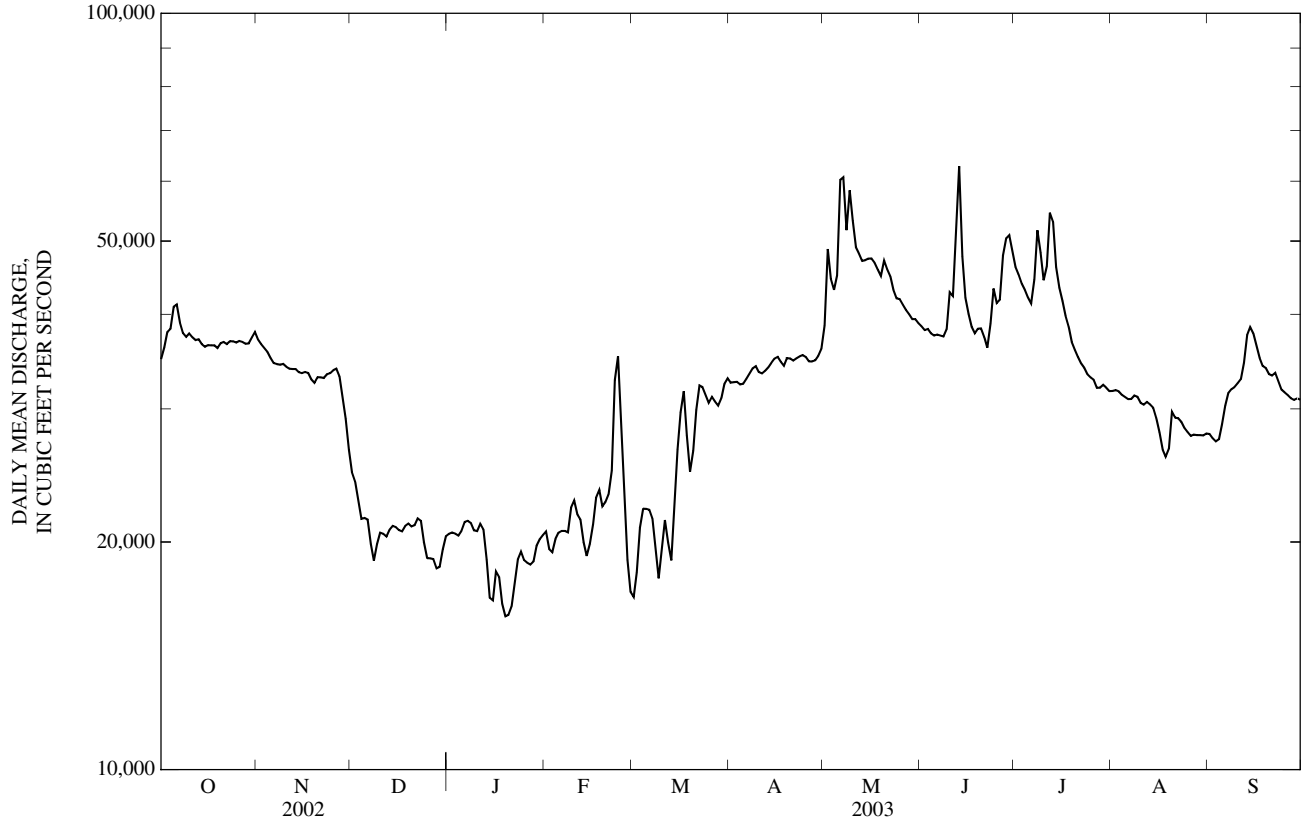
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2003[a], BY WATER YEAR (WY)

MEAN	44,640	40,950	27,220	22,800	28,470	40,890	51,040	51,790	56,420	50,520	44,590	44,810
MAX	80,050	83,880	57,380	42,280	53,140	79,590	106,100	97,280	130,600	164,800	78,730	76,410
(WY)	(1998)	(1998)	(1998)	(1973)	(1997)	(1979)	(1997)	(1997)	(1984)	(1993)	(1996)	(1997)
MIN	25,580	17,000	9,953	10,800	13,220	15,380	21,820	33,790	33,710	29,650	29,320	32,270
(WY)	(1962)	(1962)	(1956)	(1957)	(1957)	(1957)	(1957)	(1956)	(1956)	(2002)	(2003)	(2003)

06813500 MISSOURI RIVER AT RULO, NE—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1953 - 2003[a]	
ANNUAL MEAN	30,950		31,950		42,040	
HIGHEST ANNUAL MEAN					71,880	1997
LOWEST ANNUAL MEAN					26,340	1957
HIGHEST DAILY MEAN	51,500	Aug 24	62,800	Jun 13	289,000	Jul 24, 1993
LOWEST DAILY MEAN	18,500	Dec 28	16,000	Jan 19,20	4,420	Jan 13, 1957
ANNUAL SEVEN-DAY MINIMUM	19,100	Dec 24	16,900	Jan 15	5,560	Nov 30, 1955
MAXIMUM PEAK FLOW	---		77,700	Jun 13	307,000	Jul 24, 1993
MAXIMUM PEAK STAGE	---		16.57	Jun 13	25.37	Jul 24, 1993
INSTANTANEOUS LOW FLOW	---		15,800	Jan 20	---	
ANNUAL RUNOFF (INCHES)	1.01		1.05		1.38	
10 PERCENT EXCEEDS	37,100		44,400		66,500	
50 PERCENT EXCEEDS	33,100		32,800		38,500	
90 PERCENT EXCEEDS	21,400		19,900		19,000	

e Estimated.
[a] Post-regulation period



06815575 SQUAW CREEK NEAR MOUND CITY, MO

LOCATION.--Lat 40°09'21" long 95°15'52", in SE ¼ SW ¼ NE ¼ sec.26, T.62 N., R.39 W., Holt County, Hydrologic Unit 10240005, on right bank of downstream side of State Highway 59 bridge, 2.4 mi northwest of Mound City.

DRAINAGE AREA.--62.7 mi^2.

PERIOD OF RECORD.--October 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--Records fair except for September and estimated daily discharges, which are poor. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	3.7	7.8	8.1	e15	e3.8	2.7	4.2	2.3	6.5	3.0	2.6
2	2.5	3.4	3.4	5.7	e15	e4.0	2.9	4.0	5.5	6.4	2.8	1.4
3	3.7	3.8	4.5	8.3	e15	e4.5	2.9	3.7	5.5	5.6	2.6	0.97
4	6.7	3.6	5.0	4.7	e14	e5.0	4.3	3.8	3.9	5.3	2.1	0.81
5	3.2	3.7	6.5	3.4	e12	e4.5	3.5	3.5	3.5	4.9	2.2	0.71
6	2.0	3.9	7.9	3.3	e10	e4.0	3.5	3.7	8.3	4.5	1.9	0.68
7	1.7	3.8	5.4	7.1	e9.0	e4.0	4.8	4.0	4.9	4.3	1.8	0.60
8	1.9	3.6	6.1	4.0	e8.2	e4.0	3.9	17	4.1	4.1	1.7	e0.47
9	1.9	3.5	7.7	3.3	e8.2	e4.0	3.2	16	3.7	14	1.6	e0.47
10	1.8	3.3	5.7	7.7	e9.0	e4.0	3.1	41	48	82	1.6	e0.49
11	1.8	3.0	3.9	5.9	e11	e4.4	3.0	11	9.2	6.2	3.7	e2.5
12	2.2	3.4	3.9	5.1	e13	4.3	2.9	5.7	230	5.1	2.4	4.0
13	1.5	3.4	3.6	5.9	e14	4.3	2.8	5.2	129	4.8	1.7	2.4
14	2.5	3.7	4.4	6.1	e17	4.0	3.1	4.8	14	4.4	1.5	2.0
15	1.9	4.1	3.9	6.3	17	4.3	2.8	4.3	36	4.0	1.5	e1.8
16	2.1	3.8	3.4	e6.0	16	4.5	3.0	4.0	26	3.7	1.5	e2.1
17	3.9	3.7	3.4	e5.8	15	4.3	3.3	3.7	8.3	3.6	1.4	1.6
18	2.7	3.8	3.4	e5.5	13	3.8	3.1	3.9	7.7	3.4	1.0	1.0
19	2.3	3.5	3.1	e6.0	7.8	5.0	6.8	4.5	7.7	3.4	0.85	1.5
20	2.2	3.6	3.4	e8.0	5.9	8.6	10	8.9	6.6	3.4	0.75	e1.5
21	2.3	4.8	6.1	e8.0	4.2	4.9	5.8	5.0	6.1	3.2	0.70	1.4
22	2.1	3.6	5.4	e7.2	4.4	3.8	4.3	5.4	6.1	3.1	0.60	2.3
23	2.9	3.9	5.8	e6.2	e4.0	3.5	4.0	4.2	8.6	2.9	0.73	e1.5
24	5.2	3.6	5.6	e6.2	e3.6	3.2	7.1	4.4	7.0	2.8	0.64	e1.2
25	6.7	4.5	5.8	e6.2	e3.5	2.9	6.0	4.3	41	2.5	0.64	e0.75
26	3.9	3.7	6.0	e7.0	e3.5	2.9	5.0	4.0	38	2.3	0.62	e1.0
27	3.5	4.9	7.1	e8.0	e3.6	3.0	4.5	3.4	8.1	2.2	0.74	e0.75
28	3.7	6.4	7.6	e10	e3.8	2.7	4.3	3.3	7.3	2.6	0.75	e0.50
29	3.8	3.9	7.2	e12	---	2.6	4.8	3.2	39	2.4	1.4	e0.40
30	7.4	4.6	4.5	e13	---	2.6	5.2	3.0	7.8	2.3	0.89	e0.50
31	5.4	---	7.6	e15	---	2.6	---	2.6	---	2.4	2.0	---
MEAN	3.11	3.87	5.33	6.94	9.85	4.00	4.22	6.44	24.4	6.72	1.53	1.33
MAX	7.4	6.4	7.9	15	17	8.6	10	41	230	82	3.7	4.0
MIN	1.1	3.0	3.1	3.3	3.5	2.6	2.7	2.6	2.3	2.2	0.60	0.40
IN.	0.06	0.07	0.10	0.13	0.16	0.07	0.08	0.12	0.44	0.12	0.03	0.02

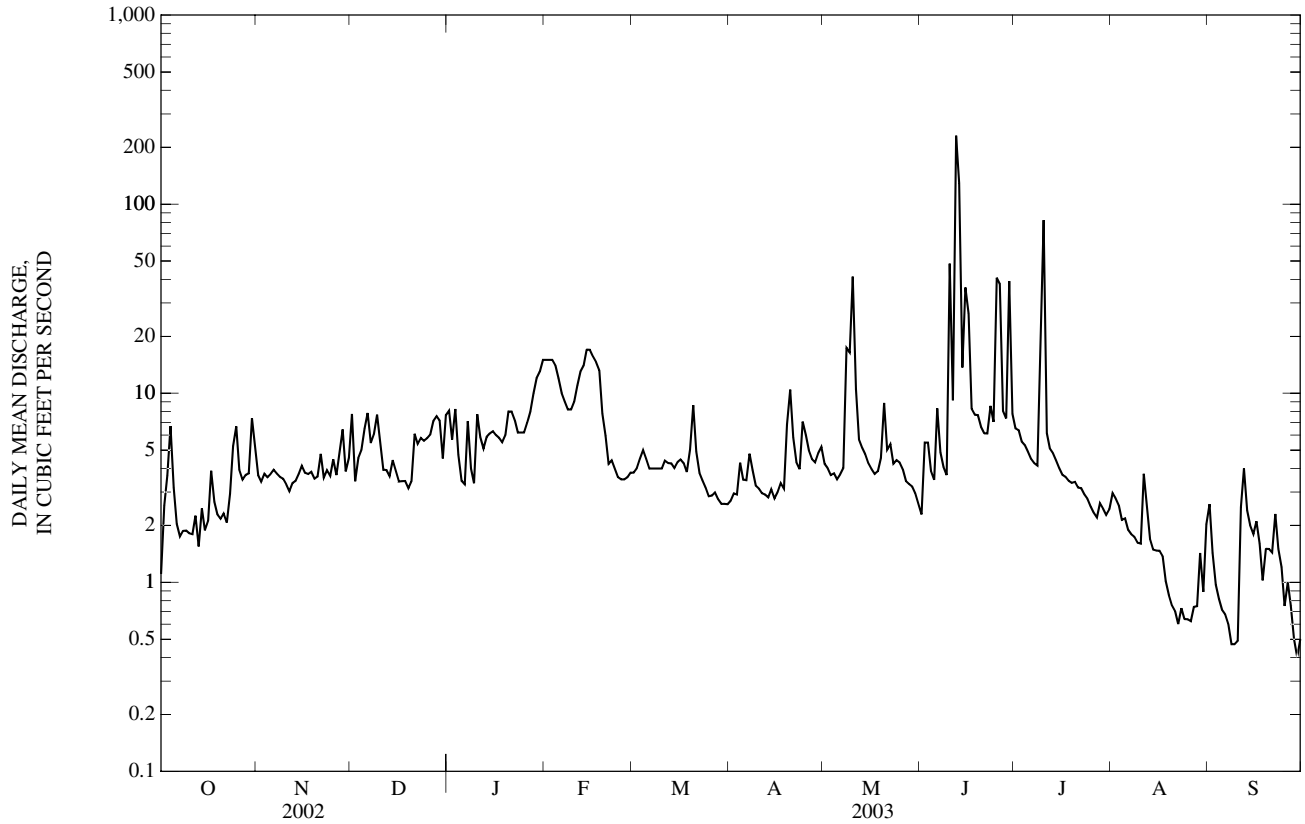
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

MEAN	8.70	8.31	6.67	8.15	34.5	25.0	18.4	27.1	52.5	18.7	7.04	8.70
MAX	20.0	15.1	12.0	9.46	81.4	62.0	37.7	37.8	119	40.5	15.5	23.1
(WY)	(2002)	(2002)	(2002)	(2002)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)
MIN	3.02	3.87	2.68	6.94	9.85	4.00	4.22	6.44	13.6	6.72	1.53	1.33
(WY)	(2001)	(2003)	(2001)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2003)	(2003)	(2003)

06815575 SQUAW CREEK NEAR MOUND CITY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL MEAN	10.1		6.43		18.5	
HIGHEST ANNUAL MEAN					36.0	2001
LOWEST ANNUAL MEAN					6.43	2003
HIGHEST DAILY MEAN	201	May 12	230	Jun 12	781	Feb 24, 2001
LOWEST DAILY MEAN	1.1	Oct 1	0.40	Sep 29	0.40	Sep 29, 2003
ANNUAL SEVEN-DAY MINIMUM	1.4	Sep 6	0.60	Sep 4	0.60	Sep 4, 2003
MAXIMUM PEAK FLOW	---		990	Jun 12	2,630	Jun 14, 2001
MAXIMUM PEAK STAGE	---		15.89	Jun 12	20.06	Jun 14, 2001
INSTANTANEOUS LOW FLOW	---		0.40[a]	Sep 7-11	0.40[a]	Sep 7-11, 2003
ANNUAL RUNOFF (INCHES)	2.19		1.39		4.00	
10 PERCENT EXCEEDS	18		9.0		39	
50 PERCENT EXCEEDS	8.1		3.9		8.6	
90 PERCENT EXCEEDS	2.1		1.5		2.2	

e Estimated
[a] Minimum recorded, may have been less during period of estimated record.



06817700 NODAWAY RIVER NEAR GRAHAM, MO

LOCATION.--Lat 40°12'08", long 95°04'07", in NE ¼ NE ¼ NE ¼ sec.9, T.62 N., R.37 W., Holt County, Hydrologic Unit 102400l0, 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.

REVISED RECORDS.--WDR MO-94-1: 1993 peak, September monthly and yearly mean discharge.

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

REMARKS.--Water-discharge records poor. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND , WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	88	47	41	63	e100	e80	207	299	250	79	e32
2	59	86	51	37	62	e110	e80	e2,000	294	221	80	e35
3	93	76	39	39	66	e90	e80	e1,200	287	203	77	32
4	180	70	36	49	73	e90	e80	e800	293	192	72	29
5	247	69	39	54	e55	e60	e70	e1,000	291	180	66	27
6	403	64	38	46	e58	e55	e70	3,850	311	171	61	26
7	200	59	52	44	e40	e65	e70	1,610	299	228	e55	25
8	148	58	49	42	e32	e60	e95	1,320	289	259	e55	25
9	105	e55	48	38	e37	e55	123	9,300	275	257	e52	26
10	84	e48	49	36	e38	e55	119	14,300	286	222	e50	26
11	66	e47	49	32	e35	e85	114	e5,000	276	335	e48	29
12	61	e45	47	41	e45	115	110	e2,000	688	356	e48	40
13	56	e51	49	38	e52	123	107	e1,500	655	249	e48	46
14	55	51	44	39	e60	203	115	e1,200	508	190	e55	51
15	49	51	42	38	62	226	103	e1,100	408	163	e52	54
16	47	56	42	e35	e62	219	95	e1,400	468	145	e47	47
17	45	52	44	e30	e80	319	106	988	410	134	e47	36
18	46	49	43	e25	e82	270	108	821	443	128	e42	31
19	47	49	41	e22	e78	215	119	736	358	121	e38	31
20	45	52	46	e35	e80	191	150	810	408	117	e38	34
21	42	52	49	e40	78	184	201	703	422	112	e37	40
22	45	48	41	e35	711	160	195	602	321	106	e37	39
23	44	48	43	e30	722	131	194	545	296	98	e32	39
24	47	47	35	e27	e500	115	188	512	285	94	e30	39
25	54	42	34	e28	e200	109	186	536	305	91	e30	36
26	75	40	34	e30	e160	e100	173	491	400	84	e28	37
27	97	38	38	e35	e130	e90	153	442	403	83	26	35
28	89	42	40	e40	e120	e90	145	402	500	91	27	34
29	81	43	40	e50	---	e90	134	362	350	141	27	e30
30	79	38	43	e45	---	e85	146	342	288	96	26	e30
31	78	---	38	e52	---	e85	---	341	---	82	e30	---
MEAN	90.9	53.8	42.9	37.8	135	127	124	1,820	371	168	46.5	34.7
MAX	403	88	52	54	722	319	201	14,300	688	356	80	54
MIN	42	38	34	22	32	55	70	207	275	82	26	25
IN.	0.08	0.04	0.04	0.03	0.10	0.11	0.10	1.52	0.30	0.14	0.04	0.03

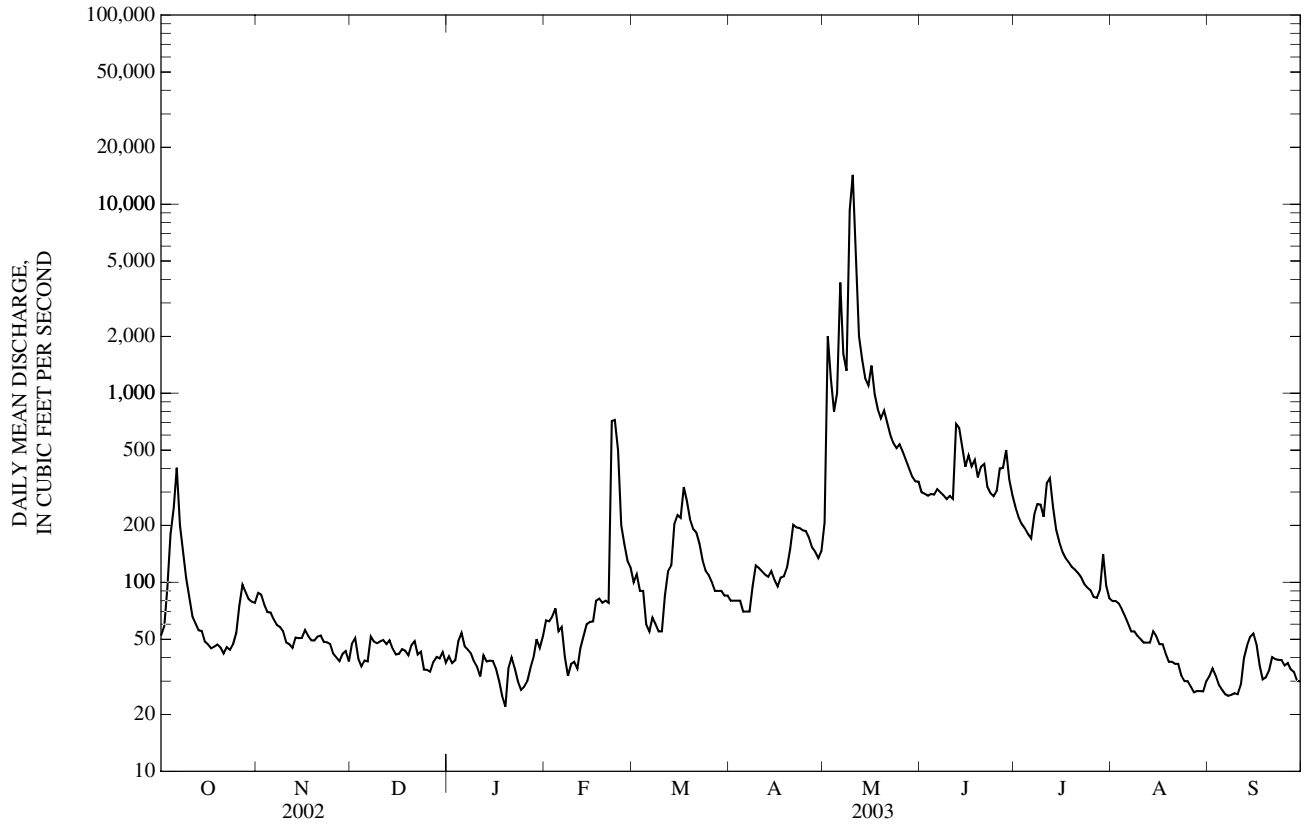
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2003, BY WATER YEAR (WY)

MEAN	379	452	470	328	723	1,023	1,405	1,936	1,678	1,460	514	618
MAX	2,313	1,735	2,026	1,199	1,839	3,155	3,614	4,606	4,936	12,460	2,758	3,364
(WY)	(1987)	(1993)	(1993)	(1983)	(1983)	(1998)	(1984)	(1995)	(1984)	(1993)	(1987)	(1993)
MIN	46.2	53.8	42.9	37.8	82.2	127	58.8	48.6	68.5	75.1	46.2	34.7
(WY)	(2001)	(2003)	(2003)	(2003)	(1989)	(2003)	(1989)	(1989)	(1988)	(1988)	(1988)	(2003)

06817700 NODAWAY RIVER NEAR GRAHAM, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1983 - 2003	
ANNUAL MEAN	181		256		898	
HIGHEST ANNUAL MEAN					2,870	1993
LOWEST ANNUAL MEAN					186	2000
HIGHEST DAILY MEAN	4,640	May 12	14,300	May 10	52,000	Jul 23, 1993
LOWEST DAILY MEAN	23	Sep 6,7	22	Jan 19	22	Jan 19, 2003
ANNUAL SEVEN-DAY MINIMUM	27	Sep 5	26	Sep 4	26	Sep 4, 2003
MAXIMUM PEAK FLOW	---		19,300	May 9	78,300	Jul 23, 1993
MAXIMUM PEAK STAGE	---		15.68	May 9	26.16	Jul 23, 1993
INSTANTANEOUS LOW FLOW	---		20	Jan 2	20	Sep 7, 2002 Jan 2, 2003
ANNUAL RUNOFF (INCHES)	1.78		2.52		8.84	
10 PERCENT EXCEEDS	354		415		2,120	
50 PERCENT EXCEEDS	100		69		326	
90 PERCENT EXCEEDS	42		35		63	

e Estimated



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 Nodaway River near Oregon (06817800).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
13...	1155	Environmental	51	14.6	124	8.6	416	7.0	190	53.1	14.9	3.73
MAR												
04...	1130	Environmental	e90	12.1	87	8.2	356	0.5	--	--	--	--
APR												
08...	1300	Environmental	96	13.8	110	8.6	382	5.0	--	--	--	--
MAY												
29...	1135	Environmental	360	13.7	164	9.2	384	22.5	200	55.4	14.2	2.78
JUN												
18...	1145	Environmental	501	7.2	93	8.4	381	26.5	--	--	--	--
JUL												
24...	1045	Environmental	94	9.9	122	9.2	281	24.5	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
13...	11.9	170	171	197	5	12.7	0.3	35.6	242	10	0.35	<0.04	0.09
MAR													
04...	--	131	129	158	<1	--	--	--	--	27	2.0	0.61	1.71
APR													
08...	--	154	154	176	6	--	--	--	--	17	0.68	<0.04	<0.06
MAY													
29...	9.58	145	143	126	24	10.7	0.3	25.3	247	124	1.5	<0.04	5.42
JUN													
18...	--	137	135	155	5	--	--	--	--	290	2.0	<0.04	6.86
JUL													
24...	--	99	99	94	13	--	--	--	--	94	0.82	<0.04	<0.30

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
13...	<0.008	0.04	0.04	0.10	7k	7k	33k	<2	136	1.6	E.03	<0.2	<6
MAR													
04...	0.037	0.17	0.23	0.33	10k	52	73	--	--	--	--	--	--
APR													
08...	<0.008	0.04	0.05	0.14	5k	14k	47k	--	--	--	--	--	--
MAY													
29...	0.031	0.10	0.09	0.31	100k	120k	120k	4	667	3.6	<0.04	<0.2	<7
JUN													
18...	0.027	0.18	0.21	0.74	<4b	1,800	310	--	--	--	--	--	--
JUL													
24...	<0.008	0.04	0.02	0.24	3k	190	70k	--	--	--	--	--	--

06817700 NODAWAY RIVER NEAR GRAHAM, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
13...	13	<0.08	<1	135	<0.02	0.9	7	3
MAR								
04...	--	--	--	--	--	--	--	--
APR								
08...	--	--	--	--	--	--	--	--
MAY								
29...	<8	<0.08	1	0.5	<0.02	2.0	<1	4
JUN								
18...	--	--	--	--	--	--	--	--
JUL								
24...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
e -- Estimated discharge
E -- Estimated value

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range

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.--420,100 mi^2. The 3,959 mi^2 in Great Divide basin are not included.

WATER-DISCHARGE RECORDS

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

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 397,000 ft^3/s, Apr. 22, 1952; maximum gage-height, 32.07 ft; July 26, 1993; minimum discharge, 2,300 ft^3/s, Jan. 9, 1937.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 29, 1881, reached a stage of 27.2 ft, present datum, discharge, about 370,000 ft^3/s, computed by the 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 the U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35,800	38,300	25,800	20,300	20,700	17,900	33,400	37,400	40,300	49,400	33,800	28,400
2	37,500	37,100	24,500	20,400	20,600	18,000	32,900	47,000	40,100	47,900	33,900	28,000
3	39,400	36,700	23,800	20,400	20,000	19,600	33,000	51,100	39,700	46,700	34,100	27,600
4	40,400	36,300	22,400	20,300	20,100	21,700	33,100	46,300	39,700	45,400	33,800	27,400
5	41,600	35,600	21,600	20,500	20,800	22,600	32,800	44,200	39,300	44,200	33,700	27,800
6	44,300	34,900	21,900	20,900	21,000	22,300	33,000	58,600	39,400	42,900	33,300	29,300
7	42,000	34,600	21,400	21,300	21,100	22,300	33,600	68,900	39,800	43,400	33,200	31,000
8	39,700	34,700	20,100	21,300	20,900	21,700	34,200	58,300	39,200	50,900	33,300	31,900
9	38,700	34,700	19,800	21,200	21,200	19,900	35,000	63,000	39,700	54,100	33,600	32,200
10	38,700	34,900	20,700	20,900	22,700	19,000	34,500	67,000	45,600	49,100	33,200	32,500
11	38,700	34,700	21,100	20,900	22,600	20,900	33,900	58,300	48,300	46,600	32,900	33,100
12	38,000	34,600	21,000	21,300	21,800	21,800	33,800	53,700	47,800	54,200	32,800	34,000
13	38,100	34,700	21,000	20,700	21,200	20,500	34,100	51,700	72,300	59,100	33,000	36,700
14	37,800	34,700	21,500	19,200	20,100	20,600	34,300	50,100	56,500	51,800	32,600	39,400
15	37,400	34,400	21,600	17,700	19,800	24,500	34,900	50,200	48,800	46,400	31,900	39,200
16	37,500	34,600	21,500	18,100	20,500	28,700	35,300	50,500	45,100	44,200	30,500	37,900
17	37,700	34,400	21,300	19,100	21,500	32,200	35,500	50,000	43,400	42,200	28,800	36,200
18	37,800	34,300	21,400	18,500	23,100	32,200	34,500	48,700	41,800	40,800	27,300	35,000
19	37,600	33,600	21,700	17,600	23,000	27,500	35,400	47,500	41,600	39,300	26,800	34,400
20	37,400	34,000	21,800	17,100	22,200	26,500	36,400	49,300	42,100	37,900	28,100	33,800
21	37,900	34,500	21,400	17,200	22,500	29,200	36,300	49,900	41,700	37,200	30,700	33,500
22	37,600	34,100	21,600	17,900	23,200	32,800	36,500	48,600	40,100	36,500	29,700	33,700
23	37,700	33,900	21,900	18,900	26,900	34,200	36,500	45,400	39,900	36,000	29,400	34,000
24	38,100	34,100	21,400	19,700	36,200	33,300	36,700	44,000	48,600	35,700	29,000	32,800
25	38,200	33,800	20,100	19,800	32,800	32,500	37,200	43,300	45,600	35,100	28,600	32,400
26	38,100	34,400	19,400	19,400	25,900	32,100	36,500	43,100	43,600	35,100	28,300	32,000
27	38,000	34,000	19,500	19,300	21,200	32,300	35,700	42,100	47,000	34,600	28,100	31,700
28	37,600	32,300	19,200	19,100	18,800	31,800	36,300	41,700	52,000	34,000	28,200	31,400
29	37,200	30,400	18,900	19,500	---	31,700	36,200	41,000	53,800	34,300	28,200	31,300
30	37,600	28,100	19,200	20,200	---	32,600	36,500	41,000	52,200	34,400	28,100	31,300
31	38,300	---	20,000	20,400	---	33,600	---	40,800	---	33,900	28,900	---
MEAN	38,460	34,380	21,240	19,650	22,590	26,340	34,930	49,440	45,170	42,690	30,900	32,660
MAX	44,300	38,300	25,800	21,300	36,200	34,200	37,200	68,900	72,300	59,100	34,100	39,400
MIN	35,800	28,100	18,900	17,100	18,800	17,900	32,800	37,400	39,200	33,900	26,800	27,400
IN.	0.11	0.09	0.06	0.05	0.06	0.07	0.09	0.14	0.12	0.12	0.08	0.09

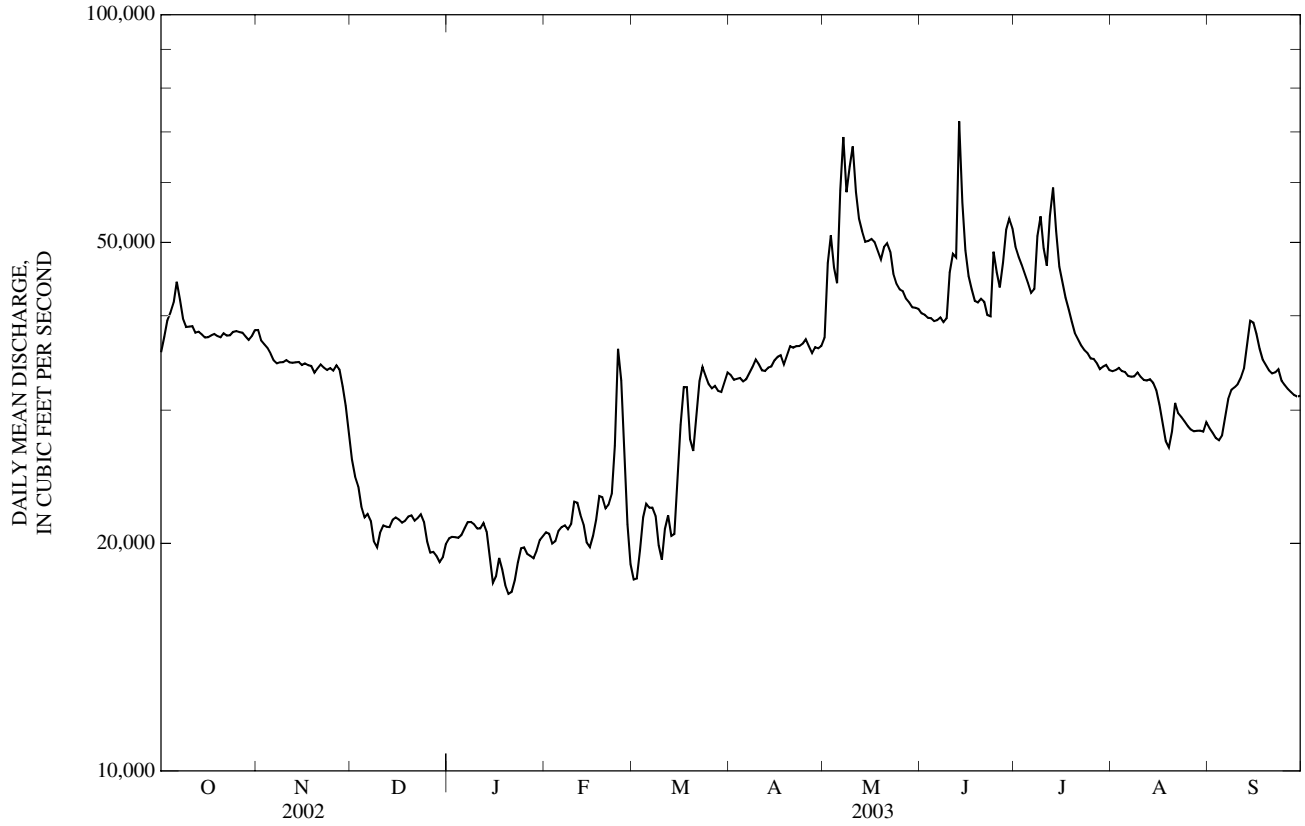
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003[a], BY WATER YEAR (WY)

MEAN	48,090	45,100	30,770	25,530	32,020	45,520	56,490	58,280	61,690	56,430	48,210	48,780
MAX	87,650	85,040	61,820	45,740	60,570	96,800	113,600	106,600	144,700	195,400	83,050	79,160
(WY)	(1987)	(1998)	(1987)	(1973)	(1983)	(1979)	(1984)	(1997)	(1984)	(1993)	(1996)	(1997)
MIN	30,290	18,510	11,560	12,210	15,790	19,490	32,920	36,390	35,620	31,450	30,900	32,660
(WY)	(1962)	(1991)	(1964)	(1959)	(1964)	(1964)	(1990)	(1958)	(1958)	(2002)	(2003)	(2003)

06818000 MISSOURI RIVER AT ST. JOSEPH, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1958 - 2003[a]	
ANNUAL MEAN	31,780		33,250		46,450	
HIGHEST ANNUAL MEAN					76,050	1997
LOWEST ANNUAL MEAN					30,960	1963
HIGHEST DAILY MEAN	56,500	Jun 14	72,300	Jun 13	328,000	Jul 26, 1993
LOWEST DAILY MEAN	18,900	Dec 29	17,100	Jan 20	4,000	Jan 17, 1963
ANNUAL SEVEN-DAY MINIMUM	19,500	Dec 25	17,900	Jan 15	5,030	Dec 15, 1963
MAXIMUM PEAK FLOW	---		80,000	Jun 13	335,000	Jul 26, 1993
MAXIMUM PEAK STAGE	---		16.06	Jun 13	32.07	Jul 26, 1993
INSTANTANEOUS LOW FLOW	---		17,100	Jan 20,21	4,000	Jan 17, 1963
ANNUAL RUNOFF (INCHES)	1.03		1.07		1.50	
10 PERCENT EXCEEDS	38,600		47,000		72,500	
50 PERCENT EXCEEDS	33,600		33,900		41,700	
90 PERCENT EXCEEDS	21,600		20,300		22,000	

[a] Post-regulation period.



06818000 MISSOURI RIVER AT ST. JOSEPH, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: May 1984 to December 1984, July 1985 to September 1985, April 1986 to September 1986.
DISSOLVED OXYGEN: May 1984 to November 1984, July 1985 to 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.--National Stream-Quality Accounting Network station October 1974 to September 1986. Ambient Water-Quality Monitoring Network station October 1969 to July 1992, November 1992 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
23...	1050	Environmental	37,600	9.7	92	8.6	759	12.0	--	--	--	--
NOV												
12...	1115	Environmental	34,700	11.3	98	8.4	745	8.0	240	58.3	22.7	5.10
DEC												
11...	1045	Environmental	21,100	12.6	98	8.4	796	3.5	--	--	--	--
JAN												
08...	1050	Environmental	21,400	13.2	103	8.3	737	3.5	260	68.0	22.6	5.58
FEB												
13...	1030	Environmental	21,300	13.5	99	8.4	799	1.5	--	--	--	--
13...	1031	Replicate	--	--	--	--	--	--	--	--	--	--
MAR												
06...	1130	Environmental	22,200	12.9	94	8.4	739	1.0	--	--	--	--
APR												
09...	1100	Environmental	35,100	10.8	91	8.5	753	7.0	--	--	--	--
MAY												
28...	1045	Environmental	41,600	8.5	97	8.4	730	20.5	280	72.5	25.1	6.26
JUN												
17...	1130	Environmental	43,500	6.7	84	8.1	687	25.0	--	--	--	--
JUL												
22...	1100	Environmental	36,600	6.2	83	8.3	778	28.5	--	--	--	--
AUG												
20...	1035	Environmental	27,300	7.6	99	8.5	795	29.0	260	64.3	25.0	6.20
SEP												
24...	1110	Environmental	32,700	8.7	97	8.5	719	19.0	--	--	--	--

06818000 MISSOURI RIVER AT ST. JOSEPH, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicar-bonate, wat unf incrm. titr., field, mg/L (00450)	Carbon-ate, wat unf incrm. titr., field, mg/L (00447)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
23...	--	179	180	206	6	--	--	--	--	55	0.64	<0.04	0.46
NOV													
12...	69.2	193	194	223	7	19.0	0.5	178	491	32	0.47	<0.04	0.80
DEC													
11...	--	215	213	256	2	--	--	--	--	38	0.60	0.12	0.92
JAN													
08...	63.5	205	206	251	<1	25.0	0.41	150	488	52	0.56	E.03	1.10
FEB													
13...	--	211	209	250	2	--	--	--	--	26	0.53	0.06	0.99
13...	--	--	--	--	--	--	--	--	--	27	0.52	0.05	0.97
MAR													
06...	--	194	193	231	2	--	--	--	--	52	0.85	0.13	1.15
APR													
09...	--	181	180	214	3	--	--	--	--	75	0.81	<0.04	0.80
MAY													
28...	55.3	197	196	233	3	18.5	0.4	149	438	172	1.3	<0.04	1.94
JUN													
17...	--	185	186	226	<1	--	--	--	--	360	1.3	<0.04	1.89
JUL													
22...	--	194	195	228	5	--	--	--	--	140	0.91	<0.04	1.98
AUG													
20...	69.2	180	180	212	4	22.5	0.6	191	521	61	1.1	<0.04	0.17
SEP													
24...	--	167	166	200	1	--	--	--	--	129	1.1	<0.04	0.24

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
23...	0.013	0.03	E.02	0.14	38ki	440	45k	--	--	--	--	--	--
NOV													
12...	E.007	0.05	0.05	0.15	150k	200	38k	<2	468	2.7	E.02	<0.2	<6
DEC													
11...	0.008	0.06	0.05	0.14	410	440k	83	--	--	--	--	--	--
JAN													
08...	0.008	0.07	0.07	0.15	50ki	700k	150	<2	694	2.9	E.02	<0.2	<6
FEB													
13...	0.010	0.07	0.07	0.14	38k	18k	40k	--	--	--	--	--	--
13...	0.009	0.07	0.07	0.15	--	--	--	--	--	--	--	--	--
MAR													
06...	0.015	0.10	0.12	0.20	40k	150	140	--	--	--	--	--	--
APR													
09...	0.011	0.07	0.08	0.20	3ki	830ki	110	--	--	--	--	--	--
MAY													
28...	0.008	0.08	0.10	0.32	43k	88k	71k	3	1,840	3.6	E.03	<0.2	<7
JUN													
17...	0.022	0.08	0.11	0.45	20ki	640	500	--	--	--	--	--	--
JUL													
22...	0.011	0.11	0.08	0.31	3k	23k	15k	--	--	--	--	--	--
AUG													
20...	E.006n	0.03	0.04	0.16	20k	53k	50	6	732	3.2	E.03n	0.10	8.6
SEP													
24...	<0.008	0.05	0.06	0.27	2ki	220	78	--	--	--	--	--	--

06818000 MISSOURI RIVER AT ST. JOSEPH, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT								
23...	--	--	--	--	--	--	--	--
NOV								
12...	<10	<0.08	1	E2.0b	<0.02	2.5	M	5
DEC								
11...	--	--	--	--	--	--	--	--
JAN								
08...	<10	E.04	1	3.6	<0.02	2.8	1	5
FEB								
13...	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--
MAR								
06...	--	--	--	--	--	--	--	--
APR								
09...	--	--	--	--	--	--	--	--
MAY								
28...	<8	<0.08	3	E.4	<0.02	3.1	1	13
JUN								
17...	--	--	--	--	--	--	--	--
JUL								
22...	--	--	--	--	--	--	--	--
AUG								
20...	E7n	E.05n	2	1.4	<0.02	2.1	1	8
SEP								
24...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range
i -- Result may be affected by interference
n -- Below the LRL and above the LT-MDL

06819500 ONE HUNDRED AND TWO RIVER AT MARYVILLE, MO

LOCATION.--Lat 40°20'45", long 94°49'56", in SW ¼ SW ¼ sec.15, T.64 N., R.35 W., Nodaway County, Hydrologic Unit 10240013, on right bank 150 ft upstream from bridge on U.S. Highway 136, 0.3 mi downstream from Thill Branch, 1 mi east of Maryville, and at mile 64.0.

DRAINAGE AREA.--515 mi^2.

PERIOD OF RECORD.--October 1932 to September 1990, March 22, 2001 to current year. April to June 1934 monthly discharge only published in WSP 1310. June 1934 to September 1971 published as "near Maryville".

GAGE.--Water-stage recorder. Datum of gage is 954.65 ft above National Geodetic Vertical Datum of 1929. Nonrecording gage prior to Sept. 15, 1958. Prior to June 20, 1934, at site 20 ft upstream and datum 10 ft higher. June 20, 1934 to July 19, 1971, at site 3 mi upstream at datum 15.68 ft higher. July 20, 1971 to September 1990, at site 20 ft upstream and datum 10 ft higher.

REMARKS.--Records good except for estimated daily discharges which are fair, and the month of September, which is poor. Some regulation at low flow by City Waterworks. U.S.G.S. satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of September 16, 1926 reached a stage of 25 ft, present datum from floodmark; discharge, 14,500 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND , WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	18	6.3	5.8	5.5	19	12	81	48	30	7.1	6.2
2	10	18	9.5	6.4	6.9	16	11	65	51	26	6.9	4.4
3	15	16	7.1	5.5	8.3	17	10	54	54	24	5.8	3.5
4	30	14	7.2	8.2	6.9	13	16	345	56	22	4.9	2.2
5	32	15	6.1	9.7	6.6	12	11	1,110	53	19	4.6	3.9
6	28	12	6.1	7.5	6.1	e13	13	395	93	18	4.5	5.5
7	15	11	7.2	5.7	4.7	e12	15	230	73	17	5.0	7.0
8	10	11	6.0	8.8	4.3	e12	16	304	66	21	4.8	6.7
9	8.5	10	5.6	8.9	4.4	12	22	1,670	54	40	4.4	6.3
10	6.6	10	7.1	4.4	4.4	12	24	819	57	57	4.9	5.1
11	5.2	8.9	9.8	4.1	4.5	15	24	422	68	18	6.4	6.9
12	5.2	8.5	9.0	5.1	4.6	19	23	250	80	15	4.9	10
13	4.4	8.1	8.4	5.6	5.1	21	20	190	137	12	5.9	9.8
14	4.0	9.4	6.6	5.8	7.1	21	17	182	84	11	6.4	8.9
15	4.1	9.2	8.0	5.0	7.7	26	15	232	54	9.4	5.5	9.5
16	4.4	8.5	9.3	4.3	5.8	28	19	251	91	8.1	4.7	9.9
17	6.2	8.4	8.9	3.5	6.1	34	16	174	74	7.7	3.7	9.3
18	5.5	8.7	9.4	3.3	7.0	29	16	142	53	7.6	3.1	11
19	5.4	7.2	8.3	3.3	26	30	30	132	46	6.7	2.6	14
20	4.8	7.7	7.2	3.7	50	27	41	146	41	6.6	2.4	12
21	5.1	7.9	5.7	3.9	154	31	133	132	36	6.4	2.4	12
22	4.9	7.2	5.3	3.8	115	40	90	110	32	5.6	2.2	13
23	5.4	7.8	5.4	e3.6	e57	32	62	98	35	5.3	2.6	15
24	11	7.6	6.2	3.6	e40	25	59	101	37	5.0	3.3	12
25	13	6.0	5.0	3.7	e33	19	67	99	43	5.9	3.3	8.5
26	13	8.3	4.5	3.6	e27	16	69	87	76	6.6	4.6	8.7
27	19	6.2	5.4	3.4	23	15	59	74	80	7.1	5.5	9.7
28	19	7.0	6.1	3.3	20	15	49	66	56	32	5.8	9.1
29	14	9.3	7.0	3.4	---	14	44	61	44	33	4.8	9.1
30	17	7.2	9.4	3.5	---	13	58	64	36	12	3.0	10
31	15	---	5.8	4.8	---	13	---	56	---	8.3	4.8	---
MEAN	11.1	9.80	7.06	5.01	23.2	20.0	35.4	263	60.3	16.2	4.54	8.64
MAX	32	18	9.8	9.7	154	40	133	1,670	137	57	7.1	15
MIN	3.3	6.0	4.5	3.3	4.3	12	10	54	32	5.0	2.2	2.2
IN.	0.02	0.02	0.02	0.01	0.05	0.04	0.08	0.59	0.13	0.04	0.01	0.02

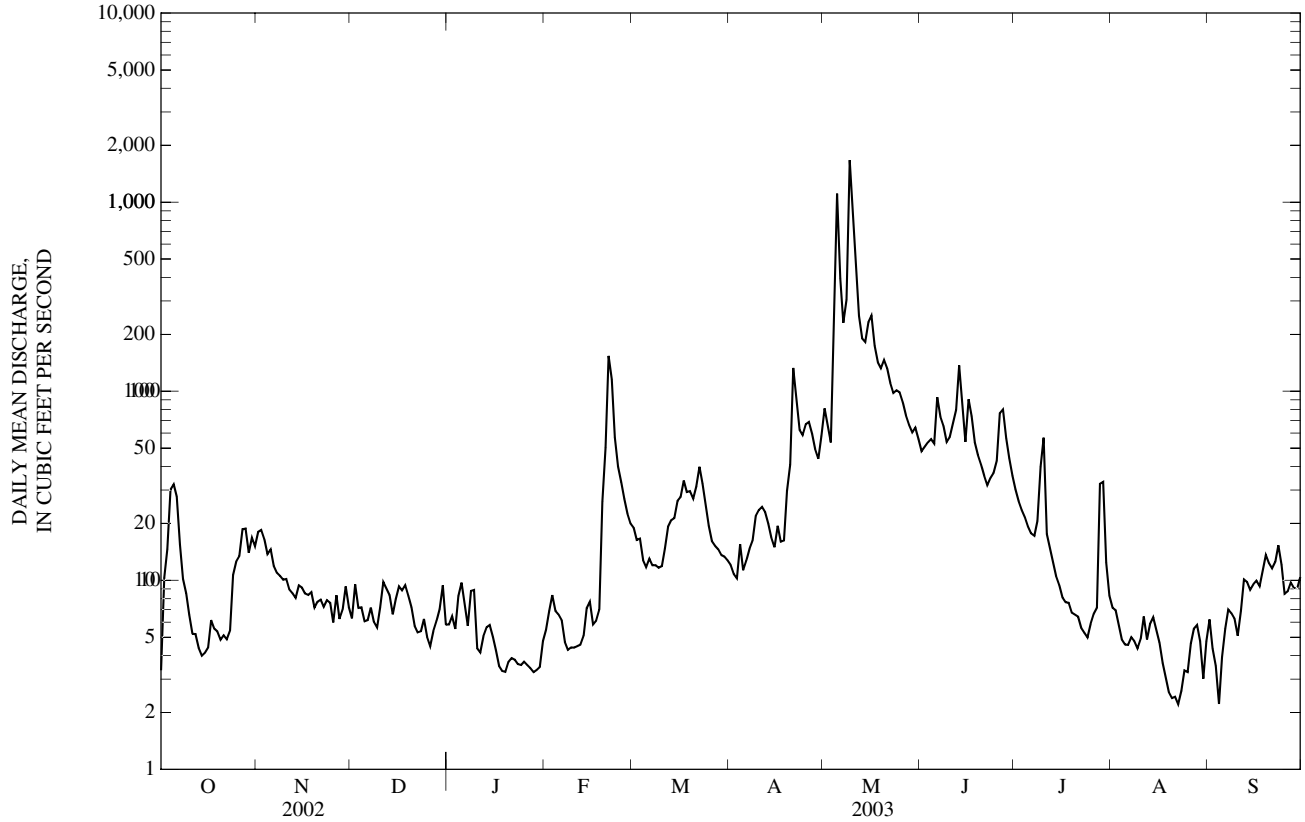
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	144	114	79.8	99.1	227	406	330	413	472	212	128	161
MAX	1,897	945	818	1,186	1,240	1,874	1,655	2,242	3,187	1,452	992	1,312
(WY)	(1974)	(1942)	(1983)	(1960)	(1973)	(1979)	(1984)	(1982)	(1947)	(1986)	(1982)	(1977)
MIN	0.05	0.59	1.12	0.11	2.09	3.42	0.74	0.11	5.18	0.50	0.18	0.03
(WY)	(1989)	(1989)	(1989)	(1977)	(1989)	(1954)	(1956)	(1989)	(1988)	(1989)	(1988)	(1988)

06819500 ONE HUNDRED AND TWO RIVER AT MARYVILLE, MO--Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	47.4		38.9		231	
HIGHEST ANNUAL MEAN					658	1982
LOWEST ANNUAL MEAN					18.6	1934
HIGHEST DAILY MEAN	2,250	May 12	1,670	May 9	25,500	Oct 12, 1973
LOWEST DAILY MEAN	2.6	Sep 9	2.2	Aug 22,Sep 4	0.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	2.7	Sep 6	2.7	Aug 18	0.00	1977,1988
MAXIMUM PEAK FLOW	---		2,100	May 9	28,000	Oct 12, 1973
MAXIMUM PEAK STAGE	---		9.40	May 9	19.25[a]	Oct 12, 1973
INSTANTANEOUS LOW FLOW	---		1.2	Sep 5	0.00	Several Years
ANNUAL RUNOFF (INCHES)	1.25		1.03		6.10	
10 PERCENT EXCEEDS	81		74		460	
50 PERCENT EXCEEDS	14		10		29	
90 PERCENT EXCEEDS	4.9		4.4		2.6	

e Estimated
[a] Former Datum.



06820500 PLATTE RIVER NEAR AGENCY, MO

LOCATION.--Lat 39°41'20", long 94°42'15", in NE 1/4 NW 1/4 sec.10, T.56 N., R.34 W., Buchanan County, Hydrologic Unit 10240012, on left bank 10 ft downstream from bridge of U.S. Highway 169, 1.5 mi downstream from Third Fork, 3.5 mi northeast of Agency, and at mile 66.8.

DRAINAGE AREA.--1,760 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 807.38 ft above National Geodetic Vertical Datum of 1929. May 22, 1924, to Aug. 9, 1930, nonrecording gage at site 4 mi downstream at different datum; May 13, 1932, to Nov. 14, 1965, nonrecording gage at same site and datum; Nov. 15, 1965, to Oct. 25, 1989, water-stage recorder at site 150 ft upstream at present datum.

REMARKS.--Records fair except for estimated daily discharges and the period July through September, which are poor. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND , WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	86	33	32	e40	e85	42	266	160	279	48	119
2	30	82	40	30	40	e78	40	186	180	209	e51	87
3	38	76	30	30	40	e72	40	195	177	177	e45	64
4	48	68	36	29	41	e68	52	187	176	148	e40	42
5	54	73	33	31	e40	59	43	192	161	123	34	32
6	70	69	36	29	e37	e55	53	787	314	105	30	23
7	101	65	37	31	e36	e58	63	1,040	473	96	25	17
8	91	61	33	33	e36	e59	52	615	304	e90	23	15
9	86	57	37	29	e37	e58	46	1,190	231	e96	21	14
10	69	54	37	28	36	e58	45	2,520	744	1,520	22	11
11	60	49	38	29	e38	60	45	1,510	454	1,100	47	26
12	52	47	35	34	e38	60	48	1,150	696	342	40	47
13	47	46	40	30	e39	70	56	691	1,380	183	33	106
14	43	45	36	26	45	61	58	525	476	133	29	102
15	41	47	37	27	46	61	55	439	379	119	28	77
16	39	43	37	e24	55	62	55	423	293	104	24	59
17	44	42	37	e21	48	62	56	485	242	95	21	44
18	41	41	37	e21	42	69	47	429	250	80	17	51
19	38	40	34	e21	45	87	162	366	269	71	15	66
20	38	39	33	e20	41	119	407	358	218	65	14	54
21	38	37	32	e20	42	105	231	358	182	59	12	e45
22	38	37	33	e19	51	94	162	326	175	55	10	e39
23	39	37	34	e19	209	82	265	291	177	53	8.0	e35
24	57	37	30	e16	194	81	428	287	167	47	e6.8	29
25	88	34	32	e17	e170	86	306	282	165	44	e6.5	e23
26	66	36	35	e17	e190	73	216	269	958	42	e5.8	e16
27	65	32	28	e20	e150	62	174	241	545	38	e6.8	e17
28	70	34	30	e22	e110	55	474	217	683	e34	e6.8	e16
29	67	39	32	e30	---	50	261	194	492	e31	e7.6	16
30	94	31	36	e35	---	47	200	177	486	e30	e10	e21
31	99	---	33	e38	---	45	---	162	---	e34	175	---
MEAN	57.3	49.5	34.5	26.1	69.1	69.1	139	528	387	181	27.8	43.8
MAX	101	86	40	38	209	119	474	2,520	1,380	1,520	175	119
MIN	25	31	28	16	36	45	40	162	160	30	5.8	11
IN.	0.04	0.03	0.02	0.02	0.04	0.05	0.09	0.35	0.25	0.12	0.02	0.03

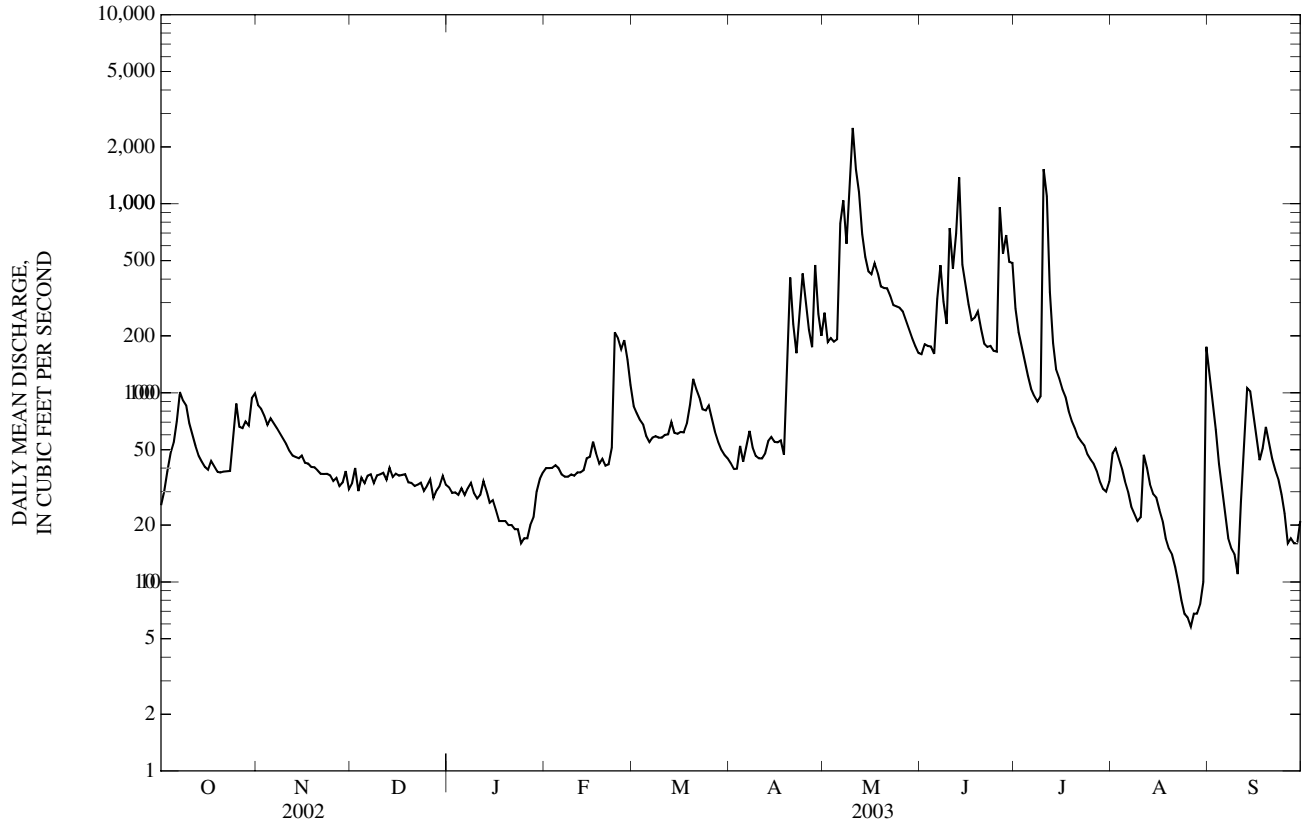
STATISTICS OF MONTHLY MEAN DATAFOR PERIOD OF RECORD , BY WATER YEAR (WY)

MEAN	637	549	370	371	832	1,343	1,491	1,652	1,994	1,167	441	867
MAX	8,584	4,620	3,248	3,714	4,912	6,345	6,835	10,020	13,640	21,280	2,935	7,853
(WY)	(1974)	(1962)	(1983)	(1974)	(1973)	(1979)	(1973)	(1995)	(1947)	(1993)	(1987)	(1926)
MIN	0.02	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)

06820500 PLATTE RIVER NEAR AGENCY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	272		135		976	
HIGHEST ANNUAL MEAN					4,108	1993
LOWEST ANNUAL MEAN					67.4	1934
HIGHEST DAILY MEAN	12,300	May 12	2,520	May 10	57,500	Jul 25, 1993
LOWEST DAILY MEAN	17	Sep 12,13	5.8	Aug 26	0.00	At Times
ANNUAL SEVEN-DAY MINIMUM	18	Sep 9	6.9	Aug 23	0.00	At Times
MAXIMUM PEAK FLOW	---		3,130	Jul 10	60,800	Jul 25, 1993
MAXIMUM PEAK STAGE	---		13.38	Jul 10	36.07	Jul 25, 1993
INSTANTANEOUS LOW FLOW	---		5.5	Aug 26,27	0.00	At Times
ANNUAL RUNOFF (INCHES)	2.09		1.04		7.53	
10 PERCENT EXCEEDS	465		309		2,100	
50 PERCENT EXCEEDS	110		48		194	
90 PERCENT EXCEEDS	32		22		24	

e Estimated



06821080 LITTLE PLATTE RIVER NEAR PLATTSBURG, MO

LOCATION.--Lat 39°34'04", long 94°24'24", in SE ¼ NW ¼ sec.20, T.55 N., R.31 W., Clinton County, Hydrologic Unit 10240012, on U.S. Highway 116 bridge, 0.4 mi east of the junction with U.S. Highway 33, and 2.5 mi east of Plattsburg.

DRAINAGE AREA.--65.4 mi^2.

PERIOD OF RECORD.--Oct. 1, 1999 to Sept. 30, 2000, Oct. 1, 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage unknown.

REMARKS.--Records fair except for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.05	0.05	0.46	e0.00	0.19	11	0.20	0.05	0.00	1.4
2	0.00	0.00	0.05	0.02	0.58	e0.00	0.15	14	0.77	0.00	0.00	0.11
3	0.00	0.00	0.01	0.02	0.51	0.04	0.13	4.5	1.2	0.00	0.00	0.00
4	0.00	0.00	0.01	0.05	0.43	0.09	0.30	2.5	0.91	0.00	0.00	0.00
5	0.00	0.00	0.00	0.05	0.21	0.12	0.26	39	0.93	0.00	0.00	0.00
6	0.00	0.00	0.00	0.05	0.16	0.10	0.36	7.2	8.3	0.00	0.00	0.00
7	0.00	0.00	0.00	0.05	0.10	0.11	0.40	2.9	7.6	0.00	0.00	0.00
8	0.00	0.00	0.00	0.06	0.03	0.18	0.41	1.6	3.3	0.00	0.00	0.00
9	0.00	0.00	0.00	0.06	0.01	0.16	0.53	1.5	1.9	0.00	0.00	0.00
10	0.00	0.00	0.00	0.05	0.05	0.10	0.45	44	40	0.00	0.00	0.00
11	0.00	0.00	0.00	0.03	0.02	0.07	0.39	14	16	0.00	0.00	0.00
12	0.00	0.00	0.01	0.01	0.03	0.11	0.24	4.1	15	0.00	0.00	0.00
13	0.00	0.00	0.03	0.01	0.00	0.35	0.14	2.3	251	0.00	0.00	3.9
14	0.00	0.00	0.02	0.00	0.08	0.38	0.11	1.6	17	0.00	0.00	28
15	0.00	0.00	0.05	0.00	0.22	0.24	0.09	1.5	4.9	0.00	0.00	4.1
16	0.00	0.00	0.05	0.00	0.18	0.24	1.2	1.4	2.2	0.00	0.00	1.2
17	0.00	0.00	0.05	0.00	e0.00	0.29	1.5	1.4	1.2	0.00	0.00	1.0
18	0.00	0.00	0.07	0.00	e0.00	0.31	1.4	1.2	0.74	0.00	0.00	1.4
19	0.00	0.00	0.08	0.00	e0.00	0.57	5.4	1.2	0.48	0.00	0.00	12
20	0.00	0.00	0.11	0.00	0.13	1.4	14	2.1	0.41	0.00	0.00	3.9
21	0.00	0.00	0.10	0.00	0.18	1.3	5.2	1.9	0.19	0.00	0.00	19
22	0.00	0.39	0.05	0.00	0.23	1.4	2.3	1.4	0.17	0.00	0.00	20
23	0.00	0.96	0.02	0.00	e0.00	1.2	1.4	1.2	0.48	0.00	0.00	3.2
24	0.00	0.67	0.00	0.00	e0.00	1.1	11	1.6	0.46	0.00	0.00	1.5
25	0.00	0.46	0.00	0.00	e0.00	0.87	11	1.9	1.8	0.00	0.00	1.1
26	0.00	0.35	0.00	0.00	e0.00	0.75	5.7	3.0	2.9	0.00	0.00	0.60
27	0.00	0.20	0.00	0.00	e0.00	0.53	3.0	3.3	1.2	0.00	0.00	0.33
28	0.00	0.14	0.00	0.00	e0.00	0.41	37	1.8	0.66	0.00	0.00	0.17
29	0.00	0.12	0.01	0.00	---	0.21	38	1.1	0.34	0.00	0.00	0.07
30	0.00	0.09	0.04	0.00	---	0.15	7.2	0.64	0.16	0.00	0.00	0.08
31	0.00	---	0.05	0.12	---	0.20	---	0.33	---	0.00	0.48	---
MEAN	0.00	0.11	0.03	0.02	0.13	0.42	4.98	5.72	12.7	0.00	0.02	3.44
MAX	0.00	0.96	0.11	0.12	0.58	1.4	38	44	251	0.05	0.48	28
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.33	0.16	0.00	0.00	0.00
IN.	0.00	0.00	0.00	0.00	0.00	0.01	0.09	0.10	0.22	0.00	0.00	0.06

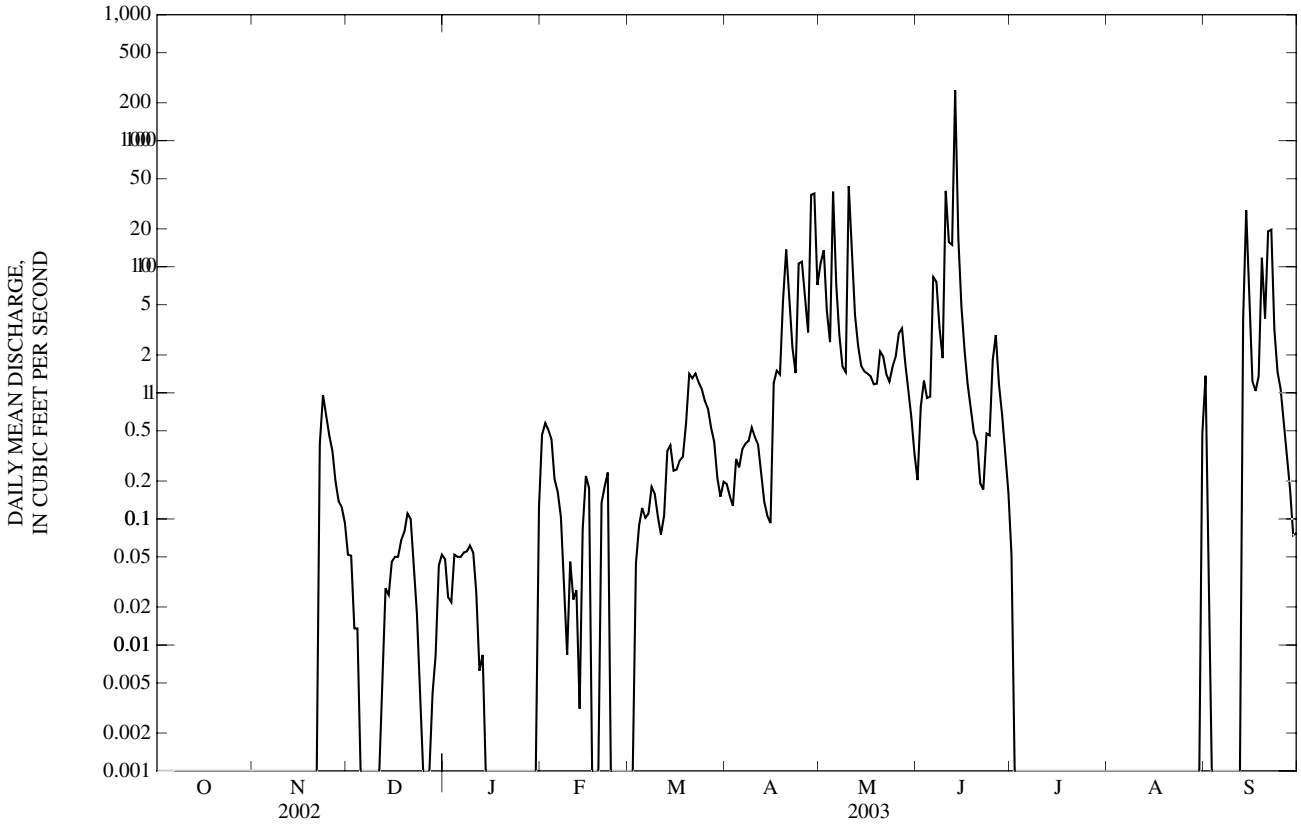
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	6.33	2.35	2.71	1.04	2.76	5.96	13.2	45.6	51.0	3.31	4.78	15.4
MAX	18.1	4.71	4.65	1.64	4.84	10.6	30.2	117	137	9.55	14.2	42.8
(WY)	(2002)	(2002)	(2000)	(2000)	(2002)	(2000)	(2002)	(2002)	(2000)	(2000)	(2000)	(2000)
MIN	0.00	0.11	0.03	0.02	0.13	0.42	4.56	5.72	3.37	0.00	0.02	0.00
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2000)	(2003)	(2002)	(2003)	(2003)	(2002)

06821080 LITTLE PLATTE RIVER NEAR PLATTSBURG, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	13.8		2.29		12.9	
HIGHEST ANNUAL MEAN					20.2	2000
LOWEST ANNUAL MEAN					2.29	2003
HIGHEST DAILY MEAN	1,160	May 6	251	Jun 13	2,180	Jun 24, 2000
LOWEST DAILY MEAN	0.00	Many Days	0.00	Many Days	0.00	Many Days 2002-2003
ANNUAL SEVEN-DAY MINIMUM	0.00	Many Days	0.00	Many Days	0.00	Many Days 2002-2003
MAXIMUM PEAK FLOW	---		595	Jun 13	2,520	May 6, 2002
MAXIMUM PEAK STAGE	---		11.23	Jun 13	15.30	May 6, 2002
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Many Days 2002-2003
ANNUAL RUNOFF (INCHES)	2.88		0.47		2.67	
10 PERCENT EXCEEDS	11		3.0		11	
50 PERCENT EXCEEDS	0.46		0.05		1.2	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated



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 are available from the U.S. Army Corps of Engineers.

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

REMARKS.--Lake is formed by a rolled earthfill type dam. Storage began on July 13, 1976. An uncontrolled limited service type spillway, 50 ft wide, is located at the right abutment. Capacity of surcharge pool 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. U.S. Army Corps of Engineers satellite telemeter at station.

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, 138,000 ac-ft, June 14, elevation, 863.69 ft; minimum, 129,000 ac-ft, Aug. 29, elevation, 862.35 ft.

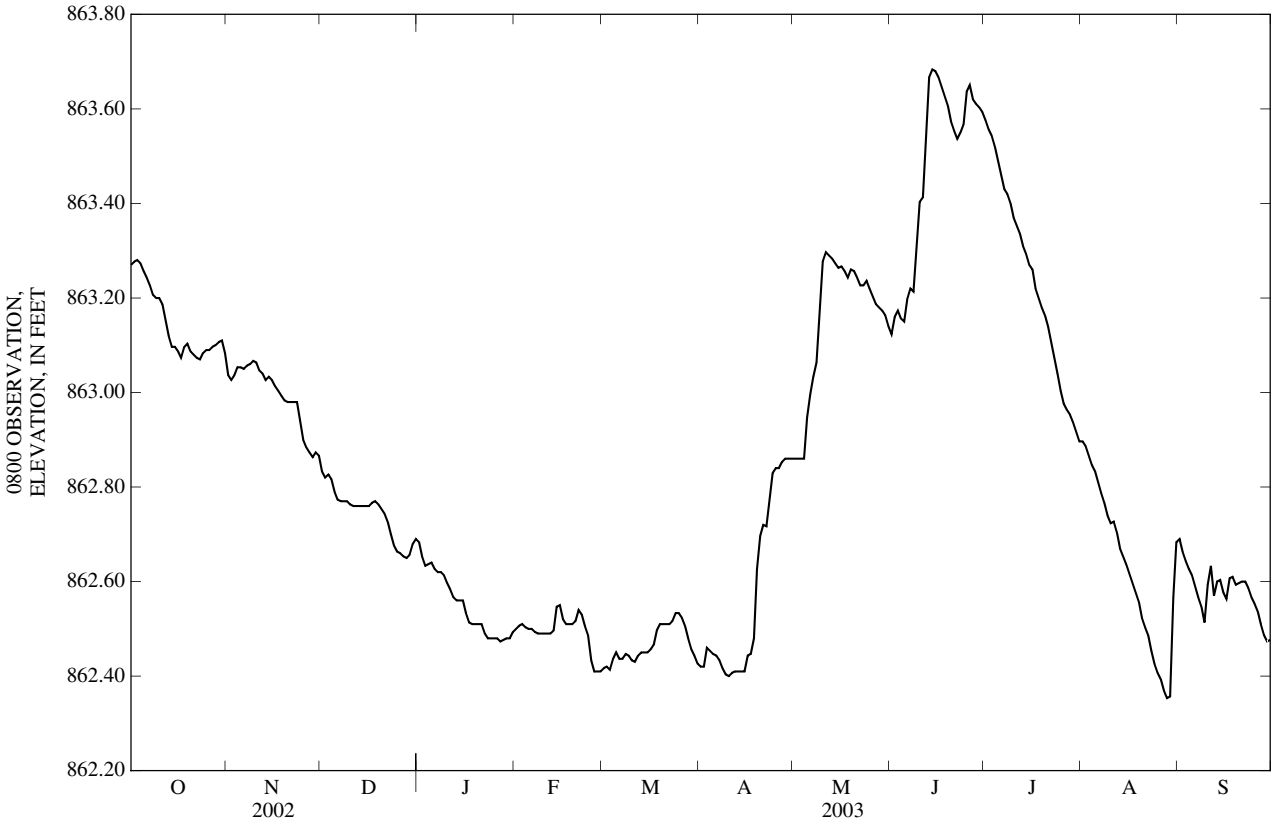
ELEVATION, IN FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
OBSERVATION AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	863.27	863.07	862.86	862.69	862.50	862.41	862.42	862.86	863.13	863.59	862.89	862.69
2	863.27	863.02	862.82	862.68	862.50	862.42	862.42	862.86	863.12	863.57	862.90	862.69
3	863.28	863.03	862.82	862.64	862.51	862.42	862.42	862.86	863.18	863.55	862.88	862.65
4	863.28	863.04	862.83	862.63	862.51	862.41	862.48	862.86	863.17	863.54	862.86	862.64
5	863.27	863.06	862.81	862.64	862.50	862.45	862.44	862.86	863.15	863.51	862.84	862.62
6	863.25	863.05	862.78	862.64	862.50	862.45	862.45	862.99	863.15	863.48	862.83	862.61
7	863.24	863.05	862.77	862.62	862.50	862.43	862.44	863.00	863.22	863.45	862.80	862.58
8	863.22	863.06	862.77	862.62	862.49	862.44	862.43	863.05	863.22	863.42	862.78	862.56
9	863.20	863.06	862.77	862.62	862.49	862.45	862.41	863.07	863.21	863.42	862.76	862.54
10	863.20	863.07	862.77	862.61	862.49	862.44	862.40	863.21	863.37	863.39	862.73	862.50
11	863.20	863.06	862.76	862.59	862.49	862.43	862.40	863.31	863.42	863.36	862.72	862.64
12	863.18	863.04	862.76	862.58	862.49	862.43	862.41	863.29	863.41	863.35	862.73	862.63
13	863.14	863.04	862.76	862.56	862.49	862.45	862.41	863.29	863.62	863.33	862.69	862.54
14	863.11	863.02	862.76	862.56	862.50	862.45	862.41	863.28	863.69	863.30	862.66	862.63
15	863.09	863.04	862.76	862.56	862.57	862.45	862.41	863.27	863.68	863.29	862.65	862.59
16	863.10	863.02	862.76	862.56	862.54	862.45	862.41	863.26	863.68	863.26	862.63	862.57
17	863.08	863.01	862.76	862.52	862.51	862.46	862.46	863.27	863.66	863.26	862.61	862.56
18	863.07	863.00	862.77	862.51	862.51	862.47	862.44	863.25	863.64	863.20	862.59	862.63
19	863.11	862.99	862.77	862.51	862.51	862.51	862.50	863.24	863.62	863.20	862.57	862.60
20	863.10	862.98	862.76	862.51	862.51	862.51	862.69	863.27	863.60	863.17	862.55	862.59
21	863.08	862.98	862.75	862.51	862.52	862.51	862.70	863.25	863.56	863.16	862.51	862.60
22	863.08	862.98	862.74	862.51	862.55	862.51	862.73	863.24	863.55	863.13	862.50	862.60
23	863.07	862.98	862.72	862.48	862.52	862.51	862.71	863.22	863.53	863.09	862.48	862.60
24	863.07	862.98	862.69	862.48	862.50	862.52	862.81	863.23	863.56	863.06	862.44	862.58
25	863.09	862.92	862.67	862.48	862.48	862.54	862.84	863.24	863.57	863.03	862.42	862.56
26	863.09	862.89	862.66	862.48	862.41	862.53	862.84	863.21	863.67	862.99	862.40	862.55
27	863.09	862.88	862.66	862.48	862.41	862.52	862.84	863.20	863.64	862.97	862.39	862.53
28	863.10	862.87	862.65	862.47	862.41	862.50	862.86	863.18	863.61	862.96	862.36	862.50
29	863.10	862.86	862.65	862.48	---	862.47	862.86	863.18	863.61	862.95	862.35	862.48
30	863.11	862.88	862.66	862.48	---	862.45	862.86	863.17	863.60	862.93	862.36	862.47
31	863.11	---	862.69	862.48	---	862.44	---	863.16	---	862.91	862.67	---
MAX	863.28	863.07	862.86	862.69	862.57	862.54	862.86	863.31	863.69	863.59	862.90	862.69
MIN	863.07	862.86	862.65	862.47	862.41	862.41	862.40	862.86	863.12	862.91	862.35	862.47
(-)	134,000	132,000	131,000	130,000	129,000	130,000	132,000	134,000	138,000	133,000	131,000	130,000
(=)	-1,000	-2,000	-1,000	-1,000	-1,000	+1,000	+2,000	+2,000	+4,000	-5,000	-2,000	-1,000

CAL YR 2002....-11,000
WTR YR 2003.... -5,000

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

06821140 SMITHVILLE RESERVOIR NEAR SMITHVILLE, MO—Continued



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.--WRD MO 1970: Drainage area. WDR MO-02-1: 2001 date of peak.

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

REMARKS.--Records fair except for estimated daily discharges, which are poor. Construction of dam for Smithville Lake (06821140) began in June 1974 and partial regulation began Aug. 6, 1977. 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	8.0	6.5	6.9	7.7	6.3	6.1	12	7.8	9.8	9.1	33
2	7.2	8.7	6.7	7.1	7.6	6.2	6.0	11	14	9.8	9.2	10
3	7.0	7.2	6.4	6.7	7.6	6.4	6.1	10	13	9.8	8.7	7.3
4	7.3	5.9	6.3	6.3	7.5	7.1	5.5	11	9.6	9.2	8.0	9.2
5	6.6	5.7	6.6	6.6	7.0	e9.8	4.9	28	8.3	9.4	7.9	9.1
6	7.9	5.6	6.7	6.6	e6.7	e7.0	5.1	13	30	9.1	7.8	9.3
7	7.2	5.8	6.4	6.7	e6.4	6.7	6.1	11	14	9.0	7.5	9.1
8	6.2	5.9	6.1	6.6	e6.7	6.7	5.8	11	10	8.9	6.9	8.9
9	6.0	6.0	6.3	6.7	6.8	6.5	5.6	11	9.0	8.7	7.8	9.0
10	6.1	4.7	6.3	6.7	6.9	6.3	5.3	66	20	8.6	7.3	8.5
11	6.6	5.5	6.5	6.9	6.9	6.5	5.0	21	12	8.6	7.5	8.7
12	7.2	5.8	8.5	6.7	6.8	6.7	4.9	13	9.6	8.7	7.5	7.8
13	7.4	6.6	7.1	7.3	6.6	12	4.9	11	11	8.4	7.4	12
14	7.6	6.8	7.2	6.7	7.9	10	5.1	11	10	8.7	6.8	19
15	7.4	6.1	7.2	6.5	10	7.1	5.7	9.9	9.2	8.5	6.8	8.9
16	6.1	6.1	7.3	e6.4	9.0	6.4	8.0	9.5	8.6	8.7	6.8	7.7
17	6.2	6.1	6.5	e6.7	8.5	6.3	7.4	9.5	8.2	9.3	6.7	7.8
18	7.0	5.9	6.9	e6.4	7.0	6.1	6.5	9.3	8.3	9.3	5.4	14
19	9.5	6.1	6.8	e6.4	6.4	6.4	173	9.9	8.2	9.1	4.4	17
20	8.2	6.0	7.2	e6.7	6.2	13	163	11	8.1	9.0	4.3	9.1
21	7.9	6.1	6.5	e7.2	6.3	13	18	10	8.1	8.8	5.4	9.5
22	7.8	6.6	7.1	e6.8	6.6	7.8	11	8.8	8.2	9.2	5.5	9.6
23	8.5	6.4	6.6	e6.2	6.7	6.6	14	9.1	12	8.8	5.3	8.2
24	11	6.3	7.0	e6.0	e7.5	6.2	63	8.8	9.9	8.6	5.5	7.9
25	13	6.4	6.7	e6.0	7.1	5.9	23	8.9	27	8.5	4.7	7.3
26	9.9	6.3	6.4	e6.4	6.9	5.8	16	8.1	17	8.6	6.6	5.9
27	8.9	6.5	6.6	e6.2	6.2	5.8	13	7.5	9.5	8.9	7.7	6.7
28	8.9	6.2	6.6	e6.0	6.3	5.8	33	7.5	8.2	9.1	8.3	7.1
29	8.2	6.1	6.6	e6.4	---	5.8	18	7.3	8.9	9.3	8.9	7.0
30	6.5	6.2	7.3	e7.2	---	5.7	13	7.5	9.6	8.8	10	7.8
31	6.8	---	7.3	e7.8	---	6.1	---	7.5	---	8.5	169	---
MEAN	7.67	6.25	6.78	6.64	7.14	7.23	22.1	12.6	11.6	8.96	12.3	10.1
MAX	13	8.7	8.5	7.8	10	13	173	66	30	9.8	169	33
MIN	5.6	4.7	6.1	6.0	6.2	5.7	4.9	7.3	7.8	8.4	4.3	5.9
IN.	0.04	0.03	0.03	0.03	0.03	0.04	0.11	0.06	0.06	0.04	0.06	0.05

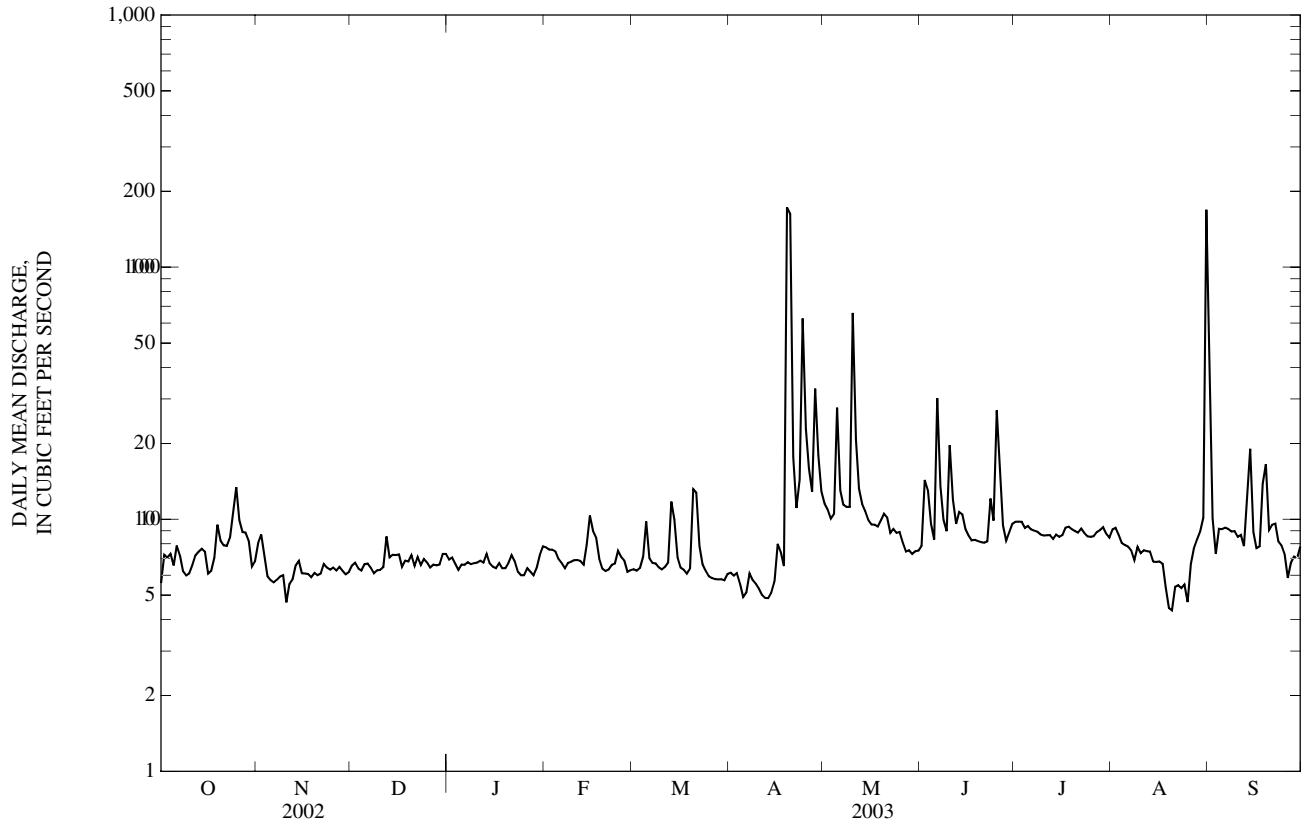
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2003[a], BY WATER YEAR (WY)

MEAN	173	173	96.0	87.7	86.8	164	189	257	243	244	168	138
MAX	960	1,358	466	563	341	825	640	850	809	879	1,206	1,006
(WY)	(1986)	(1999)	(1993)	(1993)	(2001)	(2001)	(1978)	(1993)	(1995)	(2001)	(1993)	(1977)
MIN	1.01	2.06	0.05	0.07	7.14	4.73	9.85	11.1	11.6	8.76	7.65	5.84
(WY)	(1977)	(1977)	(1977)	(1977)	(2003)	(1981)	(1981)	(2000)	(2003)	(2002)	(1980)	(2002)

06821150 LITTLE PLATTE RIVER AT SMITHVILLE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1977 - 2003[a]	
ANNUAL MEAN	74.4		9.93		169	
HIGHEST ANNUAL MEAN					476	1993
LOWEST ANNUAL MEAN					9.93	2003
HIGHEST DAILY MEAN	786	Apr 21	173	Apr 19	7,810	Jul 27, 1981
LOWEST DAILY MEAN	4.7	Nov 10	4.3	Aug 20	0.05	Dec 1-25, 1976
ANNUAL SEVEN-DAY MINIMUM	5.4	Sep 5	5.0	Aug 19	0.05	Dec 1, 1976
MAXIMUM PEAK FLOW	---		527	Apr 20	21,000	Aug 13, 1982
MAXIMUM PEAK STAGE	---		16.56	Apr 20	36.44	Aug 13, 1982
INSTANTANEOUS LOW FLOW	---		3.0	Aug 18	0.00	Many Years
ANNUAL RUNOFF (INCHES)	4.32		0.58		9.79	
10 PERCENT EXCEEDS	315		11		515	
50 PERCENT EXCEEDS	10		7.3		19	
90 PERCENT EXCEEDS	6.1		6.0		8.0	

e Estimated
[a] Post-regulation period.



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 mi^2.

WATER-DISCHARGE RECORDS

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

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

REMARKS.--Water-discharge records fair except for the period of backwater Oct. 1 to April 4, and estimated daily discharges, which are poor. Some regulation from Smithville Lake (station 06821140), 17.0 mi upstream. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	97	42	51	42	e210	58	377	139	609	32	549
2	31	86	39	47	45	e200	56	461	158	317	58	195
3	40	77	39	38	52	181	e56	373	221	218	63	74
4	43	75	45	41	45	157	e57	339	185	169	51	44
5	52	70	40	42	e42	86	57	522	161	140	42	34
6	51	66	30	45	e40	72	70	471	322	119	37	28
7	69	68	37	47	38	e72	66	1,380	534	103	34	25
8	76	67	39	44	e38	e70	83	1,490	709	93	31	22
9	88	63	38	46	e39	e70	81	1,060	416	86	29	22
10	80	59	37	49	e41	82	67	2,330	690	101	28	21
11	72	56	42	32	e42	74	60	3,290	1,550	1,920	29	21
12	60	52	47	34	44	90	57	2,080	794	1,350	30	32
13	52	49	47	34	42	99	56	1,530	1,870	476	37	29
14	46	47	44	36	52	122	61	953	1,880	231	31	178
15	42	48	48	35	82	122	69	676	746	153	e28	156
16	38	48	47	33	74	102	73	545	531	116	e28	67
17	38	49	47	22	60	99	77	523	383	93	e26	47
18	39	46	47	e23	59	99	80	621	277	79	e24	e43
19	42	46	46	e23	62	98	320	540	249	69	e22	e88
20	43	45	47	e22	64	159	922	472	294	64	19	70
21	38	44	44	e21	63	344	866	444	217	59	19	59
22	36	43	42	e20	59	293	442	429	172	55	19	49
23	38	43	35	e19	58	211	297	385	187	51	18	45
24	46	42	37	18	e100	171	677	340	208	47	17	40
25	66	42	33	17	e140	135	905	322	251	44	17	33
26	79	42	31	18	e180	142	580	326	686	41	15	29
27	83	41	37	17	e240	131	385	305	1,320	39	16	26
28	70	41	38	20	e230	102	352	269	779	37	17	25
29	68	38	39	24	---	85	1,070	224	929	36	17	25
30	71	38	43	26	---	70	607	190	678	34	18	26
31	73	---	49	34	---	62	---	162	---	32	329	---
MEAN	54.9	54.3	41.2	31.5	74.0	129	287	756	585	225	38.1	70.1
MAX	88	97	49	51	240	344	1,070	3,290	1,880	1,920	329	549
MIN	31	38	30	17	38	62	56	162	139	32	15	21
IN.	0.03	0.03	0.02	0.02	0.03	0.06	0.13	0.37	0.27	0.11	0.02	0.03

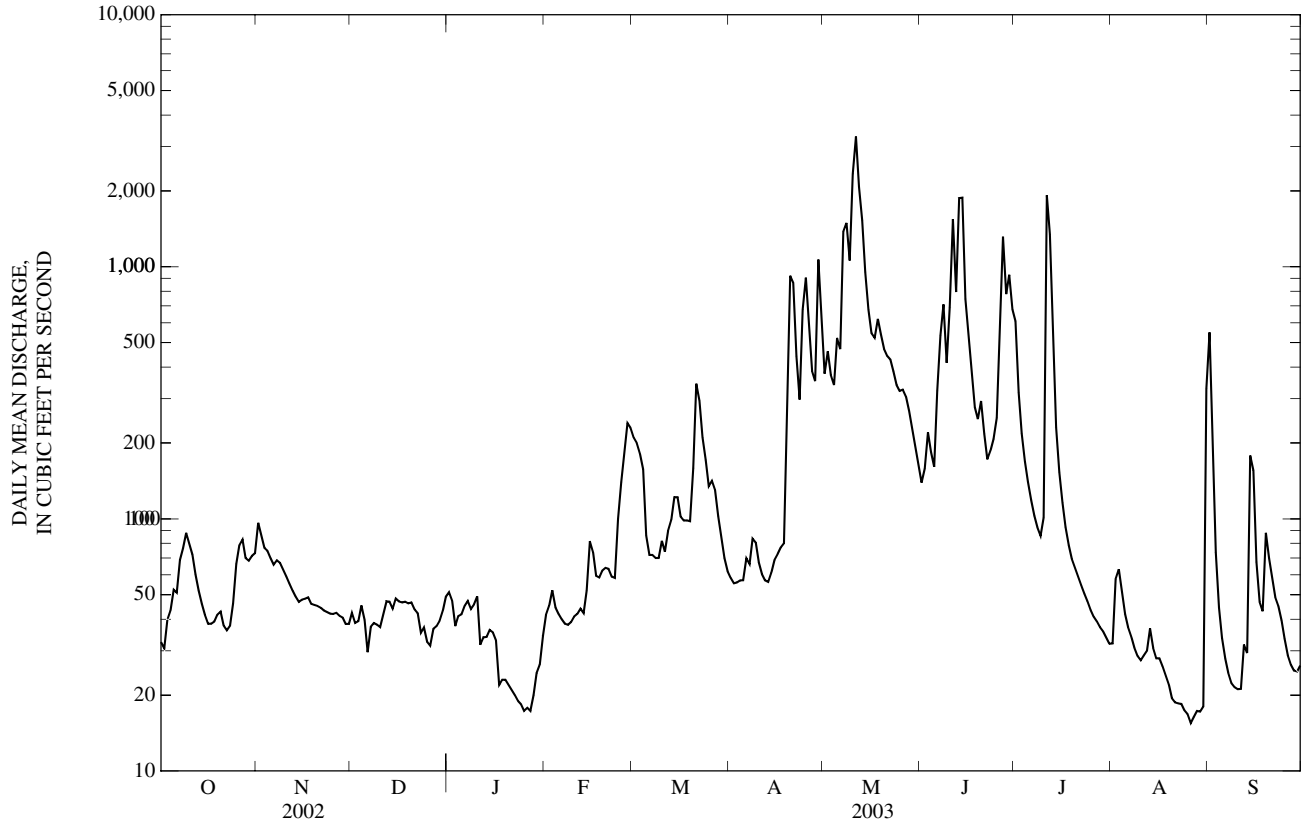
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2003, BY WATER YEAR (WY)

MEAN	1,162	962	1,011	576	1,320	2,036	2,534	3,334	2,960	2,748	965	1,260
MAX	6,847	4,932	5,005	2,153	3,980	8,745	6,946	12,710	10,790	21,600	3,535	7,206
(WY)	(1986)	(1999)	(1993)	(1983)	(1982)	(1979)	(1993)	(1995)	(1984)	(1993)	(1987)	(1993)
MIN	25.1	54.3	41.2	31.5	37.6	110	93.0	157	75.2	52.5	38.1	37.7
(WY)	(1989)	(2003)	(2003)	(2003)	(1989)	(1989)	(1989)	(1989)	(1988)	(1988)	(2003)	(2002)

06821190 PLATTE RIVER AT SHARPS STATION, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1979 - 2003	
ANNUAL MEAN	471		196		1,738	
HIGHEST ANNUAL MEAN					5,697	1993
LOWEST ANNUAL MEAN					196	2003
HIGHEST DAILY MEAN	11,200	May 13	3,290	May 11	37,300	Jul 26, 1993
LOWEST DAILY MEAN	21	Sep 13	15	Aug 26	12	Aug 7,8,13,14 1989
ANNUAL SEVEN-DAY MINIMUM	24	Sep 9	17	Aug 23	14	Aug 7, 1989
MAXIMUM PEAK FLOW	---		3,580	May 11	37,800	Jul 26, 1993
MAXIMUM PEAK STAGE	---		15.23	May 11	36.43	Jul 26, 1993
INSTANTANEOUS LOW FLOW	---		15	Aug 26	12	Aug 7,8,13,14 1989
ANNUAL RUNOFF (INCHES)	2.69		1.12		9.92	
10 PERCENT EXCEEDS	1,050		532		4,170	
50 PERCENT EXCEEDS	170		59		580	
90 PERCENT EXCEEDS	39		26		63	

e Estimated



06821190 PLATTE RIVER AT SHARPS STATION, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1979 to September 1995, November 1999 to current year. Station was temporarily out of service due to bridge construction October 2002 to June 2003.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
JUL												
08...	1130	Environmental	93	5.5	75	8.4	319	30.0	110	31.8	8.12	4.66
AUG												
19...	1050	Environmental	23	5.6	74	8.1	488	28.5	--	--	--	--
SEP												
25...	1205	Environmental	34	8.4	92	8.0	451	18.5	170	48.2	11.4	4.92

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
JUL													
08...	15.1	106	106	122	4	15.8	0.4	22.9	185	170	E2.1	<0.04	E1.41
AUG													
19...	--	173	173	211	<1	--	--	--	--	54	0.97	<0.04	0.80
SEP													
25...	20.4	158	159	194	<1	22.2	0.3	33.5	266	42	0.87	<0.04	0.79

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
JUL													
08...	E.081	E.12	E.14	E.48	4k	4,300k	69k	7	1,990	6.2	0.04	E.1	E4
AUG													
19...	0.033	0.10	0.14	0.27	13k	40	140	--	--	--	--	--	--
SEP													
25...	0.029	0.07	0.09	0.21	77	71	54	3	517	2.3	E.03n	0.05	1.5

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recoverable, µg/L (01051)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)	Selenium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recoverable, µg/L (01092)
JUL								
08...	<8	<0.08	3	6.2	<0.02	1.5	2	11
AUG								
19...	--	--	--	--	--	--	--	--
SEP								
25...	E5n	<0.08	M	62.2	<0.02	E.4n	Mn	4

Remark codes used in this table:
< -- Less than
E -- Estimated value
M--Presence verified, not quantified
Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

06892350 KANSAS RIVER AT DESOTO, KS

LOCATION.--Lat 38°59'00", long 94°57'52", in SE ¼ NE ¼ NE ¼ 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 753.87 ft above National Geodetic Vertical Datum of 1929. July 9, 1917, to Apr. 23, 1934, nonrecording gage; Apr. 24, 1934, to Nov. 25, 1960, water-stage recorder at site 9.7 mi downstream at datum 11.81 ft lower; Nov. 26, 1960, to Feb. 9, 1961, nonrecording gage; Feb. 10, 1961, to Sept. 30, 1971, water-stage recorder at site 10.2 mi downstream at datum 17.81 ft lower; and Oct. 1, 1971, to Sept. 30, 1973, at site 10.2 mi downstream at datum 22.81 ft lower. Lowered gage datum 5.0 ft Sept. 30, 1996, to 753.87 ft.

REMARKS.--Records fair except for estimated daily dishcarges, 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 upstream; 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	965	e1,690	1,150	1,030	1,200	814	1,080	4,090	2,030	3,490	2,390	5,890
2	1,180	1,750	896	1,020	1,250	894	1,040	3,370	2,240	3,020	2,410	2,660
3	1,210	1,490	665	1,020	1,220	1,150	1,020	2,470	2,840	2,770	2,420	2,350
4	1,660	1,240	668	1,030	1,160	832	992	2,280	2,990	3,010	2,370	1,870
5	2,050	1,140	762	809	1,140	e740	938	2,030	2,910	3,110	2,410	1,850
6	1,800	1,110	1,070	891	888	e700	1,010	1,520	3,060	3,080	2,450	1,530
7	1,250	1,180	695	950	975	712	1,070	1,770	2,790	2,880	2,410	1,110
8	1,680	1,520	680	897	491	669	1,070	1,540	2,380	2,730	2,440	1,140
9	1,030	1,740	1,130	1,070	838	668	1,070	1,470	2,320	2,650	2,480	1,120
10	1,020	1,760	1,070	1,010	1,010	1,120	1,080	1,630	2,200	2,660	2,400	851
11	670	1,910	1,050	678	1,180	1,120	1,060	3,970	2,190	2,820	2,400	1,030
12	870	1,810	1,050	762	1,150	948	1,050	2,610	2,310	3,520	2,410	1,100
13	e1,220	1,590	1,020	787	1,100	1,100	1,070	2,640	3,680	2,350	2,420	1,560
14	e1,400	1,910	587	858	734	1,270	1,050	2,600	2,490	1,900	2,340	1,940
15	e1,130	1,920	1,060	880	1,360	1,030	992	2,510	2,090	2,530	2,000	1,650
16	e1,230	1,990	1,090	e860	1,460	1,000	981	2,470	2,010	2,710	1,500	1,030
17	e1,130	2,010	1,140	e860	1,110	951	1,020	2,490	1,720	2,550	1,280	1,320
18	e1,100	1,840	1,070	e860	761	878	1,090	2,530	1,700	2,620	1,190	1,320
19	e1,130	2,080	1,040	e1,140	1,190	646	1,320	2,410	1,690	2,580	1,120	4,950
20	e1,380	1,930	1,000	e2,190	1,190	1,160	3,790	2,360	1,860	2,580	e1,040	5,790
21	e1,440	1,970	727	e691	1,020	1,290	7,000	2,440	2,650	2,550	e1,030	4,300
22	e1,410	1,790	995	e960	933	995	5,680	2,750	2,510	2,460	e1,030	3,220
23	e1,300	1,740	1,010	e890	1,100	1,530	3,510	2,740	5,210	2,510	1,100	2,470
24	e1,490	1,780	831	e840	637	1,280	3,240	2,600	6,330	2,520	1,100	2,190
25	e1,550	1,790	1,070	e921	563	834	7,720	2,570	5,050	2,500	1,170	2,000
26	e2,060	1,760	472	e1,020	675	1,760	10,600	2,510	3,500	2,440	1,270	1,940
27	e1,960	1,730	743	1,290	457	2,190	6,550	2,430	3,530	2,460	1,150	1,720
28	e1,870	1,360	1,190	1,620	711	1,930	4,480	e2,370	4,010	2,490	1,090	1,710
29	e1,420	1,180	1,040	1,790	---	1,200	3,930	e2,280	2,690	2,460	1,270	1,820
30	e1,180	1,160	1,070	1,440	---	1,120	4,350	e2,180	3,100	2,420	1,640	1,860
31	e1,550	---	751	1,440	---	1,220	---	2,060	---	2,360	6,760	---
MEAN	1,366	1,662	929	1,049	982	1,089	2,695	2,442	2,869	2,669	1,951	2,176
MAX	2,060	2,080	1,190	2,190	1,460	2,190	10,600	4,090	6,330	3,520	6,760	5,890
MIN	670	1,110	472	678	457	646	938	1,470	1,690	1,900	1,030	851

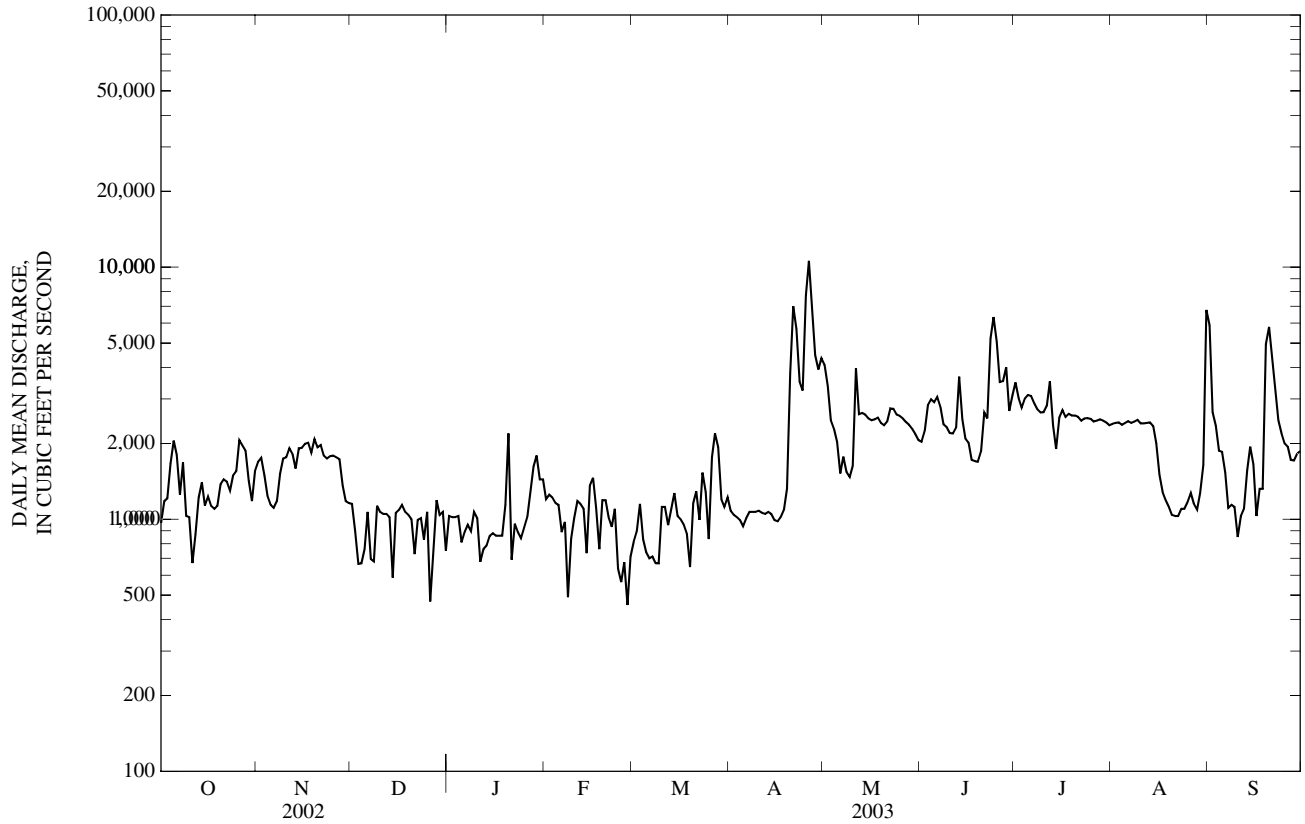
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1918 - 2003, BY WATER YEAR (WY)

MEAN	5,695	4,595	3,605	2,887	4,484	7,064	9,560	11,040	14,900	11,590	6,893	6,541
MAX	51,630	42,320	21,940	15,990	20,800	36,560	43,570	43,270	78,870	133,200	66,680	44,660
(WY)	(1974)	(1974)	(1974)	(1973)	(1949)	(1973)	(1973)	(1993)	(1951)	(1951)	(1993)	(1951)
MIN	365	504	465	364	635	632	845	953	1,188	1,106	455	525
(WY)	(1957)	(1957)	(1957)	(1957)	(1957)	(1967)	(1956)	(1989)	(1989)	(1936)	(1934)	(1956)

06892350 KANSAS RIVER AT DESOTO, KS—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1918 - 2003	
ANNUAL MEAN	2,600		1,824		7,410	
HIGHEST ANNUAL MEAN					30,570	1993
LOWEST ANNUAL MEAN					1,326	1956
HIGHEST DAILY MEAN	15,800	May 13	10,600	Apr 26	486,000	Jul 14, 1951
LOWEST DAILY MEAN	472	Dec 26	457	Feb 27	160	Oct 11, 1956
ANNUAL SEVEN-DAY MINIMUM	777	Dec 2	679	Feb 24	195	Oct 9, 1956
MAXIMUM PEAK FLOW	---		12,200	Aug 31	510,000	Jul 13, 1951
MAXIMUM PEAK STAGE	---		9.58	Aug 31	37.30	Jul 13, 1951
INSTANTANEOUS LOW FLOW	---		280	Oct 11	160	Oct 11, 1956
10 PERCENT EXCEEDS	5,540		2,940		17,700	
50 PERCENT EXCEEDS	1,910		1,460		3,330	
90 PERCENT EXCEEDS	1,030		847		1,100	

e Estimated



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.--484,100 mi^2. The 3,959 mi^2 in Great Divide basin are not included.

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 the Missouri River Commission; those since 1900 are contained in reports of the 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; Feb. 29, 1948, to Oct. 1, 1989, at datum 10.00 ft higher.

REMARKS.--Records good except for discharges in December and January, which are fair, and estimated daily discharges, which are poor. Some regulation from many upstream reservoirs. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 573,000 ft^3/s, July 14, 1951.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 16, 1844, reached a stage of 48.0 ft, present datum; discharge, about 625,000 ft^3/s, computed by the U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34,100	40,500	29,200	20,800	21,800	21,000	33,800	41,400	42,700	54,700	36,000	46,600
2	35,400	40,100	27,500	21,200	22,000	19,800	33,600	42,000	44,000	51,900	36,000	33,900
3	37,300	39,000	26,300	21,300	22,100	19,200	33,000	51,400	43,500	49,800	36,100	31,700
4	39,800	38,400	25,600	21,300	21,600	20,100	33,400	53,700	42,700	48,400	36,200	30,600
5	41,100	37,700	e24,500	21,200	21,500	21,800	33,300	49,500	42,400	47,200	35,800	29,800
6	43,500	36,700	e23,600	21,300	21,900	22,500	33,400	48,500	43,200	45,900	35,700	30,000
7	45,900	35,900	23,600	21,600	22,000	22,700	33,600	65,300	42,800	44,200	35,300	31,100
8	43,800	35,500	23,300	22,000	22,000	22,900	34,100	70,000	42,400	45,200	34,900	32,200
9	41,000	35,800	22,300	22,100	21,800	22,800	34,700	60,500	41,600	53,500	34,800	33,000
10	39,300	36,000	21,700	22,100	21,900	21,900	35,300	70,600	42,200	56,200	35,000	33,300
11	39,100	36,100	22,100	21,900	22,800	21,200	35,000	68,200	50,900	51,300	34,800	33,800
12	39,000	36,000	22,500	21,700	23,300	22,400	34,100	60,800	52,400	51,600	34,100	34,500
13	38,200	35,700	22,500	21,800	22,800	23,900	33,900	56,900	63,000	59,500	33,800	36,400
14	38,400	35,700	22,300	21,900	23,200	22,800	34,100	54,500	74,500	61,200	33,900	40,600
15	38,200	36,000	e22,300	21,000	22,500	22,300	34,100	52,900	57,800	53,400	33,500	42,400
16	37,900	35,700	e22,400	19,900	21,600	24,600	35,100	53,200	50,400	49,600	32,700	41,400
17	38,200	35,900	e22,200	19,800	22,000	28,400	35,700	53,200	46,600	47,500	31,300	39,000
18	38,400	35,700	22,100	20,400	22,500	31,900	35,700	52,200	44,000	45,300	29,800	37,400
19	38,900	35,400	22,200	20,200	23,400	32,600	36,700	51,000	42,000	43,700	28,400	37,000
20	38,700	35,000	22,400	19,500	23,900	29,000	40,200	50,300	41,800	42,100	27,700	39,800
21	38,900	35,400	22,600	19,400	23,500	27,400	42,400	51,900	42,300	40,700	28,900	38,800
22	39,400	35,800	22,300	e19,000	23,600	29,800	42,800	51,900	42,500	40,000	31,500	37,200
23	39,600	35,400	22,500	e19,000	24,300	32,900	40,400	50,800	42,800	39,200	30,800	36,400
24	40,200	35,300	22,700	e19,500	27,700	35,000	41,800	48,000	46,400	38,700	30,100	36,100
25	40,800	35,300	22,400	19,700	36,000	34,300	42,100	46,900	53,600	38,200	29,700	34,900
26	40,800	35,200	21,700	e19,700	34,000	32,900	47,100	46,600	50,200	37,500	29,500	34,300
27	41,100	35,400	20,700	e20,100	27,500	32,900	44,400	45,900	46,600	37,400	29,300	33,800
28	41,000	35,100	20,500	e20,900	23,200	33,600	41,000	44,900	52,100	36,900	29,300	33,100
29	40,500	33,100	20,600	20,800	---	32,900	41,100	44,300	55,500	36,500	29,700	32,800
30	40,100	31,200	20,300	20,900	---	32,300	41,200	43,400	56,700	36,500	31,200	33,200
31	40,000	---	20,300	21,500	---	32,900	---	43,100	---	36,500	46,700	---
MEAN	39,630	36,000	22,810	20,760	23,800	26,800	37,240	52,380	47,990	45,820	32,980	35,500
MAX	45,900	40,500	29,200	22,100	36,000	35,000	47,100	70,600	74,500	61,200	46,700	46,600
MIN	34,100	31,200	20,300	19,000	21,500	19,200	33,000	41,400	41,600	36,500	27,700	29,800
IN.	0.09	0.08	0.05	0.05	0.05	0.06	0.09	0.12	0.11	0.11	0.08	0.08

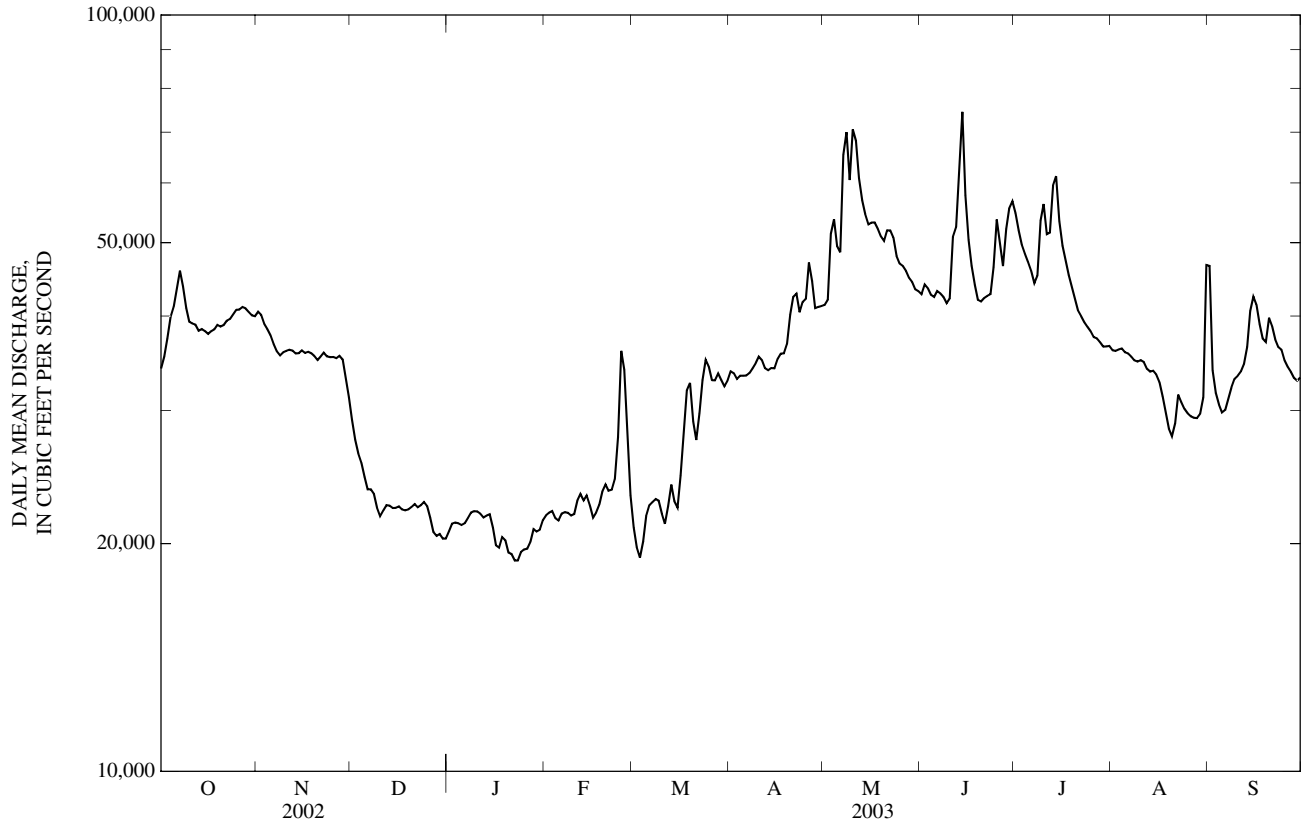
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003[a], BY WATER YEAR (WY)

MEAN	56,230	52,330	36,520	29,340	38,320	55,610	69,990	72,370	77,680	69,770	56,210	57,250
MAX	135,200	103,200	75,370	60,980	77,690	133,700	148,900	145,800	173,800	288,300	144,300	115,600
(WY)	(1974)	(1999)	(1987)	(1973)	(1973)	(1979)	(1984)	(1995)	(1984)	(1993)	(1993)	(1993)
MIN	34,650	20,560	12,970	13,800	16,610	20,190	36,370	37,230	40,410	33,690	32,980	34,510
(WY)	(1992)	(1991)	(1964)	(1963)	(1964)	(1964)	(1990)	(1989)	(1989)	(2002)	(2003)	(1991)

06893000 MISSOURI RIVER AT KANSAS CITY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1958 - 2003[a]	
ANNUAL MEAN	34,580		35,190		56,010	
HIGHEST ANNUAL MEAN					102,100	1993
LOWEST ANNUAL MEAN					35,190	2003
HIGHEST DAILY MEAN	72,800	May 13	74,500	Jun 14	529,000	Jul 27, 1993
LOWEST DAILY MEAN	20,300	Dec 30,31	19,000	Jan 22,23	4,730	Dec 18, 1963
ANNUAL SEVEN-DAY MINIMUM	20,900	Dec 25	19,400	Jan 20	5,480	Dec 17, 1963
MAXIMUM PEAK FLOW	---		81,400	Jun 14	541,000	Jul 27, 1993
MAXIMUM PEAK STAGE	---		17.47	Jun 14	48.87	Jul 27, 1993
INSTANTANEOUS LOW FLOW	---		18,800	Jan 23	4,240	Dec 18, 1963
ANNUAL RUNOFF (INCHES)	0.97		0.99		1.57	
10 PERCENT EXCEEDS	45,800		50,600		93,700	
50 PERCENT EXCEEDS	35,400		35,300		48,200	
90 PERCENT EXCEEDS	23,300		21,600		24,700	

[a] Post-regulation period.
e Estimated



06893150 BLUE RIVER AT BLUE RIDGE BLVD. EXT. IN KANSAS CITY, MO

LOCATION.--Lat 38°53'24", long 94°34'52", in NW ¼ NW ¼ NW ¼ sec. 21, T.47 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on the south side of the west bridge pier on the upstream side of Blue Ridge Blvd. Ext.

DRAINAGE AREA.--93.1 mi^2.

PERIOD OF RECORD.--June 1, 2002 to current year.

GAGE.--Water-stage recorder. Datum of gage is 800.00 ft above North American Vertical Datum of 1988

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge for the period June 1 to Sept. 30, 1,720 ft^3/s, June 12, gage height 28.28 ft; minimum Sept. 1, 0.70 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	71	2.4	2.6	0.70
2	---	---	---	---	---	---	---	---	61	2.3	2.6	0.95
3	---	---	---	---	---	---	---	---	54	2.3	1.9	0.84
4	---	---	---	---	---	---	---	---	50	3.0	1.8	0.95
5	---	---	---	---	---	---	---	---	57	3.7	2.2	1.1
6	---	---	---	---	---	---	---	---	50	2.9	2.6	1.2
7	---	---	---	---	---	---	---	---	43	1.9	2.5	0.91
8	---	---	---	---	---	---	---	---	37	2.1	1.4	1.1
9	---	---	---	---	---	---	---	---	47	1.9	1.2	1.3
10	---	---	---	---	---	---	---	---	66	2.2	1.1	1.6
11	---	---	---	---	---	---	---	---	74	4.1	2.8	1.8
12	---	---	---	---	---	---	---	---	687	3.9	3.5	1.7
13	---	---	---	---	---	---	---	---	135	2.7	60	1.5
14	---	---	---	---	---	---	---	---	77	2.0	13	2.3
15	---	---	---	---	---	---	---	---	51	1.5	4.1	12
16	---	---	---	---	---	---	---	---	37	1.6	3.6	2.6
17	---	---	---	---	---	---	---	---	27	1.7	3.8	1.9
18	---	---	---	---	---	---	---	---	20	1.8	5.1	18
19	---	---	---	---	---	---	---	---	13	47	20	55
20	---	---	---	---	---	---	---	---	10	32	7.2	17
21	---	---	---	---	---	---	---	---	7.1	5.7	4.0	5.7
22	---	---	---	---	---	---	---	---	5.0	3.1	2.8	2.5
23	---	---	---	---	---	---	---	---	3.9	2.7	2.4	2.1
24	---	---	---	---	---	---	---	---	4.0	1.9	2.4	1.5
25	---	---	---	---	---	---	---	---	2.9	1.4	2.3	1.3
26	---	---	---	---	---	---	---	---	2.7	1.7	1.6	1.3
27	---	---	---	---	---	---	---	---	9.2	1.7	1.1	1.4
28	---	---	---	---	---	---	---	---	3.5	1.4	1.00	1.5
29	---	---	---	---	---	---	---	---	2.6	31	1.0	1.8
30	---	---	---	---	---	---	---	---	2.3	5.9	0.89	1.7
31	---	---	---	---	---	---	---	---	---	3.3	0.96	---
MEAN	---	---	---	---	---	---	---	---	57.0	5.90	5.27	4.84
MAX	---	---	---	---	---	---	---	---	687	47	60	55
MIN	---	---	---	---	---	---	---	---	2.3	1.4	0.89	0.70

06893150 BLUE RIVER AT BLUE RIDGE BLVD. EXT. IN KANSAS CITY, MO—Continued

LOCATION.--Lat 38°53'24", long 94°34'52", in NW ¼ NW ¼ NW ¼ sec. 21, T.47 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on the south side of the west bridge pier on the upstream side of Blue Ridge Blvd. Ext.

DRAINAGE AREA.--93.1 mi^2.

PERIOD OF RECORD.--June 1, 2002 to current year.

GAGE.--Water-stage recorder. Datum of gage is 800.00 ft above North American Vertical Datum of 1988.

REMARKS.--Records good except for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	10	4.5	6.7	5.3	2.8	1.8	46	4.7	40	3.4	567
2	5.2	6.5	4.9	6.3	4.8	2.8	1.9	44	132	22	5.8	169
3	13	6.2	4.6	6.7	5.6	2.4	2.2	34	89	13	4.4	94
4	31	7.0	5.4	6.8	4.5	2.7	2.3	61	46	8.8	3.5	58
5	10	12	5.5	6.4	4.1	3.0	2.0	63	28	6.1	2.9	38
6	4.5	9.3	6.4	6.7	5.0	3.4	2.1	42	63	3.9	5.9	29
7	3.5	5.2	6.3	7.6	4.0	3.5	3.0	39	55	3.5	1.9	25
8	3.0	4.4	7.3	6.8	3.5	2.7	3.7	41	34	3.1	1.7	17
9	2.3	5.1	8.4	5.7	4.0	2.4	3.2	51	22	5.0	1.5	12
10	1.8	5.6	8.2	4.5	4.7	2.2	2.2	288	90	27	1.9	11
11	2.0	5.4	8.7	3.6	3.7	2.1	1.5	124	170	6.7	3.8	44
12	2.1	4.4	9.5	3.9	3.4	6.3	1.1	67	75	4.0	3.4	39
13	2.4	4.3	9.8	5.1	3.2	44	1.1	49	59	3.0	2.1	113
14	2.3	4.5	8.3	5.3	80	24	1.2	39	35	2.7	1.8	107
15	1.9	5.5	7.0	4.5	136	12	1.4	31	22	2.3	2.2	51
16	2.1	4.8	7.9	4.9	39	6.5	4.4	41	15	1.8	2.1	32
17	6.9	4.9	7.3	5.3	18	4.8	7.9	46	8.3	1.8	1.8	22
18	4.2	5.6	6.4	6.0	10	3.9	3.5	37	6.9	1.7	2.4	17
19	3.5	5.3	5.2	5.7	6.6	15	69	32	10	1.9	1.4	18
20	2.9	4.7	5.4	5.0	4.3	58	238	26	23	2.1	1.9	11
21	2.5	4.2	5.2	4.6	3.6	41	76	21	21	2.3	1.7	14
22	2.2	4.7	5.6	4.0	3.4	19	42	15	14	1.9	1.5	15
23	4.2	3.8	5.3	e3.8	3.2	11	30	12	46	1.4	2.6	8.7
24	17	3.8	4.9	e3.4	3.7	6.5	139	11	44	1.6	2.2	7.3
25	8.5	3.9	4.9	e3.1	3.2	4.7	206	11	39	2.9	4.1	4.4
26	5.7	4.6	5.0	e3.4	2.7	3.7	95	8.8	34	2.9	3.9	3.8
27	8.3	5.1	5.0	e3.8	2.5	3.1	57	7.5	22	3.2	4.5	7.4
28	14	5.5	4.6	4.3	2.6	3.2	44	4.3	12	4.8	11	4.6
29	27	5.0	4.2	4.7	---	2.6	39	4.3	44	4.3	32	4.5
30	20	4.1	7.9	4.4	---	2.3	31	3.2	91	3.6	147	25
31	16	---	5.3	5.5	---	2.0	---	2.8	---	3.2	2,880	---
MEAN	7.49	5.51	6.29	5.11	13.4	9.79	37.1	42.0	45.2	6.21	101	52.3
MAX	31	12	9.8	7.6	136	58	238	288	170	40	2,880	567
MIN	1.8	3.8	4.2	3.1	2.5	2.0	1.1	2.8	4.7	1.4	1.4	3.8

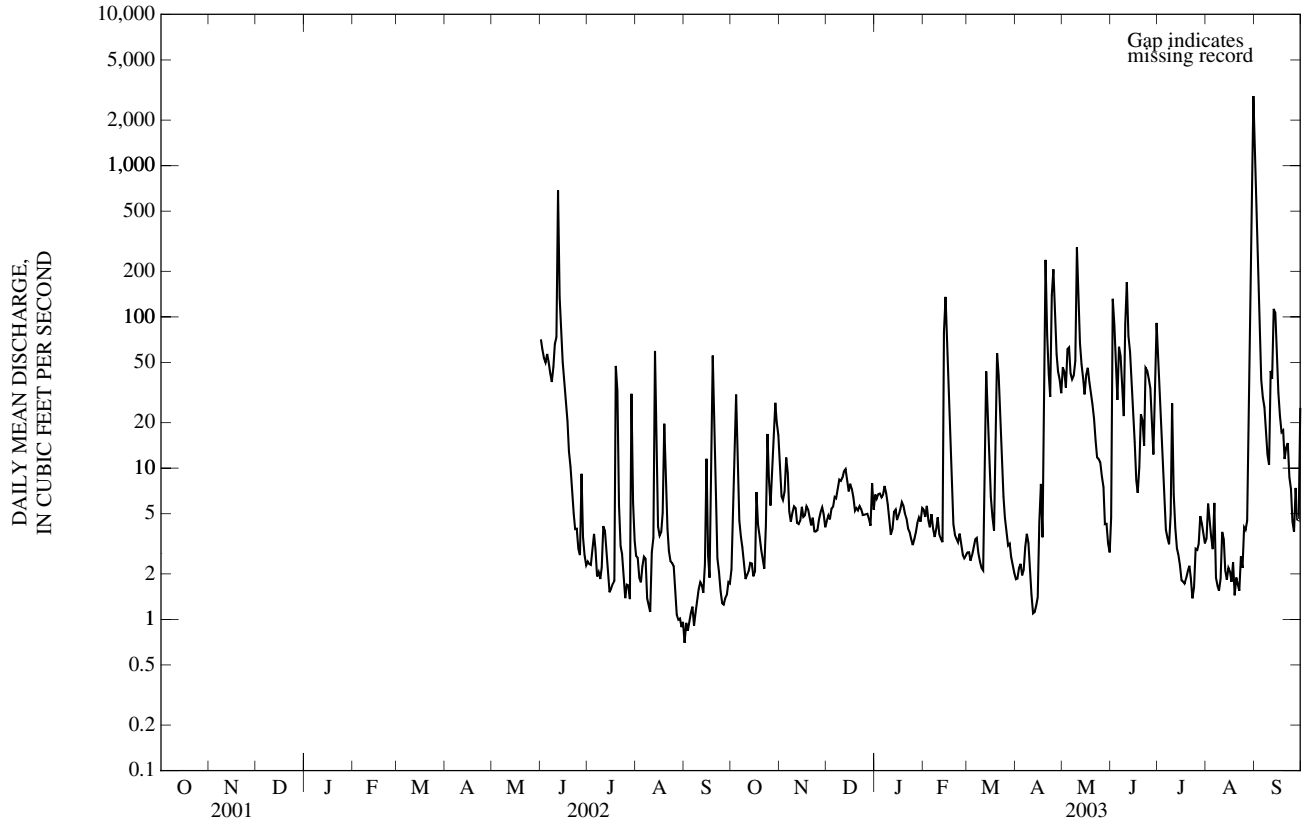
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	7.49	5.51	6.29	5.11	13.4	9.79	37.1	42.0	51.1	6.05	53.4	28.6
MAX	7.49	5.51	6.29	5.11	13.4	9.79	37.1	42.0	57.0	6.21	101	52.3
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2003)	(2003)	(2003)
MIN	7.49	5.51	6.29	5.11	13.4	9.79	37.1	42.0	45.2	5.90	5.27	4.84
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2002)

06893150 BLUE RIVER AT BLUE RIDGE BLVD. EXT. IN KANSAS CITY, MO—Continued

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL MEAN	27.7		27.7	
HIGHEST ANNUAL MEAN			27.7	2003
LOWEST ANNUAL MEAN			27.7	2003
HIGHEST DAILY MEAN	2,880	Aug 31	2,880	Aug 31, 2003
LOWEST DAILY MEAN	1.1	Apr 12	0.70	Sep 1, 2002
ANNUAL SEVEN-DAY MINIMUM	1.7	Apr 9	0.90	Aug 29, 2002
MAXIMUM PEAK FLOW	5,630	Aug 31	5,630	Aug 31, 2003
MAXIMUM PEAK STAGE	32.30	Aug 31	32.30	Aug 31, 2003
INSTANTANEOUS LOW FLOW	0.60	Apr 12	0.60	Sep 1, 2002
10 PERCENT EXCEEDS	46		46	
50 PERCENT EXCEEDS	5.3		5.3	
90 PERCENT EXCEEDS	2.1		2.1	

e Estimated



06893400 INDIAN CREEK AT 103RD STREET IN KANSAS CITY, MO

LOCATION.--Lat 38°56'31", long 94°36'16", in NW ¼ NW ¼ SW ¼ sec. 31, T.47 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on left bank at upstream side of 103rd Street Bridge, east of State Line Road.

DRAINAGE AREA.--65.0 mi^2.

PERIOD OF RECORD.--April 15, 2002 to current year.

GAGE.--Water-stage recorder. Datum of gage is 722.57 ft North American Vertical Datum of 1988.

REMARKS.--Records good except for estimated daily discharges, which are fair. U.S.G.S. satellite telemeter at station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge for period April 15 to Sept. 30, 7,370 ft^3/s, May 25, gage height 89.37 ft; minimum 8.9 ft^3/s, Aug. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	47	34	20	19	18
2	---	---	---	---	---	---	---	43	29	20	20	17
3	---	---	---	---	---	---	---	38	27	23	24	17
4	---	---	---	---	---	---	---	34	104	52	24	17
5	---	---	---	---	---	---	---	33	83	30	24	16
6	---	---	---	---	---	---	---	168	33	22	23	17
7	---	---	---	---	---	---	---	231	29	36	24	18
8	---	---	---	---	---	---	---	451	27	69	21	17
9	---	---	---	---	---	---	---	362	120	e21	19	18
10	---	---	---	---	---	---	---	88	65	e20	19	17
11	---	---	---	---	---	---	---	448	193	e27	21	17
12	---	---	---	---	---	---	---	1,270	471	38	22	17
13	---	---	---	---	---	---	---	184	53	40	642	17
14	---	---	---	---	---	---	---	101	38	21	46	124
15	---	---	---	---	---	---	e23	71	32	19	31	72
16	---	---	---	---	---	---	28	183	28	17	27	26
17	---	---	---	---	---	---	28	124	25	15	53	21
18	---	---	---	---	---	---	23	55	23	15	40	51
19	---	---	---	---	---	---	206	42	22	395	142	222
20	---	---	---	---	---	---	508	38	21	86	33	42
21	---	---	---	---	---	---	1,310	35	19	27	24	27
22	---	---	---	---	---	---	122	33	19	22	22	22
23	---	---	---	---	---	---	80	64	18	20	22	22
24	---	---	---	---	---	---	56	226	18	19	19	21
25	---	---	---	---	---	---	42	1,870	18	15	20	20
26	---	---	---	---	---	---	55	125	148	16	20	19
27	---	---	---	---	---	---	881	170	116	16	18	20
28	---	---	---	---	---	---	149	67	26	35	18	19
29	---	---	---	---	---	---	79	52	22	242	16	20
30	---	---	---	---	---	---	59	44	20	28	17	20
31	---	---	---	---	---	---	---	39	---	22	18	---
MEAN	---	---	---	---	---	---	---	217	62.7	46.7	48.0	33.0
MAX	---	---	---	---	---	---	---	1,870	471	395	642	222
MIN	---	---	---	---	---	---	---	33	18	15	16	16

e Estimated

06893400 INDIAN CREEK AT 103RD STREET IN KANSAS CITY, MO—Continued

LOCATION.--Lat 38°56'31", long 94°36'16", in NW ¼ NW ¼ SW ¼ sec. 31, T.47 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on left bank at upstream side of 103rd Street Bridge, east of State Line Road.

DRAINAGE AREA.-- 65.0 mi^2.

PERIOD OF RECORD.--February 22, 2002 to current year.

GAGE.--Water-stage recorder. Datum of gage is 722.57 ft North American Vertical Datum of 1988.

REMARKS.--Records good except for estimated daily discharges, which are fair. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	36	e24	19	27	22	20	105	21	32	18	336
2	70	32	e24	19	21	23	21	38	750	28	34	117
3	83	32	e23	19	21	21	23	31	65	24	23	70
4	227	31	e23	19	20	23	24	130	44	22	18	48
5	40	62	e23	19	19	25	24	60	36	20	33	38
6	75	33	22	18	20	26	71	95	264	20	89	32
7	33	29	24	20	19	30	44	52	49	19	21	30
8	27	27	22	21	19	e23	27	136	37	18	18	27
9	24	27	21	20	19	e19	24	100	33	75	18	28
10	24	27	21	21	19	e19	23	525	88	192	18	28
11	23	27	22	20	19	18	23	78	121	29	81	130
12	30	26	21	19	18	62	21	50	65	25	24	52
13	30	25	19	18	17	129	20	40	61	21	16	436
14	24	28	20	18	318	32	19	37	35	20	24	166
15	22	37	20	18	216	26	17	32	30	20	18	60
16	37	30	21	21	39	23	62	146	24	18	19	43
17	83	27	21	20	30	21	53	53	22	18	17	34
18	33	26	21	19	26	22	25	35	20	18	16	61
19	46	25	19	19	24	97	1,190	32	39	17	16	55
20	28	25	16	21	23	173	635	38	44	17	15	31
21	25	25	18	22	22	48	75	29	22	15	15	61
22	22	27	19	20	22	33	46	28	820	17	16	34
23	137	27	20	19	21	29	124	26	472	17	18	28
24	88	26	19	19	22	25	437	28	76	16	17	27
25	79	26	16	19	21	22	187	25	138	16	17	24
26	38	26	19	19	20	22	74	24	61	17	19	24
27	162	25	19	19	23	22	50	23	33	17	16	28
28	60	22	19	20	21	22	38	22	30	17	140	22
29	147	20	19	21	---	22	33	23	94	19	217	20
30	93	e23	19	20	---	21	32	20	111	16	1,860	170
31	48	---	19	59	---	21	---	20	---	17	4,730	---
MEAN	60.5	28.6	20.4	20.8	39.5	36.2	115	67.1	124	27.0	245	75.3
MAX	227	62	24	59	318	173	1,190	525	820	192	4,730	436
MIN	19	20	16	18	17	18	17	20	20	15	15	20

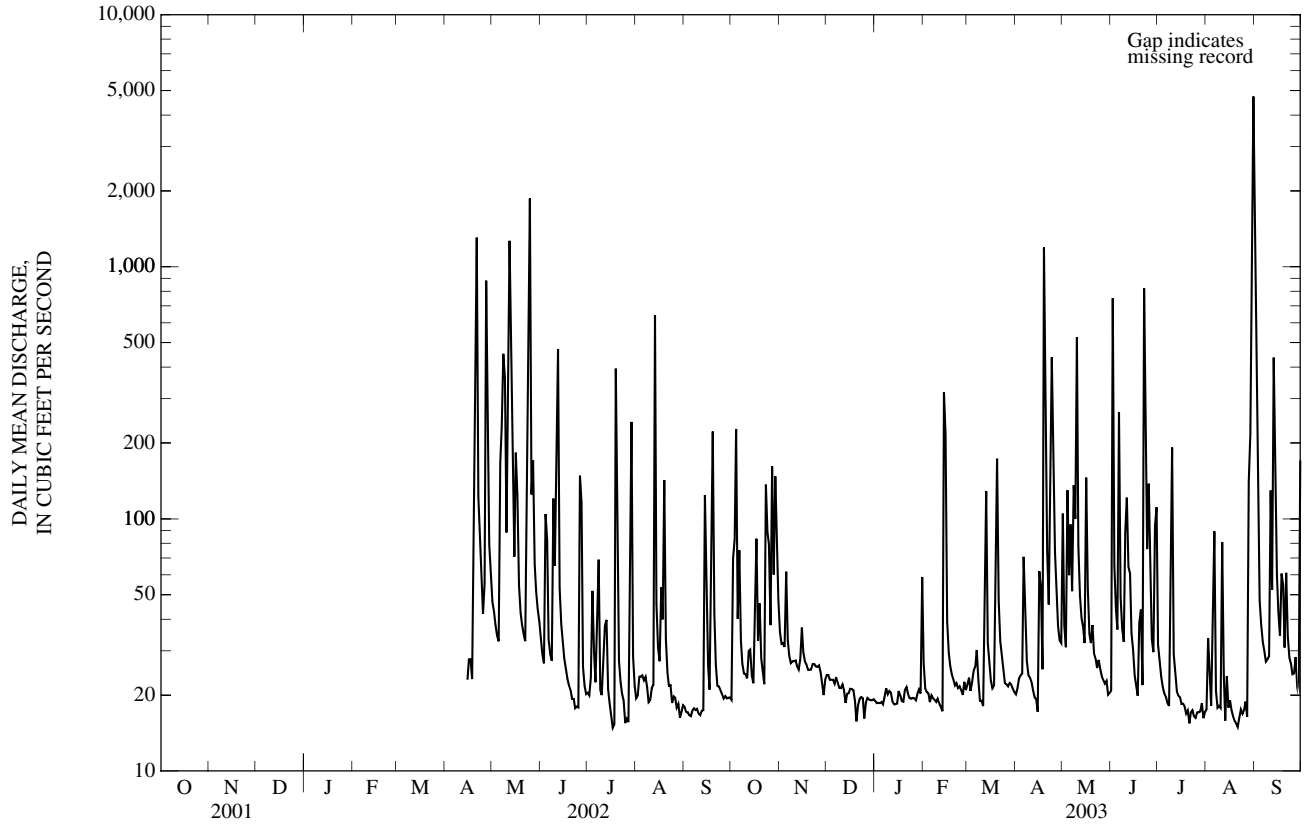
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	60.5	28.6	20.4	20.8	39.5	36.2	115	142	93.1	36.9	147	54.2
MAX	60.5	28.6	20.4	20.8	39.5	36.2	115	217	124	46.7	245	75.3
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2003)	(2002)	(2003)	(2003)
MIN	60.5	28.6	20.4	20.8	39.5	36.2	115	67.1	62.7	27.0	48.0	33.0
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2003)	(2002)	(2002)

06893400 INDIAN CREEK AT 103RD STREET IN KANSAS CITY, MO—Continued

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL MEAN	71.7		71.7	
HIGHEST ANNUAL MEAN			71.7	2003
LOWEST ANNUAL MEAN			71.7	2003
HIGHEST DAILY MEAN	4,730	Aug 31	4,730	Aug 31, 2003
LOWEST DAILY MEAN	15	Jul 21,Aug 20,,21	15	Jul 17,18,25, 2002, Jul 21,Aug 20,21, 2003
ANNUAL SEVEN-DAY MINIMUM	16	Aug 17	16	Aug 17, 2003
MAXIMUM PEAK FLOW	10,100	Aug 31	10,100	Aug 31, 2003
MAXIMUM PEAK STAGE	90.56	Aug 31	90.56	Aug 31, 2003
INSTANTANEOUS LOW FLOW	11	Apr 16,Jul 21,Aug 13	8.9	Aug 29, 2002
10 PERCENT EXCEEDS	02		102	
50 PERCENT EXCEEDS	24		24	
90 PERCENT EXCEEDS	18		18	

e Estimated



06893500 BLUE RIVER AT 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.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 926: Drainage area.

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

REMARKS.--No estimated daily discharges. Water-discharge records good. Low flow regulated by commercial plants above station. National Weather Service gage- height and U.S. Army Corps of Engineers satellite telemeters at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

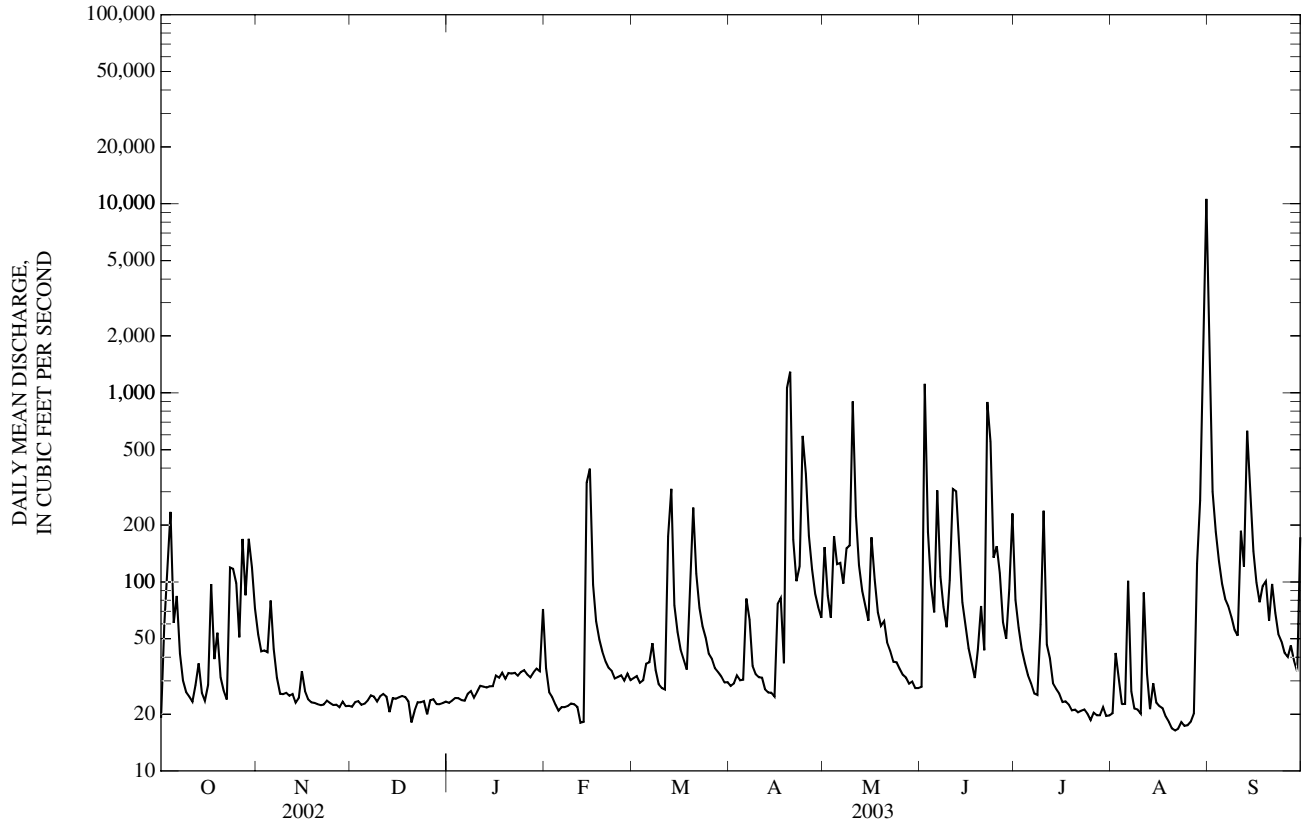
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	53	22	23	35	31	28	153	28	80	20	1,980
2	59	43	23	24	26	32	29	84	1,110	57	42	300
3	105	43	23	24	25	29	32	65	184	44	31	184
4	235	42	22	24	22	30	30	175	97	37	23	128
5	61	80	23	24	21	37	30	124	69	32	23	98
6	84	44	24	24	22	38	82	126	305	29	101	81
7	42	31	25	26	22	47	63	98	107	26	26	75
8	30	26	25	26	22	34	36	150	74	25	21	65
9	26	25	23	24	23	29	32	156	58	60	21	56
10	25	26	25	26	23	27	31	899	102	238	20	52
11	23	25	26	28	22	27	31	223	310	47	88	186
12	28	26	25	28	18	174	27	122	302	40	33	120
13	37	23	20	28	18	311	26	90	168	29	21	630
14	26	24	24	28	335	75	26	75	78	27	29	316
15	24	34	24	28	397	54	25	62	59	26	23	146
16	29	26	25	32	97	44	77	172	45	23	22	99
17	97	24	25	31	62	39	82	103	37	23	21	78
18	39	23	25	33	50	34	37	69	31	22	19	95
19	54	23	23	31	43	109	1,060	59	44	21	18	101
20	31	23	18	33	38	247	1,290	62	75	21	17	62
21	27	22	21	33	35	110	167	48	43	20	16	98
22	24	22	23	33	34	73	101	43	895	21	17	68
23	119	24	23	32	31	58	121	38	551	21	18	53
24	117	23	23	33	31	51	592	38	134	20	17	48
25	98	22	20	34	32	42	373	35	155	19	17	42
26	51	22	24	32	30	39	175	32	112	20	18	40
27	169	22	24	31	33	35	116	31	61	20	20	46
28	85	23	23	33	30	33	87	29	50	20	125	38
29	169	22	23	35	---	32	73	30	91	22	269	34
30	119	22	23	34	---	29	65	27	230	20	2,530	172
31	72	---	23	72	---	29	---	27	---	20	10,600	---
MEAN	68.5	29.6	23.2	30.5	56.3	63.8	165	111	187	36.5	460	183
MAX	235	80	26	72	397	311	1,290	899	1,110	238	10,600	1,980
MIN	19	22	18	23	18	27	25	27	28	19	16	34
IN.	0.42	0.18	0.14	0.19	0.31	0.39	0.98	0.68	1.11	0.22	2.82	1.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2003, BY WATER YEAR (WY)

MEAN	131	110	94.7	93.4	130	186	271	265	292	166	89.3	168
MAX	790	926	726	445	740	1,407	1,279	1,457	1,285	1,616	460	1,395
(WY)	(1987)	(1999)	(1993)	(1941)	(1985)	(1973)	(1944)	(1990)	(1967)	(1951)	(2003)	(1986)
MIN	0.00	0.00	0.00	0.00	2.66	4.36	6.41	17.8	7.44	1.72	0.94	0.05
(WY)	(1940)	(1940)	(1940)	(1940)	(1940)	(1957)	(1954)	(1956)	(1953)	(1946)	(1947)	(1939)

06893500 BLUE RIVER AT KANSAS CITY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1939 - 2003	
ANNUAL MEAN	147		118		167	
HIGHEST ANNUAL MEAN					437	1993
LOWEST ANNUAL MEAN					12.8	1956
HIGHEST DAILY MEAN	7,970	May 12	10,600	Aug 31	20,000	Sep 13, 1961
LOWEST DAILY MEAN	15	Jul 17,18	16	Aug 21	0.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	20	Aug 29	17	Aug 19	0.00	At Times
MAXIMUM PEAK FLOW	---		14,600	Aug 31	41,000	Sep 13, 1961
MAXIMUM PEAK STAGE	---		29.87	Aug 31	44.46	Sep 13, 1961
INSTANTANEOUS LOW FLOW	---		14	Dec 20,Feb 12	0.00	Several Years
ANNUAL RUNOFF (INCHES)	10.61		8.53		12.07	
10 PERCENT EXCEEDS	235		168		278	
50 PERCENT EXCEEDS	41		33		46	
90 PERCENT EXCEEDS	22		22		7.0	



06893500 BLUE RIVER NEAR KANSAS CITY, MO—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1998 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE.--August 1998 to current year.
pH.--August 1998 to current year.
SPECIFIC CONDUCTANCE.--August 1998 to current year.
DISSOLVED OXYGEN.--August 1998 to current year.
TURBIDITY.--August 1998 to current year.

INSTRUMENTATION.--Multi-parameter water-quality monitor deployed seasonally since August 1998. Electronic data logger with 15 minute recording interval and four hour satellite transmission interval

REMARKS.--Interruptions in the record are generally due to malfunction or fouling of the sensors. Where possible missing record has been estimated. Daily value estimations were based on partial data, inspection of contiguous data, hydrograph comparison and the best judgment of the hydrographer. Detailed records of the procedures employed for estimating data and/or data shifts for specific periods of record have been included with the station analysis and are kept on file. The manufacturers' specified range for turbidity sensors used is 0 to 1000 NTU. All numbers beyond this limit may be considered as >1000 NTU. Values >1000 NTU are maintained for continuity of the record. Specific Conductance records were rated either good or excellent except for the following periods: July 10-17 and September 19-25 rated fair. pH records were rated either good or excellent except for the following period: May 13 to June 5 rated fair to good. Water temperature records were rated excellent. Dissolved oxygen records were rated either good or excellent except for the following periods: April 19-23 rated poor; April 24-26, May 10-13, June 23-25 and September 3-9 rated estimated. Turbidity records were rated mostly excellent except for the following periods: May 10-13 and August 13 to September 9, 2003 rated fair; April 23-26, 2003 rated poor; June 2-5, 21-25 and July 8-9, 2003 rated estimated.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURE: Maximum, 32.9 °C, July 27, 29, 1999; minimum, 1.8 °C, November 21, 2000.
pH: Maximum, 8.9 standard units, July 12-13, 2000; minimum, 7.0 standard units on May 1, 9 2000.
SPECIFIC CONDUCTANCE: Maximum, 1,146 microsiemens, April 14, 2003; minimum, 109 microsiemens, June 28, 1999.
DISSOLVED OXYGEN: Maximum, 16.1 mg/L, October 9, 1998; minimum, 0.1 mg/L, May 10, June 22-23, August 28-31, 2003.
TURBIDITY: Maximum, 2,700 NTU, May 11-12, 2002; minimum, 0.0 NTU on numerous days August-November, 1998, July-November, 1999, April-September 2000.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 32.1 °C, July 5; minimum, 1.9 °C, December 6.
pH: Maximum, 8.4 standard units, July 18, September 10-11; minimum, 7.2 standard units, April 19.
SPECIFIC CONDUCTANCE: Maximum, 1,146 microsiemens, April 14; minimum, 243 microsiemens, August 31.
DISSOLVED OXYGEN: Maximum, 14.5 mg/L, December 5; minimum, 0.1 mg/L, May 10, June 22-23, August 28-31.
TURBIDITY: Maximum, 2,300 NTU, September 11,13; minimum, 2.0 NTU, October 20-21, November 11-13.

WATER TEMPERATURE (DEGREES C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	24.3	22.5	23.2	8.4	7.4	7.8	5.0	3.6	4.3	---	---	---
2	23.5	22.4	23.1	7.5	7.2	7.4	5.9	4.2	4.9	---	---	---
3	22.4	21.1	21.8	8.2	7.4	7.8	5.1	4.0	4.5	---	---	---
4	22.1	19.3	20.7	8.4	7.2	7.9	4.0	2.8	3.5	---	---	---
5	19.3	17.2	18.3	9.8	8.3	9.1	3.5	2.4	2.8	---	---	---
6	19.0	17.4	18.1	9.4	8.0	8.8	3.3	1.9	2.5	---	---	---
7	17.6	15.4	16.4	10.2	8.2	9.3	4.4	2.7	3.5	---	---	---
8	17.2	15.4	16.3	11.6	9.8	10.6	4.8	3.7	4.1	---	---	---
9	17.9	16.0	16.8	12.9	11.1	11.9	4.2	3.2	3.7	---	---	---
10	18.1	16.0	17.0	13.4	12.1	12.7	4.5	3.0	3.7	---	---	---
11	18.4	16.5	17.5	12.1	9.7	10.8	---	---	---	---	---	---
12	18.0	16.8	17.7	9.9	8.3	9.2	---	---	---	---	---	---
13	16.8	14.3	15.2	10.0	8.2	9.1	---	---	---	---	---	---
14	14.6	12.8	13.8	10.3	9.8	10.0	---	---	---	---	---	---
15	14.0	12.4	13.2	10.2	9.3	9.7	---	---	---	---	---	---
16	13.0	11.1	11.8	9.6	8.6	9.1	---	---	---	---	---	---
17	12.2	10.4	11.3	8.9	7.6	8.3	---	---	---	---	---	---
18	13.2	10.9	11.9	9.9	8.4	9.0	---	---	---	---	---	---
19	13.9	13.0	13.4	9.4	8.1	8.8	---	---	---	---	---	---
20	13.3	11.7	12.5	10.1	8.5	9.1	---	---	---	---	---	---
21	13.4	11.3	12.3	9.5	8.8	9.1	---	---	---	---	---	---
22	12.8	11.8	12.4	8.9	7.8	8.3	---	---	---	---	---	---
23	12.3	10.4	11.4	8.9	7.5	8.1	---	---	---	---	---	---
24	10.8	9.7	10	8.1	6.5	7.7	---	---	---	---	---	---
25	10.8	9.9	10.3	6.5	5.2	5.7	---	---	---	---	---	---
26	10.8	10.4	10.5	5.6	5.0	5.2	---	---	---	---	---	---
27	10.4	9.5	10.0	5.0	4.1	4.7	---	---	---	---	---	---
28	9.8	9.2	9.5	5.0	3.4	4.1	---	---	---	---	---	---
29	10.9	9.8	10.5	6.3	4.5	5.4	---	---	---	---	---	---
30	10.4	9.8	10.1	6.2	4.6	5.5	---	---	---	---	---	---
31	9.8	8.4	9.3	---	---	---	---	---	---	---	---	---
MONTH	24.3	8.4	14.4	13.4	3.4	8.3	5.9	1.9	3.8	---	---	---

06893500 BLUE RIVER NEAR KANSAS CITY, MO—Continued

WATER TEMPERATURE (DEGREES C),—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	22.6	19.4	20.6
2	---	---	---	---	---	---	---	---	---	20.4	17.6	19.1
3	---	---	---	---	---	---	---	---	---	20.6	17.8	19.2
4	---	---	---	---	---	---	---	---	---	19.8	17.6	18.7
5	---	---	---	---	---	---	---	---	---	21.4	17.1	19.2
6	---	---	---	---	---	---	---	---	---	20.6	19.1	19.9
7	---	---	---	---	---	---	---	---	---	21.5	17.8	19.7
8	---	---	---	---	---	---	---	---	---	20.8	18.5	19.3
9	---	---	---	---	---	---	11.0	6.2	8.4	22.2	18.5	20.1
10	---	---	---	---	---	---	14.0	9.0	11.3	21.8	18.7	20.5
11	---	---	---	---	---	---	16.7	12.0	14.1	20.1	17.7	18.8
12	---	---	---	---	---	---	19.0	14.8	16.7	20.3	16.9	18.7
13	---	---	---	---	---	---	20.5	16.8	18.5	19.8	18.2	19.0
14	---	---	---	---	---	---	22.2	18.4	20.1	22.8	18.8	20.6
15	---	---	---	---	---	---	22.4	19.5	20.8	22.8	19.7	21.4
16	---	---	---	---	---	---	21.1	17.3	18.9	21.9	17.8	19.5
17	---	---	---	---	---	---	17.3	15.2	15.8	19.5	17.2	18.2
18	---	---	---	---	---	---	17.1	14.4	15.6	21.8	17.9	19.8
19	---	---	---	---	---	---	16.9	14.8	16.2	21.5	20.1	20.8
20	---	---	---	---	---	---	14.9	13.8	14.4	21.1	18.0	19.6
21	---	---	---	---	---	---	17.2	13.5	15.2	20.6	17.7	19.1
22	---	---	---	---	---	---	18.6	14.5	16.5	21.6	17.5	19.6
23	---	---	---	---	---	---	17.6	15.5	16.6	21.6	19.4	20.6
24	---	---	---	---	---	---	15.6	14.1	14.5	21.4	19.8	20.6
25	---	---	---	---	---	---	14.4	13.8	14.2	22.4	18.9	20.6
26	---	---	---	---	---	---	17.1	12.9	14.9	22.8	19.4	21.1
27	---	---	---	---	---	---	19.3	15.3	17.3	23.6	19.9	21.6
28	---	---	---	---	---	---	19.9	18.2	18.9	24.1	21.2	22.6
29	---	---	---	---	---	---	21.6	18.3	19.9	25.1	21.6	23.3
30	---	---	---	---	---	---	23.3	19.8	21.5	26.9	22.9	24.7
31	---	---	---	---	---	---	---	---	---	25.3	22.4	23.4
MONTH	---	---	---	---	---	---	23.3	6.2	16.4	26.9	16.9	20.3

	JUNE			JULY			AUGUST			SEPTEMBER		
1	22.9	20.6	21.8	27.9	24.1	25.8	27.7	25.8	26.3	20.8	20.3	20.5
2	21.9	16.8	18.5	29.5	25.3	27.4	27.8	24.3	26.0	21.8	20.3	20.9
3	17.5	16.5	17.0	30.9	26.6	28.7	28.8	25.4	27.1	23.3	20.4	21.9
4	19.9	16.1	17.9	31.8	28.1	29.9	28.7	25.9	27.4	23.6	21.5	22.7
5	21.6	18.7	20.1	32.1	28.7	30.3	29.9	26.7	28.1	23.6	21.2	22.4
6	22.4	19.7	21.1	31.5	28.8	30.2	28.9	26.0	27.6	23.9	21.1	22.5
7	21.4	19.8	20.6	31.5	28.3	29.8	29.3	26.4	27.8	23.8	20.9	22.4
8	22.1	18.6	20.4	31.7	28.7	30.1	29.0	26.1	27.5	24.0	20.9	22.5
9	24.1	19.8	21.9	31.1	26.7	29.7	29.1	26.5	27.7	24.6	21.9	23.3
10	24.5	22.2	23.4	28.5	25.2	26.9	28.1	26.2	27.1	25.2	22.7	24.0
11	23.5	22.0	22.5	28.7	25.4	27.0	26.8	24.6	25.9	24.6	23.6	24.0
12	24.2	21.0	22.5	29.6	25.9	27.8	27.1	24.0	25.5	23.7	22.3	22.8
13	25.1	21.3	23.3	30.1	26.1	28.1	27.0	24.5	25.7	22.3	20.1	21.5
14	26.9	23.1	24.9	31.1	27.3	29.1	27.1	25.2	26.0	21.3	19.3	20.3
15	27.6	24.1	25.8	31.8	29.0	30.2	28.9	25.3	27.0	21.2	18.9	20.2
16	27.5	24.5	26.1	31.0	27.4	29.3	30.2	26.7	28.3	21.0	19.3	20.2
17	27.5	24.2	25.9	31.0	28.8	29.8	30.6	27.6	29.1	21.9	20.0	20.9
18	28.2	24.9	26.4	31.3	28.6	29.8	30.8	28.0	29.3	21.6	19.1	20.7
19	28.0	25.9	26.9	31.1	28.3	29.7	31.3	28.3	29.7	19.2	17.1	18.3
20	26.9	23.4	25.4	31.9	28.3	30.1	31.2	28.2	29.7	19.0	16.6	17.9
21	25.6	23.4	24.6	31.4	28.9	30.2	31.7	28.3	29.9	19.2	18.0	18.7
22	24.8	18.9	23.5	29.7	27.2	28.2	31.2	28.4	29.9	20.1	17.9	19.0
23	24.1	19.8	21.7	28.4	25.3	26.7	30.4	27.6	29.0	20.3	17.6	19.1
24	28.0	23.7	25.7	27.9	24.6	26.3	30.1	26.7	28.5	21.8	19.5	20.5
25	28.0	25.2	26.8	28.9	25.2	26.9	30.7	27.5	29.1	20.6	18.2	19.5
26	26.1	23.4	24.9	29.8	26.1	27.8	30.9	27.8	29.2	21.2	18.5	19.8
27	26.3	22.7	24.6	31.0	27.9	29.4	29.4	27.9	28.5	20.1	18.1	19.1
28	27.4	23.8	25.5	30.2	28.5	29.1	28.2	25.9	27.4	18.4	16.2	17.2
29	27.6	24.5	25.9	29.5	26.9	28.2	26.6	25.2	25.8	16.5	14.7	15.7
30	25.1	23.1	24.2	29.7	26.3	27.9	25.9	22.3	23.9	15.9	13.3	15.0
31	---	---	---	28.7	26.4	27.7	22.5	20.2	20.8	---	---	---
MONTH	28.2	16.1	23.3	32.1	24.1	28.6	31.7	20.2	27.4	25.2	13.3	20.4

06893500 BLUE RIVER NEAR KANSAS CITY, MO—Continued

pH, WATER, UNFILTERED, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.8	7.6	7.7	7.8	7.8	7.8	7.7	7.5	7.6	---	---	---
2	7.7	7.5	7.6	7.8	7.8	7.8	7.7	7.5	7.6	---	---	---
3	7.6	7.5	7.6	7.8	7.7	7.7	7.7	7.5	7.6	---	---	---
4	7.7	7.5	7.6	7.8	7.7	7.7	7.7	7.5	7.6	---	---	---
5	7.7	7.6	7.6	7.8	7.7	7.7	7.7	7.5	7.6	---	---	---
6	7.8	7.6	7.6	7.8	7.6	7.7	7.6	7.4	7.5	---	---	---
7	7.7	7.6	7.7	7.7	7.6	7.7	7.7	7.4	7.5	---	---	---
8	7.8	7.6	7.7	7.7	7.6	7.6	7.7	7.4	7.5	---	---	---
9	7.8	7.7	7.7	7.6	7.5	7.6	7.7	7.4	7.5	---	---	---
10	7.8	7.7	7.7	7.6	7.5	7.5	7.7	7.4	7.5	---	---	---
11	7.7	7.6	7.7	7.6	7.4	7.5	---	---	---	---	---	---
12	7.7	7.6	7.6	7.6	7.5	7.5	---	---	---	---	---	---
13	7.7	7.6	7.6	7.6	7.5	7.5	---	---	---	---	---	---
14	7.7	7.6	7.7	7.5	7.4	7.5	---	---	---	---	---	---
15	7.7	7.6	7.6	7.5	7.4	7.4	---	---	---	---	---	---
16	7.7	7.6	7.7	7.6	7.4	7.5	---	---	---	---	---	---
17	7.8	7.6	7.7	7.6	7.4	7.5	---	---	---	---	---	---
18	7.8	7.7	7.8	7.6	7.4	7.5	---	---	---	---	---	---
19	7.8	7.6	7.7	7.6	7.4	7.5	---	---	---	---	---	---
20	7.8	7.7	7.7	7.6	7.4	7.5	---	---	---	---	---	---
21	7.8	7.7	7.7	7.6	7.4	7.5	---	---	---	---	---	---
22	7.9	7.7	7.8	7.7	7.4	7.5	---	---	---	---	---	---
23	7.8	7.6	7.7	7.8	7.6	7.7	---	---	---	---	---	---
24	7.8	7.7	7.7	7.7	7.6	7.6	---	---	---	---	---	---
25	7.8	7.7	7.7	7.9	7.6	7.7	---	---	---	---	---	---
26	7.8	7.8	7.8	7.9	7.6	7.7	---	---	---	---	---	---
27	7.8	7.7	7.8	7.7	7.5	7.6	---	---	---	---	---	---
28	7.8	7.7	7.7	7.7	7.5	7.6	---	---	---	---	---	---
29	7.8	7.7	7.8	7.8	7.5	7.7	---	---	---	---	---	---
30	7.8	7.8	7.8	7.8	7.5	7.6	---	---	---	---	---	---
31	7.8	7.8	7.8	---	---	---	---	---	---	---	---	---
MONTH	7.9	7.5	7.7	7.9	7.4	7.6	7.7	7.4	7.5	---	---	---

	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	8.1	7.8	7.9
2	---	---	---	---	---	---	---	---	---	8.0	7.8	7.9
3	---	---	---	---	---	---	---	---	---	8.0	7.8	7.9
4	---	---	---	---	---	---	---	---	---	8.0	7.7	7.9
5	---	---	---	---	---	---	---	---	---	8.0	7.8	7.9
6	---	---	---	---	---	---	---	---	---	7.9	7.7	7.8
7	---	---	---	---	---	---	---	---	---	8.0	7.7	7.8
8	---	---	---	---	---	---	---	---	---	7.9	7.8	7.8
9	---	---	---	---	---	---	7.9	7.5	7.7	7.9	7.7	7.8
10	---	---	---	---	---	---	8.0	7.6	7.7	8.0	7.7	7.8
11	---	---	---	---	---	---	7.9	7.5	7.7	8.0	7.9	8.0
12	---	---	---	---	---	---	7.9	7.5	7.6	8.2	7.9	8.1
13	---	---	---	---	---	---	7.9	7.4	7.6	8.1	7.8	8.0
14	---	---	---	---	---	---	7.8	7.4	7.6	7.9	7.8	7.8
15	---	---	---	---	---	---	7.7	7.4	7.5	7.9	7.8	7.9
16	---	---	---	---	---	---	7.5	7.3	7.4	7.9	7.6	7.7
17	---	---	---	---	---	---	7.4	7.3	7.4	7.8	7.6	7.7
18	---	---	---	---	---	---	7.6	7.4	7.5	7.8	7.7	7.8
19	---	---	---	---	---	---	7.6	7.2	7.4	7.8	7.7	7.7
20	---	---	---	---	---	---	7.6	7.4	7.5	7.8	7.6	7.7
21	---	---	---	---	---	---	7.6	7.5	7.5	7.9	7.8	7.8
22	---	---	---	---	---	---	7.6	7.5	7.5	8.1	7.8	7.9
23	---	---	---	---	---	---	7.7	7.5	7.6	8.0	7.8	7.9
24	---	---	---	---	---	---	7.7	7.6	7.6	7.9	7.7	7.8
25	---	---	---	---	---	---	7.7	7.6	7.7	7.9	7.7	7.8
26	---	---	---	---	---	---	7.9	7.7	7.8	7.8	7.7	7.8
27	---	---	---	---	---	---	8.0	7.8	7.9	7.9	7.7	7.8
28	---	---	---	---	---	---	7.9	7.9	7.9	8.0	7.7	7.9
29	---	---	---	---	---	---	8.0	7.8	7.9	8.1	7.8	7.9
30	---	---	---	---	---	---	8.1	7.9	8.0	8.1	7.6	7.9
31	---	---	---	---	---	---	---	---	---	8.0	7.6	7.8
MONTH	---	---	---	---	---	---	8.1	7.2	7.6	8.2	7.6	7.8

06893500 BLUE RIVER NEAR KANSAS CITY, MO—Continued

pH, WATER, UNFILTERED, FIELD, STANDARD UNITS,—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.7	7.5	7.6	7.8	7.6	7.7	7.4	7.3	7.3	7.6	7.4	7.5
2	7.7	7.3	7.5	7.9	7.6	7.8	7.4	7.3	7.3	7.6	7.6	7.6
3	7.6	7.4	7.5	8.0	7.7	7.8	7.3	7.3	7.3	7.7	7.6	7.6
4	7.7	7.5	7.6	8.0	7.7	7.9	7.4	7.3	7.3	7.7	7.7	7.7
5	7.9	7.6	7.7	8.1	7.7	7.9	7.4	7.3	7.4	7.8	7.7	7.7
6	7.9	7.6	7.8	8.0	7.7	7.8	7.7	7.3	7.5	7.9	7.8	7.8
7	7.8	7.7	7.7	8.0	7.7	7.8	7.7	7.5	7.6	7.9	7.8	7.9
8	7.8	7.6	7.7	8.0	7.7	7.8	7.8	7.6	7.7	8.0	7.9	7.9
9	7.9	7.7	7.8	8.0	7.7	7.8	7.8	7.6	7.7	8.3	7.9	8.1
10	7.9	7.7	7.8	7.8	7.5	7.6	7.7	7.5	7.6	8.4	8.0	8.2
11	7.8	7.5	7.7	7.8	7.5	7.6	7.6	7.4	7.5	8.4	7.9	8.1
12	7.8	7.6	7.7	7.8	7.5	7.7	7.5	7.4	7.4	8.0	7.8	7.9
13	7.6	7.4	7.5	7.8	7.6	7.7	7.8	7.4	7.6	7.8	7.7	7.7
14	7.7	7.6	7.6	7.8	7.6	7.7	7.7	7.6	7.7	7.9	7.7	7.8
15	7.8	7.6	7.7	7.9	7.6	7.7	7.8	7.6	7.7	8.0	7.8	7.9
16	7.8	7.6	7.7	8.1	7.6	7.8	7.7	7.6	7.6	8.0	7.9	7.9
17	7.9	7.7	7.8	8.2	7.7	8.0	7.6	7.5	7.6	8.1	7.9	8.0
18	7.9	7.7	7.8	8.4	7.8	8.0	7.7	7.5	7.6	8.0	7.8	7.9
19	7.9	7.7	7.8	8.3	7.8	8.0	7.7	7.5	7.6	7.9	7.7	7.8
20	7.9	7.6	7.7	8.3	7.8	8.0	7.8	7.5	7.6	7.8	7.7	7.8
21	7.9	7.7	7.8	8.2	7.8	7.9	7.7	7.5	7.6	7.8	7.7	7.8
22	7.8	7.4	7.7	8.2	7.8	8.0	7.7	7.5	7.6	7.8	7.6	7.7
23	7.5	7.3	7.4	8.1	7.8	7.9	7.7	7.6	7.6	7.8	7.7	7.8
24	7.7	7.5	7.6	8.1	7.8	8.0	7.7	7.5	7.6	7.8	7.7	7.8
25	7.7	7.6	7.6	8.2	7.8	8.0	7.6	7.5	7.6	7.8	7.7	7.8
26	7.7	7.6	7.7	8.0	7.6	7.8	7.6	7.4	7.5	7.9	7.7	7.8
27	7.8	7.6	7.7	7.8	7.5	7.7	7.5	7.4	7.4	7.9	7.7	7.8
28	7.9	7.7	7.8	7.6	7.4	7.5	7.6	7.3	7.4	8.0	7.7	7.8
29	7.9	7.7	7.8	7.5	7.4	7.4	7.6	7.4	7.5	8.0	7.7	7.8
30	7.8	7.6	7.7	7.5	7.4	7.4	7.8	7.5	7.6	7.8	7.6	7.8
31	---	---	---	7.5	7.4	7.4	7.6	7.3	7.5	---	---	---
MONTH	7.9	7.3	7.7	8.4	7.4	7.8	7.8	7.3	7.5	8.4	7.4	7.8

06893500 BLUE RIVER NEAR KANSAS CITY, MO—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, µS/cm @ 25 °C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	982	963	972	700	631	664	1,030	1,011	1,023	---	---	---
2	977	915	960	755	700	728	1,038	1,013	1,027	---	---	---
3	915	614	658	809	755	784	1,026	1,007	1,016	---	---	---
4	617	397	500	843	809	830	1,032	1,011	1,025	---	---	---
5	496	473	481	862	802	835	1,027	1,011	1,020	---	---	---
6	596	491	535	810	729	767	1,035	1,014	1,027	---	---	---
7	676	569	630	817	800	808	1,036	1,024	1,029	---	---	---
8	669	629	644	864	803	829	1,033	1,022	1,029	---	---	---
9	725	655	685	893	864	881	1,040	1,028	1,033	---	---	---
10	784	725	756	930	893	915	1,041	1,028	1,035	---	---	---
11	812	784	807	946	930	941	---	---	---	---	---	---
12	839	809	821	949	936	940	---	---	---	---	---	---
13	851	769	810	958	937	950	---	---	---	---	---	---
14	805	774	793	958	936	951	---	---	---	---	---	---
15	818	805	814	984	936	968	---	---	---	---	---	---
16	836	797	825	981	932	956	---	---	---	---	---	---
17	840	690	744	947	928	936	---	---	---	---	---	---
18	705	648	671	956	941	948	---	---	---	---	---	---
19	685	628	648	959	947	952	---	---	---	---	---	---
20	772	685	736	979	958	971	---	---	---	---	---	---
21	803	772	794	987	979	983	---	---	---	---	---	---
22	840	764	785	1,001	983	993	---	---	---	---	---	---
23	887	576	816	998	988	994	---	---	---	---	---	---
24	591	505	542	1,013	995	1,006	---	---	---	---	---	---
25	646	523	566	1,027	1,013	1,020	---	---	---	---	---	---
26	666	646	662	1,039	1,016	1,027	---	---	---	---	---	---
27	666	440	598	1,021	1,013	1,018	---	---	---	---	---	---
28	529	470	509	1,024	1,010	1,017	---	---	---	---	---	---
29	579	490	540	1,011	1,001	1,006	---	---	---	---	---	---
30	592	540	563	1,020	1,006	1,012	---	---	---	---	---	---
31	643	592	631	---	---	---	---	---	---	---	---	---
MONTH	982	397	693	1,039	631	921	1,041	1,007	1,026	---	---	---

	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	877	677	798
2	---	---	---	---	---	---	---	---	---	740	704	731
3	---	---	---	---	---	---	---	---	---	755	699	725
4	---	---	---	---	---	---	---	---	---	756	603	682
5	---	---	---	---	---	---	---	---	---	632	589	609
6	---	---	---	---	---	---	---	---	---	651	604	622
7	---	---	---	---	---	---	---	---	---	644	571	621
8	---	---	---	---	---	---	---	---	---	661	580	634
9	---	---	---	---	---	---	1,090	1,048	1,071	590	485	542
10	---	---	---	---	---	---	1,055	1,026	1,044	565	390	471
11	---	---	---	---	---	---	1,069	1,021	1,048	604	492	539
12	---	---	---	---	---	---	1,091	1,017	1,064	705	604	665
13	---	---	---	---	---	---	1,106	1,069	1,095	765	704	736
14	---	---	---	---	---	---	1,146	1,091	1,123	801	765	784
15	---	---	---	---	---	---	1,145	1,113	1,134	834	791	814
16	---	---	---	---	---	---	1,138	852	1,028	854	591	753
17	---	---	---	---	---	---	997	871	931	637	586	608
18	---	---	---	---	---	---	973	936	958	638	615	623
19	---	---	---	---	---	---	977	339	672	709	638	672
20	---	---	---	---	---	---	651	350	522	763	705	737
21	---	---	---	---	---	---	753	640	694	779	753	762
22	---	---	---	---	---	---	834	753	797	799	772	782
23	---	---	---	---	---	---	901	657	853	808	789	800
24	---	---	---	---	---	---	690	410	492	841	808	827
25	---	---	---	---	---	---	629	555	585	857	836	849
26	---	---	---	---	---	---	730	629	683	861	835	851
27	---	---	---	---	---	---	767	728	752	859	835	850
28	---	---	---	---	---	---	830	767	806	871	848	863
29	---	---	---	---	---	---	847	824	833	875	860	867
30	---	---	---	---	---	---	872	840	854	874	861	868
31	---	---	---	---	---	---	---	---	---	875	854	869
MONTH	---	---	---	---	---	---	1,146	339	865	877	390	728

06893500 BLUE RIVER NEAR KANSAS CITY, MO—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, µS/cm @ 25 °C,—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	866	854	861	487	398	448	961	948	954	554	359	466
2	858	530	669	597	487	526	965	920	947	668	554	615
3	530	438	465	685	597	644	933	796	874	729	667	699
4	637	498	571	720	685	696	848	771	799	748	723	736
5	749	637	697	738	718	726	901	848	877	789	746	771
6	749	455	535	766	738	756	917	495	593	811	785	797
7	566	529	555	799	760	787	679	545	612	824	797	810
8	630	552	583	803	784	794	773	679	729	851	821	833
9	706	630	670	826	496	788	851	770	815	862	841	849
10	736	633	718	593	412	448	916	851	885	867	838	854
11	633	437	509	501	432	460	916	731	826	869	515	748
12	532	289	490	605	501	547	759	708	732	606	517	578
13	490	319	447	724	605	667	786	720	758	631	322	535
14	628	467	571	785	724	763	827	785	808	551	330	455
15	657	623	635	833	785	817	864	799	839	660	551	605
16	706	657	686	881	833	864	918	805	895	725	660	702
17	748	699	722	908	880	896	912	863	884	758	698	740
18	774	747	761	912	893	903	906	864	885	788	700	766
19	830	762	791	904	887	895	960	906	937	755	645	696
20	820	698	744	907	883	893	986	956	968	734	686	726
21	741	694	719	911	880	896	993	978	985	734	670	719
22	697	249	581	908	785	875	991	973	981	724	683	697
23	403	303	344	915	882	899	981	965	973	793	706	752
24	628	401	488	935	913	925	985	972	979	833	793	804
25	735	598	678	947	923	932	991	973	983	864	833	851
26	598	465	479	954	915	937	989	974	981	880	864	875
27	568	480	519	959	935	951	1,006	968	993	902	876	888
28	694	568	632	965	953	959	1,001	442	861	885	873	879
29	749	645	719	966	954	959	533	410	488	900	883	889
30	657	396	478	964	952	956	549	281	420	899	511	795
31	---	---	---	960	946	953	359	243	303	---	---	---
MONTH	866	249	611	966	398	792	1,006	243	825	902	322	738

06893500 BLUE RIVER NEAR KANSAS CITY, MO—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, mg/L, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.4	6.4	7.2	11.9	10.9	11.4	13.4	10.4	11.6	---	---	---
2	7.2	6.2	6.7	11.5	11.1	11.3	13.1	10.4	11.5	---	---	---
3	7.5	6.6	7.0	11.1	10.6	10.9	13.3	10.2	11.5	---	---	---
4	7.8	6.6	7.3	11.2	10.5	10.8	13.9	11.0	12.2	---	---	---
5	8.7	7.4	8.2	10.7	10.0	10.4	14.5	11.6	12.7	---	---	---
6	8.6	7.9	8.3	11.0	10.2	10.5	14.3	11.8	12.8	---	---	---
7	9.3	8.0	8.6	10.7	9.7	10.2	14.2	11.4	12.6	---	---	---
8	9.6	8.4	8.9	10.2	9.0	9.5	14.0	11.0	12.2	---	---	---
9	9.4	8.2	8.7	9.5	8.0	8.8	13.9	11.2	12.3	---	---	---
10	9.6	8.1	8.7	8.9	7.5	8.1	14.0	11.3	12.4	---	---	---
11	9.5	7.8	8.5	9.7	7.6	8.5	---	---	---	---	---	---
12	8.6	7.5	8.0	10.4	8.7	9.4	---	---	---	---	---	---
13	9.5	7.9	8.6	10.5	8.9	9.5	---	---	---	---	---	---
14	9.4	8.7	9.0	9.3	8.3	8.8	---	---	---	---	---	---
15	10.1	8.8	9.3	10.1	8.4	9.1	---	---	---	---	---	---
16	10.0	8.9	9.5	11.2	8.8	9.8	---	---	---	---	---	---
17	10.6	9.6	10.3	11.5	9.3	10.2	---	---	---	---	---	---
18	10.5	9.7	10.1	11.4	8.9	10.1	---	---	---	---	---	---
19	9.9	8.9	9.5	11.4	8.7	10.0	---	---	---	---	---	---
20	10.4	9.3	9.8	11.3	8.8	9.8	---	---	---	---	---	---
21	10.6	9.4	9.9	11.1	8.5	9.7	---	---	---	---	---	---
22	10.8	9.3	9.9	11.9	8.8	10.1	---	---	---	---	---	---
23	10.8	9.4	9.9	12.1	9.2	10.4	---	---	---	---	---	---
24	10.8	10.5	10.6	11.0	9.1	10.1	---	---	---	---	---	---
25	10.8	10.3	10.5	13.6	9.7	11.3	---	---	---	---	---	---
26	10.7	10.1	10.4	13.4	10.5	11.8	---	---	---	---	---	---
27	11.2	10.2	10.6	13.2	10.4	11.6	---	---	---	---	---	---
28	11.0	10.5	10.8	13.6	11.0	12.0	---	---	---	---	---	---
29	10.7	10.3	10.5	13.7	10.6	11.9	---	---	---	---	---	---
30	10.8	10.3	10.6	13.2	9.9	11.3	---	---	---	---	---	---
31	11.1	10.5	10.8	---	---	---	---	---	---	---	---	---
MONTH	11.2	6.2	9.2	13.7	7.5	10.2	14.5	10.2	12.2	---	---	---

	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	7.4	5.7	6.6
2	---	---	---	---	---	---	---	---	---	8.0	6.8	7.3
3	---	---	---	---	---	---	---	---	---	8.2	6.5	7.3
4	---	---	---	---	---	---	---	---	---	7.8	6.6	7.3
5	---	---	---	---	---	---	---	---	---	8.0	7.0	7.5
6	---	---	---	---	---	---	---	---	---	7.2	6.4	6.8
7	---	---	---	---	---	---	---	---	---	7.9	6.2	7.3
8	---	---	---	---	---	---	---	---	---	7.6	6.6	7.0
9	---	---	---	---	---	---	13.1	10.6	11.6	7.5	6.6	7.1
10	---	---	---	---	---	---	12.1	9.5	10.6	7.7	0.1	e6.9
11	---	---	---	---	---	---	11.2	8.1	9.4	7.6	7.6	e7.6
12	---	---	---	---	---	---	10.3	6.7	8.2	7.6	7.6	e7.6
13	---	---	---	---	---	---	9.6	5.9	7.5	8.8	7.6	e8.0
14	---	---	---	---	---	---	9.3	5.1	7.1	8.4	7.3	7.8
15	---	---	---	---	---	---	8.6	5.3	6.8	8.1	6.8	7.4
16	---	---	---	---	---	---	7.2	4.9	6.1	8.3	6.7	7.4
17	---	---	---	---	---	---	7.9	7.0	7.4	8.4	7.8	8.1
18	---	---	---	---	---	---	8.7	7.0	7.7	8.4	7.5	7.9
19	---	---	---	---	---	---	9.1	6.4	7.5	7.6	5.9	7.2
20	---	---	---	---	---	---	9.2	8.2	8.8	8.4	7.0	7.7
21	---	---	---	---	---	---	9.1	8.0	8.6	8.7	7.5	8.0
22	---	---	---	---	---	---	8.3	7.4	7.8	8.9	7.5	8.1
23	---	---	---	---	---	---	9.1	7.3	8.0	8.5	7.2	7.8
24	---	---	---	---	---	---	9.5	6.2	e7.9	8.5	6.9	7.5
25	---	---	---	---	---	---	9.6	8.3	e8.7	9.1	7.0	7.9
26	---	---	---	---	---	---	8.9	7.9	e8.6	9.5	6.6	8.2
27	---	---	---	---	---	---	8.0	7.2	7.7	9.8	7.2	8.4
28	---	---	---	---	---	---	7.2	6.5	6.8	9.9	7.1	8.4
29	---	---	---	---	---	---	7.5	6.2	6.8	11.5	7.1	9.0
30	---	---	---	---	---	---	7.8	6.1	6.9	10.9	7.1	8.7
31	---	---	---	---	---	---	---	---	---	9.9	6.5	8.1
MONTH	---	---	---	---	---	---	13.1	4.9	8.0	11.5	0.1	7.7

06893500 BLUE RIVER NEAR KANSAS CITY, MO—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, mg/L,—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	10.1	6.5	8.4	7.4	6.3	6.7	7.0	4.0	5.4	9.5	3.0	6.1
2	8.8	2.6	6.9	7.7	6.1	6.8	7.9	5.2	6.4	9.4	1.8	5.2
3	8.5	6.3	8.3	7.9	5.7	6.6	6.8	5.0	5.9	6.1	4.1	e5.2
4	8.9	8.0	8.5	8.0	5.3	6.5	6.7	4.0	5.4	4.5	3.5	e3.9
5	9.5	7.6	8.1	8.2	5.1	6.4	7.0	4.9	5.8	4.0	3.4	e3.7
6	8.3	7.5	8.0	8.3	5.0	6.4	6.2	4.9	5.6	4.9	4.0	e4.4
7	8.1	7.4	7.7	8.9	4.7	6.6	6.9	5.1	5.8	6.0	4.9	e5.5
8	8.5	7.5	7.9	8.9	5.0	6.6	7.1	5.4	6.1	7.1	6.0	e6.6
9	8.8	7.4	8.0	9.2	4.8	6.7	7.2	5.1	6.2	9.4	7.1	e8.1
10	8.5	6.9	7.6	6.8	5.4	6.3	7.4	5.2	6.3	10.1	6.8	8.3
11	7.8	7.1	7.5	7.4	5.4	6.3	7.1	5.8	6.7	8.1	6.4	7.2
12	8.1	7.3	7.6	6.7	5.6	6.1	7.4	5.9	6.6	7.8	6.5	7.1
13	7.7	6.9	7.3	7.4	5.4	6.4	8.0	5.4	6.7	8.1	6.5	7.2
14	7.8	6.8	7.2	7.5	5.5	6.4	7.6	6.4	6.9	8.3	7.7	8.0
15	8.0	6.3	7.2	7.9	4.8	6.4	7.8	6.1	6.8	9.2	7.7	8.2
16	8.0	6.4	7.1	8.1	5.5	6.6	7.1	6.0	6.6	8.3	7.3	7.8
17	8.3	6.3	7.2	8.2	5.2	6.6	7.1	5.7	6.4	8.6	6.9	7.8
18	8.4	6.1	7.2	8.4	5.4	6.8	7.3	5.5	6.3	7.8	7.1	7.5
19	8.1	6.0	6.9	9.3	5.4	7.0	7.4	5.4	6.3	9.1	7.8	8.4
20	9.0	6.3	7.5	9.8	5.1	7.1	7.7	5.3	6.4	9.3	8.2	8.7
21	8.9	6.5	7.6	8.4	4.2	6.1	7.8	5.6	6.5	8.6	7.9	8.3
22	8.2	0.1	5.6	7.6	4.2	5.8	7.8	5.5	6.5	8.6	7.8	8.1
23	7.9	0.1	e4.4	8.4	5.3	6.6	8.0	5.8	6.7	8.9	7.7	8.2
24	7.9	4.4	e6.5	8.4	5.5	6.8	8.0	5.8	6.8	8.3	7.4	7.9
25	6.8	5.0	e6.2	8.6	5.2	6.7	7.8	5.8	6.6	8.6	7.4	8.0
26	7.3	6.5	6.8	8.6	5.8	6.9	7.8	5.6	6.5	8.7	7.6	8.1
27	7.6	6.4	6.9	8.6	5.0	6.6	7.0	5.5	6.1	9.0	7.4	8.2
28	7.8	6.2	6.9	7.3	3.8	5.6	6.7	0.1	5.6	10.0	8.0	8.8
29	8.0	6.1	6.9	8.5	4.3	6.2	6.6	0.1	3.5	10.7	8.7	9.5
30	7.2	6.6	7.0	7.4	4.9	5.9	7.7	0.1	4.1	10.3	8.6	9.3
31	---	---	---	6.8	3.3	5.0	9.0	0.1	5.6	---	---	---
MONTH	10.1	0.1	7.2	9.8	3.3	6.4	9.0	0.1	6.1	10.7	1.8	7.3

e Estimated

06893500 BLUE RIVER NEAR KANSAS CITY, MO—Continued

TURBIDITY, WATER, UNFILTERED, NEPHELOMETRIC TURBIDITY UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15	4.0	5.8	12	8.0	10	5.0	3.0	4.0	---	---	---
2	69	4.0	17	10	6.0	7.3	10	4.0	5.3	---	---	---
3	67	12	32	9.0	6.0	6.8	15	5.0	10	---	---	---
4	290	13	110	6.0	4.0	5.0	10	4.0	5.1	---	---	---
5	61	12	29	17	5.0	11	12	4.0	5.0	---	---	---
6	40	12	23	16	5.1	9.1	8.0	4.0	5.2	---	---	---
7	23	5.0	11	9.3	4.2	5.0	14	5.0	7.0	---	---	---
8	11	5.0	6.8	7.5	3.5	5.0	16	5.0	6.8	---	---	---
9	17	7.0	9.7	6.0	3.0	4.8	10	4.0	5.4	---	---	---
10	14	4.0	6.6	6.0	3.0	4.1	7.0	5.0	5.5	---	---	---
11	11	5.0	7.0	7.0	2.0	3.3	---	---	---	---	---	---
12	11	6.0	8.4	4.0	2.0	2.7	---	---	---	---	---	---
13	14	5.0	7.0	5.0	2.0	3.0	---	---	---	---	---	---
14	8.0	3.0	4.2	6.0	3.0	4.2	---	---	---	---	---	---
15	9.0	4.0	6.1	8.0	4.0	5.7	---	---	---	---	---	---
16	19	3.0	5.7	6.0	3.0	4.0	---	---	---	---	---	---
17	1,300	12	77	4.0	3.0	3.2	---	---	---	---	---	---
18	14	8.0	10	5.0	3.0	3.7	---	---	---	---	---	---
19	19	7.0	12	7.0	3.0	3.7	---	---	---	---	---	---
20	10	2.0	4.3	5.0	3.0	3.7	---	---	---	---	---	---
21	7.0	2.0	3.1	5.0	3.0	4.1	---	---	---	---	---	---
22	8.0	4.0	5.8	5.0	3.0	3.9	---	---	---	---	---	---
23	140	6.0	36	4.0	3.0	3.8	---	---	---	---	---	---
24	100	30	51	5.0	3.0	3.8	---	---	---	---	---	---
25	38	13	24	4.0	3.0	3.3	---	---	---	---	---	---
26	14	5.0	8.1	6.0	3.0	3.9	---	---	---	---	---	---
27	120	5.0	50	5.0	3.0	4.0	---	---	---	---	---	---
28	78	26	46	4.0	3.0	3.5	---	---	---	---	---	---
29	81	26	51	6.0	3.0	3.9	---	---	---	---	---	---
30	44	26	34	7.0	3.0	4.2	---	---	---	---	---	---
31	26	11	15	---	---	---	---	---	---	---	---	---
MONTH	1,300	2.0	23	17	2.0	4.8	16	3.0	5.9	---	---	---

	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	100	32	54
2	---	---	---	---	---	---	---	---	---	70	26	40
3	---	---	---	---	---	---	---	---	---	37	26	32
4	---	---	---	---	---	---	---	---	---	160	28	85
5	---	---	---	---	---	---	---	---	---	110	52	85
6	---	---	---	---	---	---	---	---	---	220	50	78
7	---	---	---	---	---	---	---	---	---	83	34	53
8	---	---	---	---	---	---	---	---	---	1,500	35	110
9	---	---	---	---	---	---	18	10	12	200	60	110
10	---	---	---	---	---	---	22	12	15	1,600	17	720
11	---	---	---	---	---	---	160	17	37	500	130	240
12	---	---	---	---	---	---	180	31	120	150	64	100
13	---	---	---	---	---	---	440	96	220	85	48	57
14	---	---	---	---	---	---	440	12	160	53	35	45
15	---	---	---	---	---	---	22	12	15	51	35	43
16	---	---	---	---	---	---	120	13	48	220	36	87
17	---	---	---	---	---	---	83	33	53	80	35	55
18	---	---	---	---	---	---	62	22	31	39	32	36
19	---	---	---	---	---	---	1,400	24	700	63	26	35
20	---	---	---	---	---	---	1,400	280	830	41	23	32
21	---	---	---	---	---	---	320	77	180	34	20	28
22	---	---	---	---	---	---	78	40	57	30	19	24
23	---	---	---	---	---	---	340	32	59	32	16	21
24	---	---	---	---	---	---	1,200	170	290	33	16	20
25	---	---	---	---	---	---	1,200	140	310	22	12	17
26	---	---	---	---	---	---	140	70	100	45	14	19
27	---	---	---	---	---	---	74	62	67	72	10	20
28	---	---	---	---	---	---	75	46	57	26	10	15
29	---	---	---	---	---	---	59	37	46	94	11	17
30	---	---	---	---	---	---	50	29	39	87	11	18
31	---	---	---	---	---	---	---	---	---	28	11	17
MONTH	---	---	---	---	---	---	1,400	10	160	1,600	10	75

06893500 BLUE RIVER NEAR KANSAS CITY, MO—Continued

TURBIDITY, WATER, UNFILTERED, NEPHELOMETRIC TURBIDITY UNITS,—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	70	13	22	210	43	86	770	18	77	550	100	240
2	1,500	21	e300	56	22	34	1,600	15	120	100	45	66
3	63	46	e55	31	13	21	1,600	14	100	200	35	65
4	46	34	e40	21	10	15	740	14	83	110	29	42
5	34	20	e26	18	8.0	13	1,600	21	160	33	19	26
6	350	23	110	36	7.0	13	1,600	46	290	28	16	21
7	100	34	43	170	10	23	130	30	62	34	14	19
8	110	18	33	46	10	e20	140	20	43	36	15	23
9	100	14	22	1,500	10	e130	54	16	30	28	11	17
10	1,600	12	75	1,300	93	280	37	15	25	22	8.0	14
11	1,600	120	680	100	25	51	450	19	80	2,300	10	190
12	1,600	87	220	90	22	48	44	16	30	130	50	80
13	1,200	72	160	45	18	26	73	13	31	2,300	45	330
14	150	38	55	49	19	27	57	21	37	630	74	220
15	120	24	37	34	16	22	320	16	78	75	43	56
16	98	23	33	36	18	24	290	40	91	380	32	110
17	75	15	27	56	12	21	56	19	39	110	43	64
18	65	13	19	29	13	20	40	20	30	410	30	92
19	49	12	19	29	10	18	35	17	25	110	32	60
20	49	15	25	25	9.0	17	33	15	23	42	15	22
21	53	14	e25	26	12	18	39	15	23	130	20	47
22	1,600	13	e470	100	19	37	34	15	21	120	30	63
23	1,600	280	e780	120	19	34	540	14	93	100	21	44
24	570	35	e140	36	12	23	34	12	20	88	29	56
25	220	14	e66	37	13	22	40	14	21	84	28	47
26	210	63	110	1,100	14	69	32	12	20	44	16	31
27	63	23	39	270	10	45	43	15	27	44	15	27
28	34	13	22	51	13	22	1,600	19	250	30	10	19
29	300	10	41	40	12	23	1,600	55	320	28	12	17
30	1,500	150	380	67	16	28	1,600	35	590	1,900	20	140
31	---	---	---	500	19	44	1,500	490	800	---	---	---
MONTH	1,600	10	140	1,500	7.0	41	1,600	12	120	2,300	8.0	75

e Estimated

06893557 BRUSH CREEK AT WARD PARKWAY IN KANSAS CITY, MO

LOCATION.--Lat 39°01'59", long 94°36'19", in NW ¼ NW ¼ sec.31, T.49 N., R.33 W. in Jackson County, Hydrologic Unit 10300101, on the downstream side of the right wingwall on Ward Parkway at Shawnee Mission Parkway in Kansas City and 5.4 mi upstream from the Blue River.

DRAINAGE AREA.--12.2 mi^2.

PERIOD OF RECORD--July 1998 to current year.

GAGE.--Water-stage recorder. Datum of gage is 800.00 ft above National Geodetic Vertical Datum of 1929 (from levels by the U.S. Geological Survey).

REMARKS.--No estimated daily discharges. Records fair. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

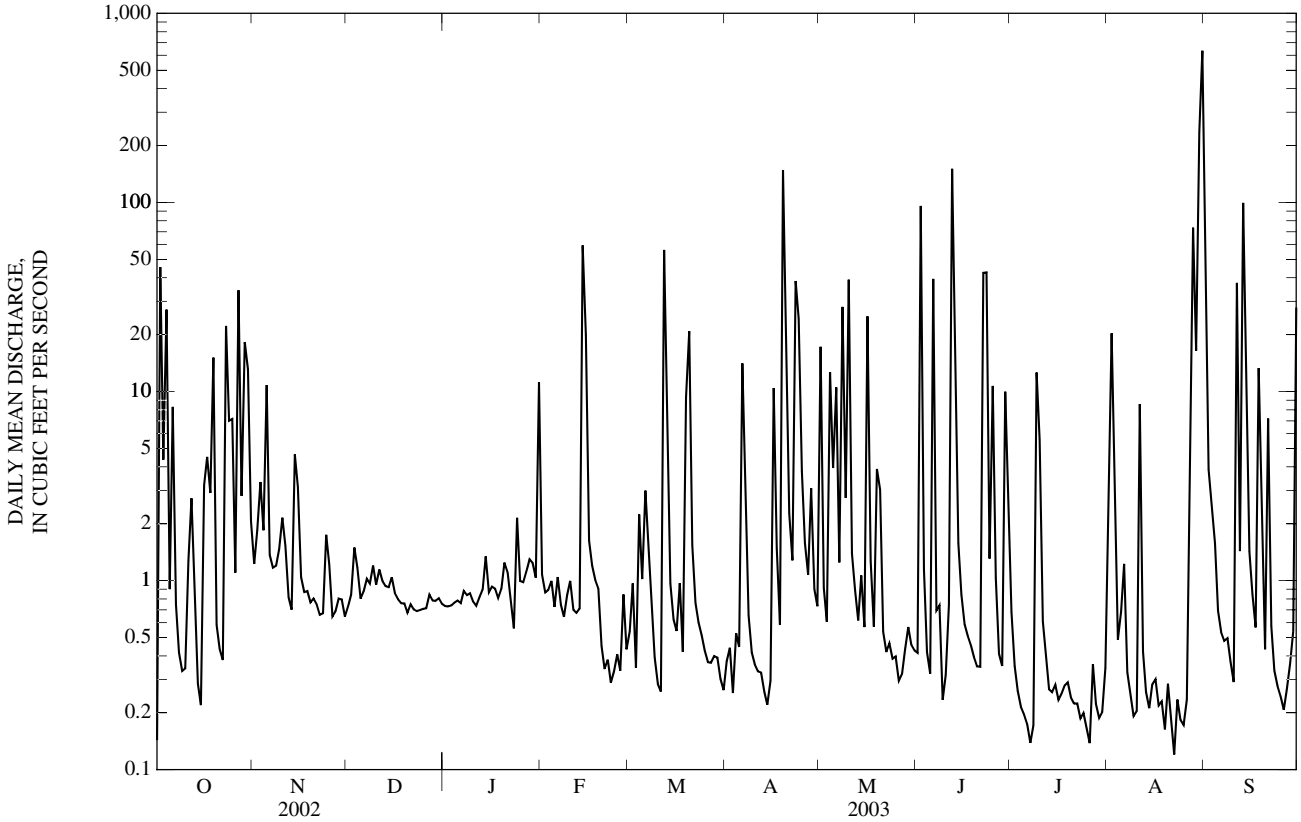
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.14	1.2	0.73	0.73	1.1	0.54	0.37	17	0.41	0.68	2.7	42
2	45	1.8	0.84	0.73	0.87	0.97	0.44	0.92	96	0.35	20	3.9
3	4.4	3.3	1.5	0.74	0.89	0.35	0.25	0.61	1.1	0.26	4.8	2.5
4	27	1.8	1.2	0.77	1.00	2.2	0.53	13	0.42	0.22	0.49	1.6
5	0.90	11	0.80	0.78	0.73	1.0	0.45	3.9	0.32	0.20	0.68	0.69
6	8.3	1.4	0.88	0.76	1.0	3.0	14	11	39	0.17	1.2	0.53
7	0.75	1.2	1.0	0.88	0.74	1.5	2.4	1.2	0.69	0.14	0.33	0.48
8	0.42	1.2	0.96	0.84	0.64	0.82	0.65	28	0.74	0.17	0.25	0.50
9	0.33	1.5	1.2	0.86	0.84	0.39	0.42	2.7	0.23	13	0.19	0.37
10	0.34	2.2	0.95	0.77	1.00	0.28	0.36	39	0.32	5.6	0.20	0.29
11	1.3	1.5	1.1	0.74	0.70	0.26	0.33	1.4	0.74	0.61	8.6	38
12	2.7	0.82	0.99	0.82	0.67	56	0.33	0.90	150	0.41	0.42	1.4
13	0.77	0.70	0.93	0.90	0.71	6.9	0.26	0.62	17	0.27	0.26	99
14	0.28	4.6	0.92	1.3	59	0.97	0.22	1.1	1.6	0.26	0.21	7.2
15	0.22	3.1	1.0	0.87	20	0.62	0.30	0.57	0.84	0.28	0.28	1.4
16	3.2	1.0	0.85	0.93	1.6	0.54	10	25	0.59	0.23	0.30	0.85
17	4.5	0.87	0.80	0.91	1.2	0.97	1.5	1.3	0.51	0.25	0.22	0.57
18	2.9	0.88	0.76	0.81	1.0	0.42	0.58	0.57	0.46	0.28	0.23	13
19	15	0.77	0.76	0.90	0.91	9.3	148	3.9	0.40	0.29	0.16	1.4
20	0.58	0.80	0.68	1.2	0.45	21	16	3.0	0.35	0.24	0.28	0.43
21	0.44	0.75	0.75	1.1	0.34	1.5	2.3	0.54	0.35	0.22	0.19	7.2
22	0.38	0.66	0.70	0.79	0.38	0.76	1.3	0.42	42	0.22	0.12	0.57
23	22	0.67	0.69	0.56	0.29	0.60	38	0.47	43	0.19	0.23	0.33
24	7.0	1.7	0.70	2.1	0.33	0.51	24	0.39	1.3	0.20	0.18	0.28
25	7.2	1.2	0.71	0.99	0.41	0.43	3.8	0.40	11	0.17	0.17	0.24
26	1.1	0.65	0.71	0.98	0.33	0.37	1.6	0.30	1.0	0.14	0.23	0.21
27	34	0.69	0.84	1.1	0.84	0.37	1.1	0.32	0.41	0.36	5.8	0.27
28	2.8	0.80	0.78	1.3	0.43	0.40	3.1	0.43	0.35	0.22	74	0.36
29	18	0.79	0.78	1.2	---	0.39	0.90	0.57	10	0.19	16	0.54
30	13	0.64	0.81	1.0	---	0.30	0.73	0.46	2.3	0.20	236	28
31	2.1	---	0.75	11	---	0.26	---	0.43	---	0.35	634	---
MEAN	7.32	1.67	0.87	1.27	3.51	3.67	9.14	5.17	14.1	0.85	32.5	8.47
MAX	45	11	1.5	11	59	56	148	39	150	13	634	99
MIN	0.14	0.64	0.68	0.56	0.29	0.26	0.22	0.30	0.23	0.14	0.12	0.21
IN.	0.69	0.15	0.08	0.12	0.30	0.35	0.84	0.49	1.29	0.08	3.08	0.77

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

MEAN	24.2	8.17	3.43	3.96	7.37	6.88	19.9	16.1	23.7	5.59	10.6	8.75
MAX	87.6	25.5	8.84	8.00	20.6	14.3	41.8	23.2	55.0	12.8	32.5	15.0
(WY)	(1999)	(1999)	(1999)	(1999)	(2001)	(2001)	(1999)	(1999)	(2001)	(2000)	(2003)	(1999)
MIN	1.64	1.67	0.48	0.41	2.71	2.80	1.15	5.17	4.82	0.85	3.46	1.80
(WY)	(2000)	(2003)	(2001)	(2000)	(2000)	(2002)	(2000)	(2003)	(2002)	(2003)	(1999)	(2002)

06893557 BRUSH CREEK AT WARD PARKWAY IN KANSAS CITY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1998 - 2003	
ANNUAL MEAN	6.57		7.41		11.6	
HIGHEST ANNUAL MEAN					21.3	1999
LOWEST ANNUAL MEAN					6.59	2000
HIGHEST DAILY MEAN	240	Apr 21	634	Aug 31	1,520	Oct 4, 1998
LOWEST DAILY MEAN	0.00	Jan 1-8	0.12	Aug 22	0.00	Jul 15, 1998, Jan. 1-8, 2002
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.19	Aug 19	0.00	Jul 15, 1998, Jan. 1, 2002
MAXIMUM PEAK FLOW	---		4,300	Jun 12	0.00	Oct 4, 1998
MAXIMUM PEAK STAGE	---		44.04	Jun 12	50.90	Oct 4, 1998
INSTANTANEOUS LOW FLOW	---		0.06	Aug 22,23	0.00	Jan 1-8, 2002
ANNUAL RUNOFF (INCHES)	7.31		8.24		12.94	
10 PERCENT EXCEEDS	14		13		22	
50 PERCENT EXCEEDS	0.87		0.78		1.1	
90 PERCENT EXCEEDS	0.23		0.25		0.34	



06893562 BRUSH CREEK AT ROCKHILL ROAD IN KANSAS CITY, MO

LOCATION.--Lat 39°02'21", long 94°34'43", in NW ¼ SE ¼ sec.29, T.49 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on the left upstream Rockhill Road bridge abutment and 3.7 mi upstream from the Blue River.

DRAINAGE AREA.--17.0 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1998 to current year.

GAGE.--Water-stage recorder. Datum of gage is 799.70 ft above National Geodetic Vertical Datum of 1929 (levels by the U.S. Geological Survey).

REMARKS.--Water-discharge records fair except for estimated daily discharges, which are poor. U.S.G.S satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.63	1.3	e1.0	e1.0	0.96	e0.72	0.40	19	1.7	2.0	0.68	15
2	51	1.5	e1.2	e1.0	0.85	e1.5	0.55	2.0	128	1.2	13	0.35
3	5.3	2.7	e2.3	e1.0	0.83	0.35	0.43	1.9	3.5	1.2	4.5	0.11
4	21	1.5	e1.8	e1.1	0.80	2.5	0.69	17	0.94	1.1	0.70	0.09
5	1.3	10	e1.2	e1.1	0.69	1.0	0.62	8.2	1.2	1.0	0.61	0.05
6	8.4	3.1	e1.3	e1.1	0.87	2.4	17	16	48	0.69	0.81	0.05
7	0.94	1.7	e1.5	e1.3	0.54	1.5	4.0	4.1	2.1	0.09	0.26	0.05
8	0.91	3.0	e1.4	e1.2	0.53	0.76	0.78	39	1.9	0.11	0.21	0.04
9	0.64	4.8	e1.8	e1.2	0.71	0.68	0.88	7.4	0.84	7.6	0.25	0.03
10	0.73	7.2	e1.4	1.4	0.87	6.9	0.88	60	1.6	7.2	0.25	0.03
11	1.5	7.3	e1.7	1.6	0.64	2.6	1.3	2.2	2.6	1.3	6.9	43
12	3.2	5.7	e1.5	2.0	0.74	65	2.6	1.9	198	0.89	0.27	0.08
13	1.3	6.2	e1.4	2.3	1.0	9.6	1.8	1.1	21	0.47	0.20	92
14	0.81	10	e1.4	2.7	57	1.1	1.1	2.5	3.3	0.33	0.18	1.7
15	0.75	4.7	e1.6	2.8	20	0.82	0.58	1.8	1.9	0.24	0.18	0.09
16	2.5	1.8	e1.2	2.5	1.3	0.70	15	29	0.91	0.18	0.42	0.08
17	5.9	1.9	e1.2	1.9	1.0	1.3	2.0	2.7	0.87	0.50	0.32	0.06
18	5.3	1.9	e1.1	1.7	e1.2	0.80	1.2	1.4	1.1	0.63	0.43	4.2
19	15	e1.1	e1.1	2.0	e1.3	10	228	6.4	0.98	0.53	0.50	0.11
20	6.7	e1.2	e0.94	2.9	e0.57	24	19	4.1	0.68	0.38	0.72	0.05
21	4.1	e1.1	e1.1	2.6	e0.38	1.4	2.0	1.0	0.79	0.20	0.28	3.1
22	4.6	e0.92	e0.99	1.9	e0.45	1.2	1.1	0.88	50	0.42	0.19	0.05
23	21	e0.93	e0.97	2.2	e0.30	1.1	49	1.2	55	0.31	0.26	0.03
24	7.1	e2.7	e0.98	2.8	e0.37	0.65	31	1.5	2.3	0.72	0.67	0.03
25	7.7	e1.8	e1.0	1.3	e0.50	0.69	4.9	0.76	9.0	0.28	0.82	0.04
26	1.8	e0.89	e1.0	1.3	e0.37	0.49	2.2	0.60	2.1	0.19	1.4	0.02
27	32	e0.96	e1.2	1.3	e1.2	0.42	1.8	0.20	0.58	0.38	6.2	0.01
28	2.6	e1.2	e1.1	2.0	e0.53	0.28	5.1	1.4	1.1	0.18	67	0.01
29	15	e1.1	e1.1	1.8	---	0.26	1.4	0.91	7.5	0.16	8.9	0.01
30	11	e0.89	e1.2	1.4	---	0.30	1.00	1.0	4.5	0.18	321	16
31	2.2	---	e1.1	8.9	---	0.32	---	1.6	---	0.12	925	---
MEAN	7.84	3.04	1.28	1.98	3.45	4.56	13.3	7.70	18.5	0.99	44.0	5.88
MAX	51	10	2.3	8.9	57	65	228	60	198	7.6	925	92
MIN	0.63	0.89	0.94	1.0	0.30	0.26	0.40	0.20	0.58	0.09	0.18	0.01
IN.	0.53	0.20	0.09	0.13	0.21	0.31	0.87	0.52	1.21	0.07	2.98	0.39

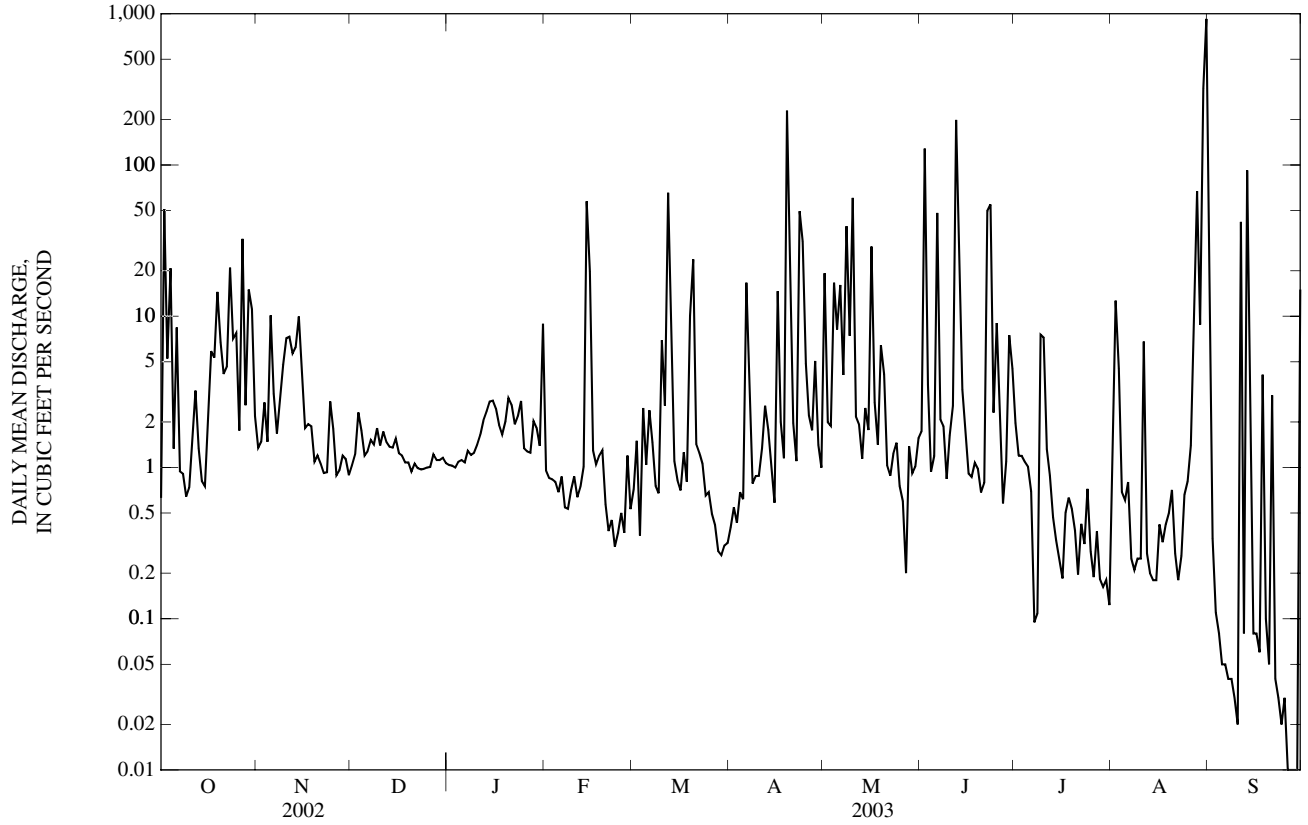
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

MEAN	38.0	12.1	4.78	5.59	8.44	8.76	28.7	19.2	32.8	7.15	14.6	14.5
MAX	145	41.4	10.9	11.4	18.0	18.0	69.1	30.7	73.8	17.1	44.0	39.8
(WY)	(1999)	(1999)	(1999)	(1999)	(2001)	(1999)	(1999)	(2002)	(2001)	(2000)	(2003)	(1998)
MIN	3.45	3.04	0.76	1.98	3.45	3.77	2.65	7.70	6.51	0.99	5.34	1.88
(WY)	(2000)	(2003)	(2001)	(2003)	(2003)	(2002)	(2000)	(2003)	(2002)	(2003)	(2002)	(2002)

06893562 BRUSH CREEK AT ROCKHILL ROAD IN KANSAS CITY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1998 - 2003	
ANNUAL MEAN	8.65		9.41		15.9	
HIGHEST ANNUAL MEAN					32.9	1999
LOWEST ANNUAL MEAN					9.41	2003
HIGHEST DAILY MEAN	320	Apr 21	925	Aug 31	2,540	Oct 4, 1998
LOWEST DAILY MEAN	0.00	Jan 1-13	0.01	Sep 27-29	0.00	Mar 7, 2001, Jan 1-13, 2002
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.02	Sep 23	0.00	Jan 1, 2002
MAXIMUM PEAK FLOW	---		4,360	Jun 12	21,700[a]	Oct 4, 1998
MAXIMUM PEAK STAGE	---		10.50	Jun 12	21.71[b]	Oct 4, 1998
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Many Years
ANNUAL RUNOFF (INCHES)	6.91		7.52		12.69	
10 PERCENT EXCEEDS	15		12		25	
50 PERCENT EXCEEDS	1.7		1.2		2.8	
90 PERCENT EXCEEDS	0.64		0.21		0.69	

[a] Discharge determined by indirect measurement of peak flow.
[b] From floodmark,
e Estimated



06893562 BRUSH CREEK AT ROCKHILL ROAD IN KANSAS CITY, MO—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1998 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE FROM PRESSURE TRANSDUCER (PT).--July 1998 to May 14, 2002.(discontinued)
WATER TEMPERATURE.--July 1998 to current year.
pH.-- July 1998 to current year.
SPECIFIC CONDUCTANCE.--August 1998 to current year.
DISSOLVED OXYGEN.--July 1998 to current year.
TURBIDITY.--July 1998 to current year.

INSTRUMENTATION.--Multi-parameter water-quality monitor deployed seasonally since August 1998. Pressure transducer with temperature sensor deployed October 1999 to May 2002. Electronic data logger with 15 minute recording interval and four hour satellite transmission interval.

REMARKS.-- Interruptions in the record are generally due to malfunction or fouling of the sensors. Daily values were designated as estimated where data corrections for dissolved oxygen exceeded the rating of poor and where turbidity unit values were clearly the result of fouling or wiper malfunction. Estimations and corrections were based on partial data, inspection of contiguous data, hydrograph comparison and the best judgment of the hydrographer. Detailed records of the procedures employed for specific periods of record have been included with the station analysis and are kept on file. The manufacturers' specified range for turbidity sensors used is 0 to 1000 NTU. All values beyond this limit may be considered as >1000 NTU. Values >1000 NTU are maintained for continuity of the record. Specific Conductance records were rated either good or excellent. pH records were rated either good or excellent. Water temperature records were rated excellent. Dissolved oxygen records were rated excellent except for the following periods: May 1-2 and September 21-24 rated good; October 2-4 and August 2-6 rated poor. November 15-December 10 and June 24-July 9 rated poor-estimated; June 2-9, June 23 and September 6-10 rated estimated. Turbidity records were rated excellent except for the following periods: May 8 and July 6 rated estimated.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURE FROM PRESSURE TRANSDUCER: Maximum 31.5 °C, August 3, 2001; minimum -1.9 °C, March 14, 1999.
WATER TEMPERATURE: Maximum 36.5 °C, August 31, 2000; minimum 2.0 °C, December 5, 2002.
pH: Maximum 9.8 standard units, August 28, 2001; minimum 5.5 standard units, November 6, 2000.
SPECIFIC CONDUCTANCE: Maximum, 1,410 microsiemens, July 6-7, 1999; minimum 84 microsiemens, August 25, 2001.
DISSOLVED OXYGEN: Maximum 23.3 mg/L, June 26, 2001; minimum 0.0 mg/L, on several days May-August, 1999, July 23, 2002.
TURBIDITY: Maximum 2,300 NTU, September 13, 1998; minimum 0.0 NTU on numerous days August, 1998, May-November, 1999, June-September, 2000, September-November, 2001, July-September, 2002.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 33.9 °C, July 20; minimum, 1.6 °C, December 5.
pH: Maximum, 9.3 standard units, May 23, June 12; minimum, 6.7 standard units, June 16, 18.
SPECIFIC CONDUCTANCE: Maximum, 934 microsiemens, September 7; minimum, 108 microsiemens, August 30.
DISSOLVED OXYGEN: Maximum, 22.8 mg/L, May 23; minimum, 0.0 mg/L, June 14-15, August 28.
TURBIDITY: Maximum, 1,500 NTU, August 30, September 2-5; minimum, 0.0 NTU on several days December and May, June 7-8, July 11.

WATER TEMPERATURE (DEGREES C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	24.7	22.7	23.6	8.7	7.1	7.7	4.5	3.1	3.8	---	---	---
2	24.1	22.5	23.3	7.5	7.0	7.2	4.6	3.1	4.0	---	---	---
3	23.0	21.7	22.3	7.1	6.7	7.0	4.1	3.0	3.5	---	---	---
4	22.3	20.4	21.4	8.2	6.1	7.1	3.0	2.1	2.5	---	---	---
5	20.8	19.1	19.8	8.0	7.2	7.6	2.3	1.6	2.0	---	---	---
6	20.2	18.8	19.3	8.6	6.8	7.7	3.8	1.9	2.8	---	---	---
7	19.3	17.5	18.2	10.0	7.4	8.7	4.6	2.9	3.6	---	---	---
8	19.2	17.1	18.0	10.6	8.7	9.7	4.5	2.9	3.6	---	---	---
9	19.5	17.4	18.2	12.0	10.1	11.0	4.4	3.0	3.7	---	---	---
10	19.1	17.5	18.2	11.8	10.8	11.2	5.3	3.0	4.0	---	---	---
11	20.3	17.9	18.9	10.8	9.3	10.0	---	---	---	---	---	---
12	19.1	17.2	18.3	10.1	8.8	9.4	---	---	---	---	---	---
13	17.9	15.8	16.7	10.2	8.8	9.6	---	---	---	---	---	---
14	16.9	14.9	15.8	9.9	9.7	9.8	---	---	---	---	---	---
15	15.8	14.5	15.2	9.9	8.7	9.3	---	---	---	---	---	---
16	14.9	12.6	13.8	9.7	8.4	8.8	---	---	---	---	---	---
17	13.0	11.6	12.2	8.8	7.8	8.3	---	---	---	---	---	---
18	14.2	11.6	12.6	9.2	8.2	8.6	---	---	---	---	---	---
19	15.3	12.3	13.5	9.0	8.0	8.5	---	---	---	---	---	---
20	14.2	12.2	13.0	9.3	8.3	8.8	---	---	---	---	---	---
21	15.3	12.0	13.4	9.1	8.6	8.9	---	---	---	---	---	---
22	13.7	12.6	13.1	8.9	7.8	8.3	---	---	---	---	---	---
23	12.7	10.6	11.7	9.0	7.6	8.2	---	---	---	---	---	---
24	10.6	9.6	9.9	8.3	6.6	7.7	---	---	---	---	---	---
25	9.6	9.0	9.3	6.6	5.5	5.8	---	---	---	---	---	---
26	9.4	9.1	9.2	5.6	4.6	5.0	---	---	---	---	---	---
27	9.2	8.3	8.8	4.6	3.6	4.2	---	---	---	---	---	---
28	8.8	8.2	8.5	4.6	3.2	3.9	---	---	---	---	---	---
29	9.4	8.6	8.8	5.0	4.0	4.5	---	---	---	---	---	---
30	9.1	8.6	8.9	4.9	3.5	4.1	---	---	---	---	---	---
31	8.7	7.7	8.3	---	---	---	---	---	---	---	---	---
MONTH	24.7	7.7	14.9	12.0	3.2	7.9	5.3	1.6	3.4	---	---	---

06893562 BRUSH CREEK AT ROCKHILL ROAD IN KANSAS CITY, MO—Continued

WATER TEMPERATURE (DEGREES C),—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	22.2	18.7	20.8
2	---	---	---	---	---	---	---	---	---	21.2	18.7	19.8
3	---	---	---	---	---	---	---	---	---	20.2	18.5	19.4
4	---	---	---	---	---	---	---	---	---	19.6	17.2	18.8
5	---	---	---	---	---	---	---	---	---	21.6	17.5	19.6
6	---	---	---	---	---	---	---	---	---	21.0	19.4	20.2
7	---	---	---	---	---	---	---	---	---	24.6	18.3	20.7
8	---	---	---	---	---	---	---	---	---	21.5	18.3	19.4
9	---	---	---	---	---	---	11.6	6.7	8.6	25.5	18.0	21.4
10	---	---	---	---	---	---	12.3	8.4	10.4	22.6	18.3	20.3
11	---	---	---	---	---	---	16.7	10.8	13.7	19.4	17.3	18.3
12	---	---	---	---	---	---	19.3	13.5	16.3	22.8	17.3	19.8
13	---	---	---	---	---	---	20.1	15.4	17.6	21.4	19.0	20.2
14	---	---	---	---	---	---	21.3	16.4	18.6	26.1	19.6	22.3
15	---	---	---	---	---	---	21.5	18.0	19.5	24.8	20.4	22.6
16	---	---	---	---	---	---	20.0	17.0	18.1	21.7	17.7	19.6
17	---	---	---	---	---	---	17.1	15.5	16.1	20.2	17.2	18.4
18	---	---	---	---	---	---	16.3	14.7	15.5	22.2	18.7	20.5
19	---	---	---	---	---	---	16.3	14.2	15.7	22.3	20.0	21.4
20	---	---	---	---	---	---	14.3	13.1	13.9	22.4	18.2	20.1
21	---	---	---	---	---	---	16.4	13.2	14.7	22.1	18.8	19.9
22	---	---	---	---	---	---	20.0	14.9	16.7	22.6	18.6	20.4
23	---	---	---	---	---	---	16.9	14.9	15.8	23.5	19.6	21.5
24	---	---	---	---	---	---	15.0	13.8	14.1	22.1	20.0	20.7
25	---	---	---	---	---	---	14.1	13.4	13.7	21.9	19.1	20.5
26	---	---	---	---	---	---	16.8	12.9	14.8	23.9	20.1	21.9
27	---	---	---	---	---	---	19.6	15.4	17.3	25.8	20.8	23.3
28	---	---	---	---	---	---	20.2	17.9	19.0	25.6	22.1	23.9
29	---	---	---	---	---	---	20.7	18.1	19.4	28.0	22.8	24.9
30	---	---	---	---	---	---	23.8	19.6	21.6	28.8	22.4	25.3
31	---	---	---	---	---	---	---	---	---	26.5	22.7	23.9
MONTH	---	---	---	---	---	---	23.8	6.7	16.0	28.8	17.2	21.0

	JUNE			JULY			AUGUST			SEPTEMBER		
1	22.9	21.4	22.1	28.5	25.4	27.0	28.5	27.0	27.6	21.4	20.6	20.9
2	21.7	16.1	18.1	31.7	26.3	28.7	30.1	25.6	27.6	22.5	20.4	21.3
3	17.5	15.8	16.4	32.3	27.1	29.7	30.6	25.8	28.1	26.8	21.6	23.6
4	20.8	16.0	18.1	33.2	28.9	30.7	30.0	26.3	27.9	24.8	22.4	23.6
5	21.0	18.6	19.8	32.7	29.5	31.1	31.0	26.3	28.2	26.4	22.6	24.0
6	22.9	19.4	21.1	32.2	29.8	31.0	30.7	27.5	29.1	25.7	22.8	24.2
7	22.2	20.5	21.2	32.0	29.2	30.6	31.7	27.4	29.0	25.8	22.9	24.2
8	21.6	19.0	20.5	32.1	29.5	30.8	30.4	27.5	29.0	25.5	23.0	24.2
9	26.0	20.5	22.9	32.1	28.3	30.7	30.1	27.5	28.7	26.0	23.1	24.2
10	25.1	22.1	23.6	30.7	28.0	29.3	29.0	27.2	28.2	24.9	23.0	24.0
11	25.3	22.9	23.9	31.2	28.2	29.2	28.2	26.2	27.5	24.6	23.6	24.0
12	26.8	20.4	24.0	30.8	27.4	28.9	28.2	26.3	27.2	23.8	23.0	23.4
13	26.2	20.1	22.8	30.0	27.4	28.7	27.5	25.8	26.7	23.1	19.4	21.8
14	28.1	22.5	25.2	31.4	27.5	29.2	29.4	26.1	27.5	21.9	18.8	20.3
15	27.5	24.8	26.3	31.2	28.8	29.9	30.9	26.8	28.8	22.3	19.6	21.0
16	27.6	25.4	26.7	31.8	28.5	30.0	32.2	27.7	29.7	21.9	20.5	21.1
17	27.7	25.1	26.5	32.2	28.9	30.3	31.7	28.5	30.1	22.9	20.6	21.5
18	30.0	25.4	27.5	32.1	29.0	30.4	32.8	29.0	30.9	22.1	19.6	21.2
19	27.8	25.9	26.7	31.0	28.2	29.5	32.9	29.5	31.1	21.4	18.2	19.8
20	26.0	23.8	25.2	33.9	28.8	31.2	31.8	29.5	30.7	20.5	18.8	19.6
21	25.4	24.0	24.8	32.5	29.5	30.9	32.3	29.4	30.8	19.7	18.7	19.2
22	25.1	24.0	24.6	30.7	28.6	29.6	31.5	29.1	30.3	20.9	18.5	19.7
23	24.9	22.1	24.0	29.3	27.2	28.2	30.3	28.1	29.1	22.9	19.2	20.5
24	29.0	24.2	26.4	29.2	26.6	27.9	32.0	27.8	29.5	22.1	20.1	21.0
25	30.4	26.3	27.5	30.4	26.5	28.2	32.3	28.2	30.1	21.8	19.7	20.6
26	27.1	24.4	26.0	31.5	26.7	29.0	32.4	28.9	30.4	21.8	19.4	20.5
27	27.9	24.6	26.2	32.8	28.2	29.7	30.2	27.6	29.1	20.9	19.4	20.1
28	28.4	25.4	26.9	29.8	28.1	29.0	29.2	24.7	27.7	19.4	18.2	18.7
29	28.7	25.6	27.0	29.4	27.5	28.5	27.2	24.2	25.1	18.8	17.1	18.0
30	27.0	24.9	25.8	31.3	27.4	29.2	24.8	21.9	23.4	17.8	13.8	16.2
31	---	---	---	30.6	27.8	29.0	21.9	19.1	20.4	---	---	---
MONTH	30.4	15.8	23.9	33.9	25.4	29.6	32.9	19.1	28.4	26.8	13.8	21.4

06893562 BRUSH CREEK AT ROCKHILL ROAD IN KANSAS CITY, MO—Continued

pH, WATER, UNFILTERED, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.5	7.6	8.1	7.4	7.3	7.3	8.0	7.8	7.9	---	---	---
2	8.2	7.2	7.6	7.3	7.2	7.3	8.0	7.8	7.9	---	---	---
3	7.3	7.0	7.1	7.3	7.1	7.2	8.0	7.9	8.0	---	---	---
4	7.6	7.1	7.3	7.3	7.2	7.2	8.1	8.0	8.0	---	---	---
5	7.4	7.2	7.2	7.5	7.2	7.4	8.1	7.9	8.0	---	---	---
6	7.4	7.0	7.2	7.6	7.4	7.5	8.4	7.9	8.1	---	---	---
7	7.3	7.0	7.1	7.6	7.3	7.5	8.3	8.0	8.1	---	---	---
8	7.3	7.0	7.2	7.6	7.4	7.5	8.4	8.0	8.2	---	---	---
9	7.5	7.1	7.3	7.6	7.3	7.4	8.5	8.2	8.3	---	---	---
10	7.7	7.2	7.3	7.5	7.4	7.4	8.3	8.2	8.3	---	---	---
11	8.1	7.2	7.5	7.5	7.3	7.4	---	---	---	---	---	---
12	7.7	7.3	7.5	7.5	7.3	7.3	---	---	---	---	---	---
13	8.2	7.4	7.6	7.5	7.3	7.4	---	---	---	---	---	---
14	8.4	7.6	7.9	7.4	7.3	7.3	---	---	---	---	---	---
15	8.7	7.6	8.1	7.6	7.3	7.4	---	---	---	---	---	---
16	8.2	7.8	8.1	7.6	7.4	7.5	---	---	---	---	---	---
17	8.1	7.5	7.7	7.5	7.4	7.5	---	---	---	---	---	---
18	8.4	7.5	7.9	7.5	7.4	7.5	---	---	---	---	---	---
19	8.1	7.6	7.8	7.6	7.4	7.5	---	---	---	---	---	---
20	8.0	7.3	7.7	7.6	7.4	7.5	---	---	---	---	---	---
21	7.8	7.5	7.6	7.6	7.5	7.6	---	---	---	---	---	---
22	7.9	7.3	7.6	7.7	7.5	7.6	---	---	---	---	---	---
23	7.7	7.5	7.6	7.7	7.5	7.6	---	---	---	---	---	---
24	7.6	7.4	7.5	7.6	7.5	7.6	---	---	---	---	---	---
25	7.6	7.4	7.5	7.7	7.5	7.6	---	---	---	---	---	---
26	7.4	7.3	7.4	7.7	7.6	7.6	---	---	---	---	---	---
27	7.6	7.3	7.5	7.7	7.6	7.6	---	---	---	---	---	---
28	7.5	7.3	7.4	7.8	7.5	7.7	---	---	---	---	---	---
29	7.5	7.2	7.4	7.8	7.7	7.8	---	---	---	---	---	---
30	7.5	7.2	7.4	7.9	7.8	7.8	---	---	---	---	---	---
31	7.4	7.3	7.4	---	---	---	---	---	---	---	---	---
MONTH	8.7	7.0	7.5	7.9	7.1	7.5	8.5	7.8	8.1	---	---	---

	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	8.5	7.4	8.1
2	---	---	---	---	---	---	---	---	---	8.2	7.4	7.7
3	---	---	---	---	---	---	---	---	---	7.7	7.3	7.5
4	---	---	---	---	---	---	---	---	---	7.7	7.2	7.4
5	---	---	---	---	---	---	---	---	---	7.9	7.2	7.5
6	---	---	---	---	---	---	---	---	---	7.4	7.1	7.2
7	---	---	---	---	---	---	---	---	---	7.2	7.0	7.1
8	---	---	---	---	---	---	---	---	---	7.4	7.0	7.2
9	---	---	---	---	---	---	7.6	7.4	7.5	7.4	7.1	7.2
10	---	---	---	---	---	---	7.6	7.4	7.5	7.5	7.0	7.3
11	---	---	---	---	---	---	7.7	7.4	7.6	7.1	6.9	7.0
12	---	---	---	---	---	---	8.2	7.5	7.8	7.1	7.0	7.1
13	---	---	---	---	---	---	8.8	7.7	8.2	7.1	7.1	7.1
14	---	---	---	---	---	---	9.0	8.2	8.6	7.5	7.1	7.2
15	---	---	---	---	---	---	8.9	8.5	8.7	8.2	7.0	7.4
16	---	---	---	---	---	---	8.6	7.4	8.0	7.7	7.0	7.3
17	---	---	---	---	---	---	7.8	7.3	7.6	7.3	7.1	7.2
18	---	---	---	---	---	---	7.6	7.3	7.4	7.3	7.1	7.2
19	---	---	---	---	---	---	8.0	7.0	7.6	7.8	7.1	7.3
20	---	---	---	---	---	---	7.7	7.1	7.4	7.6	6.9	7.1
21	---	---	---	---	---	---	7.2	7.1	7.1	7.7	6.9	7.2
22	---	---	---	---	---	---	7.3	7.0	7.1	8.8	7.0	7.6
23	---	---	---	---	---	---	7.7	7.1	7.2	9.3	7.4	8.2
24	---	---	---	---	---	---	7.7	7.0	7.3	8.8	7.3	7.7
25	---	---	---	---	---	---	7.0	6.9	7.0	7.9	7.0	7.4
26	---	---	---	---	---	---	7.2	6.9	7.0	7.9	7.1	7.4
27	---	---	---	---	---	---	7.3	7.1	7.2	8.2	7.2	7.5
28	---	---	---	---	---	---	7.4	7.2	7.3	8.4	7.1	7.5
29	---	---	---	---	---	---	7.5	7.2	7.4	8.5	7.2	7.5
30	---	---	---	---	---	---	9.1	7.4	8.1	8.6	7.2	7.7
31	---	---	---	---	---	---	---	---	---	8.3	7.3	7.6
MONTH	---	---	---	---	---	---	9.1	6.9	7.6	9.3	6.9	7.4

06893562 BRUSH CREEK AT ROCKHILL ROAD IN KANSAS CITY, MO—Continued

pH, WATER, UNFILTERED, FIELD, STANDARD UNITS,—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.6	7.2	7.3	8.7	7.4	8.0	7.9	7.4	7.6	7.5	7.2	7.3
2	7.6	7.0	7.3	9.2	7.3	8.4	8.4	7.3	7.8	7.6	7.3	7.4
3	7.2	6.9	7.0	9.2	8.3	8.8	8.5	7.4	7.8	7.7	7.3	7.5
4	7.0	6.9	7.0	9.0	8.2	8.7	9.2	7.4	8.2	7.6	7.3	7.5
5	7.1	7.0	7.0	8.7	8.2	8.4	9.1	7.8	8.4	7.8	7.5	7.7
6	7.6	7.0	7.4	8.3	7.6	7.9	9.1	8.6	8.8	8.5	7.6	8.0
7	7.2	7.1	7.1	8.7	7.4	7.9	8.7	7.8	8.3	8.7	7.8	8.2
8	7.3	7.0	7.1	9.2	7.5	8.4	8.6	7.6	8.2	8.7	7.8	8.2
9	8.9	7.2	7.6	8.9	7.2	8.4	8.7	7.8	8.2	8.7	7.7	8.2
10	9.1	7.2	8.1	8.6	7.4	7.9	8.8	7.9	8.4	8.8	7.6	8.3
11	9.2	7.2	8.2	8.3	7.4	7.8	8.6	7.3	8.0	8.6	7.5	8.0
12	9.3	7.0	8.2	8.6	7.3	7.9	8.8	7.7	8.3	7.5	7.1	7.3
13	7.2	6.9	7.1	8.2	7.4	7.9	8.8	7.7	8.3	7.7	7.0	7.2
14	7.1	6.9	7.0	8.3	7.3	7.8	8.8	8.0	8.4	7.6	7.2	7.4
15	7.1	6.9	7.0	8.4	7.5	8.0	8.3	7.8	8.2	7.2	7.0	7.1
16	7.2	6.7	7.0	8.4	7.4	8.0	8.6	7.5	8.0	7.2	7.0	7.1
17	7.0	6.8	6.9	8.5	7.5	8.0	8.8	7.6	8.3	7.4	7.1	7.2
18	7.0	6.7	6.8	8.6	7.4	8.0	8.8	7.7	8.4	7.8	7.2	7.4
19	8.3	6.9	7.1	8.5	7.6	8.1	8.9	8.0	8.6	8.4	7.5	8.0
20	7.4	7.1	7.2	8.6	7.6	8.2	8.8	7.9	8.5	8.7	7.6	8.2
21	7.8	7.2	7.2	8.6	7.8	8.3	8.9	8.1	8.5	8.5	7.7	8.0
22	7.9	7.2	7.4	8.3	7.6	7.9	8.9	8.2	8.6	8.5	7.4	7.9
23	7.9	7.0	7.4	8.4	7.4	7.8	8.8	8.4	8.6	9.0	7.7	8.3
24	7.5	7.0	7.3	8.3	7.4	7.9	8.8	8.2	8.5	8.9	8.0	8.5
25	7.8	7.0	7.2	8.4	7.4	7.9	8.8	8.4	8.6	9.0	8.0	8.4
26	7.6	6.9	7.1	8.3	7.5	7.9	8.8	8.3	8.6	8.8	7.9	8.4
27	8.6	6.9	7.6	8.4	7.7	8.1	8.6	7.2	8.0	8.6	7.9	8.3
28	9.0	7.2	8.2	8.4	7.5	8.0	7.9	7.2	7.4	8.7	8.0	8.3
29	8.8	7.2	8.1	8.4	7.6	8.0	7.9	7.1	7.3	8.6	8.0	8.4
30	8.1	7.1	7.5	8.4	7.5	8.0	7.8	7.0	7.3	8.4	7.6	7.9
31	---	---	---	8.3	7.5	7.9	7.6	7.1	7.4	---	---	---
MONTH	9.3	6.7	7.3	9.2	7.2	8.1	9.2	7.0	8.2	9.0	7.0	7.9

06893562 BRUSH CREEK AT ROCKHILL ROAD IN KANSAS CITY, MO—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, µS/cm @ 25°C, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	402	382	390	367	358	363	687	674	680	---	---	---
2	410	249	363	378	367	373	687	680	682	---	---	---
3	270	250	260	379	375	377	690	683	687	---	---	---
4	298	231	265	382	372	376	696	689	693	---	---	---
5	333	298	320	390	332	369	713	694	703	---	---	---
6	336	272	299	431	390	402	707	690	701	---	---	---
7	289	274	279	441	409	424	710	701	707	---	---	---
8	300	288	292	456	438	446	717	705	712	---	---	---
9	322	298	311	471	452	458	724	716	719	---	---	---
10	337	320	326	495	462	479	736	717	726	---	---	---
11	346	333	336	506	494	501	---	---	---	---	---	---
12	367	346	356	525	506	517	---	---	---	---	---	---
13	371	366	368	546	525	533	---	---	---	---	---	---
14	378	370	373	581	534	551	---	---	---	---	---	---
15	384	375	380	598	581	594	---	---	---	---	---	---
16	395	384	387	601	595	598	---	---	---	---	---	---
17	416	395	408	606	600	603	---	---	---	---	---	---
18	445	395	426	613	604	608	---	---	---	---	---	---
19	509	320	483	617	612	614	---	---	---	---	---	---
20	507	494	501	626	616	619	---	---	---	---	---	---
21	502	495	498	635	621	628	---	---	---	---	---	---
22	504	497	501	636	627	632	---	---	---	---	---	---
23	508	389	473	637	633	635	---	---	---	---	---	---
24	409	395	404	650	636	642	---	---	---	---	---	---
25	408	335	359	653	648	651	---	---	---	---	---	---
26	338	334	336	660	652	657	---	---	---	---	---	---
27	343	213	322	663	659	660	---	---	---	---	---	---
28	327	306	320	667	659	664	---	---	---	---	---	---
29	306	179	208	672	665	668	---	---	---	---	---	---
30	340	212	280	679	671	676	---	---	---	---	---	---
31	359	340	353	---	---	---	---	---	---	---	---	---
MONTH	509	179	361	679	332	544	736	674	701	---	---	---

	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	704	499	651
2	---	---	---	---	---	---	---	---	---	713	698	703
3	---	---	---	---	---	---	---	---	---	713	700	707
4	---	---	---	---	---	---	---	---	---	714	327	639
5	---	---	---	---	---	---	---	---	---	482	391	470
6	---	---	---	---	---	---	---	---	---	509	357	457
7	---	---	---	---	---	---	---	---	---	441	429	434
8	---	---	---	---	---	---	---	---	---	476	222	423
9	---	---	---	---	---	---	906	889	899	342	287	316
10	---	---	---	---	---	---	900	883	892	317	149	239
11	---	---	---	---	---	---	898	845	876	234	210	223
12	---	---	---	---	---	---	864	834	851	244	232	241
13	---	---	---	---	---	---	842	814	832	259	242	250
14	---	---	---	---	---	---	830	679	797	281	256	268
15	---	---	---	---	---	---	834	821	827	314	281	292
16	---	---	---	---	---	---	841	510	747	592	264	410
17	---	---	---	---	---	---	741	719	735	593	550	583
18	---	---	---	---	---	---	747	737	744	556	504	541
19	---	---	---	---	---	---	744	145	435	518	398	494
20	---	---	---	---	---	---	336	203	276	398	350	374
21	---	---	---	---	---	---	403	334	362	370	358	365
22	---	---	---	---	---	---	467	396	414	388	368	376
23	---	---	---	---	---	---	539	307	473	404	378	392
24	---	---	---	---	---	---	443	190	208	427	379	408
25	---	---	---	---	---	---	259	211	237	446	427	437
26	---	---	---	---	---	---	354	259	303	456	440	449
27	---	---	---	---	---	---	414	343	370	470	451	461
28	---	---	---	---	---	---	495	401	435	486	466	475
29	---	---	---	---	---	---	541	492	516	504	478	492
30	---	---	---	---	---	---	578	538	552	524	504	514
31	---	---	---	---	---	---	---	---	---	538	521	527
MONTH	---	---	---	---	---	---	906	145	581	714	149	439

06893562 BRUSH CREEK AT ROCKHILL ROAD IN KANSAS CITY, MO—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, µS/cm @ 25°C,—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	550	535	541	465	430	452	651	643	646	708	433	600
2	549	126	309	483	416	457	669	613	634	778	707	754
3	192	159	179	458	422	445	670	596	627	829	766	793
4	222	190	202	458	438	447	617	596	607	868	815	832
5	248	212	231	475	456	466	616	589	606	901	857	878
6	337	167	270	493	472	481	613	601	605	925	893	905
7	273	256	263	502	488	494	622	579	614	934	830	889
8	293	273	282	502	492	498	619	588	609	907	783	836
9	302	285	296	516	430	505	614	577	608	839	773	801
10	311	301	307	544	499	534	612	567	602	812	762	785
11	336	310	323	554	543	548	635	460	556	789	308	643
12	345	116	317	562	543	553	541	531	537	408	367	389
13	366	218	312	554	542	549	542	532	537	390	136	301
14	415	360	383	561	543	556	548	539	542	261	161	231
15	436	409	421	564	552	561	556	541	548	321	259	288
16	441	400	429	571	563	568	564	551	556	360	316	334
17	453	415	437	574	565	571	569	552	559	388	359	374
18	452	256	433	577	564	573	570	555	563	462	353	400
19	477	427	447	583	562	577	570	558	562	515	442	496
20	481	414	461	590	562	576	583	544	560	544	448	519
21	500	452	483	592	574	585	585	549	568	583	338	506
22	502	270	444	601	590	595	600	581	590	595	447	548
23	276	152	221	604	597	600	606	573	601	577	503	556
24	180	167	172	609	602	605	614	603	609	555	525	544
25	230	175	193	614	606	609	624	609	614	564	532	552
26	272	228	252	623	609	616	623	600	615	567	546	559
27	294	270	282	625	616	620	628	437	582	571	562	567
28	306	289	294	631	620	626	581	110	494	579	568	573
29	392	297	329	638	625	631	153	110	137	583	571	577
30	449	392	426	640	633	636	224	108	163	594	341	563
31	---	---	---	648	634	640	444	143	260	---	---	---
MONTH	550	116	331	648	416	554	670	108	546	934	136	586

06893562 BRUSH CREEK AT ROCKHILL ROAD IN KANSAS CITY, MO—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, mg/L, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	10.2	4.9	7.8	8.2	6.3	7.2	13.3	10.0	e12.0	---	---	---
2	6.9	3.0	4.9	6.6	5.3	6.0	13.2	11.2	e12.3	---	---	---
3	3.8	0.5	1.4	5.5	4.3	5.0	13.5	11.4	e12.6	---	---	---
4	7.0	0.6	4.5	5.9	4.5	5.1	14.1	12.5	e13.2	---	---	---
5	5.5	3.6	4.3	9.5	4.9	7.8	14.6	12.5	e13.5	---	---	---
6	6.6	1.4	4.0	9.6	7.8	8.7	17.4	12.7	e14.8	---	---	---
7	5.6	2.0	3.9	9.2	7.0	8.0	16.7	13.4	e15.0	---	---	---
8	5.3	2.1	3.6	8.3	6.3	7.4	17.3	13.7	e15.7	---	---	---
9	6.4	3.3	4.6	8.1	4.8	6.4	18.5	16.0	e16.9	---	---	---
10	8.1	2.7	4.6	7.1	5.3	6.1	18.2	15.3	e16.3	---	---	---
11	9.6	3.2	6.3	8.0	4.7	6.0	---	---	---	---	---	---
12	7.6	3.6	6.0	6.7	3.6	5.2	---	---	---	---	---	---
13	10.3	5.8	7.5	6.5	3.6	5.1	---	---	---	---	---	---
14	11.9	7.2	9.2	5.1	2.1	4.1	---	---	---	---	---	---
15	14.6	7.2	10.7	8.4	4.0	e6.5	---	---	---	---	---	---
16	11.6	9.8	10.8	8.8	6.4	e7.3	---	---	---	---	---	---
17	11.6	8.3	9.6	7.9	6.6	e7.0	---	---	---	---	---	---
18	12.3	8.5	10.1	7.8	6.2	e6.9	---	---	---	---	---	---
19	10.1	2.4	8.8	8.3	6.4	e7.0	---	---	---	---	---	---
20	10.6	7.1	8.1	8.2	6.1	e6.9	---	---	---	---	---	---
21	9.1	6.3	7.7	7.8	6.2	e7.1	---	---	---	---	---	---
22	9.5	5.9	7.9	8.7	6.7	e7.5	---	---	---	---	---	---
23	9.8	7.2	8.3	9.0	6.7	e7.4	---	---	---	---	---	---
24	9.7	8.0	9.0	7.7	6.6	e7.3	---	---	---	---	---	---
25	9.6	7.9	8.9	10.0	6.8	e7.9	---	---	---	---	---	---
26	8.5	3.2	7.5	10.1	7.6	e8.7	---	---	---	---	---	---
27	10.8	6.6	9.1	9.9	8.2	e8.9	---	---	---	---	---	---
28	10.1	6.0	8.6	10.6	4.9	e9.4	---	---	---	---	---	---
29	10.3	5.4	9.3	11.4	8.2	e10.6	---	---	---	---	---	---
30	9.6	7.8	8.8	12.2	10.9	e11.5	---	---	---	---	---	---
31	8.8	7.1	8.1	---	---	---	---	---	---	---	---	---
MONTH	14.6	0.5	7.2	12.2	2.1	7.2	18.5	10.0	14.2	---	---	---

	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	13.6	6.1	10.1
2	---	---	---	---	---	---	---	---	---	12.7	4.3	7.7
3	---	---	---	---	---	---	---	---	---	9.4	5.4	7.5
4	---	---	---	---	---	---	---	---	---	9.0	4.1	6.3
5	---	---	---	---	---	---	---	---	---	9.9	4.1	6.7
6	---	---	---	---	---	---	---	---	---	6.0	3.0	4.2
7	---	---	---	---	---	---	---	---	---	4.6	1.4	2.7
8	---	---	---	---	---	---	---	---	---	6.9	0.4	2.3
9	---	---	---	---	---	---	8.1	6.8	7.5	5.8	0.6	2.4
10	---	---	---	---	---	---	9.2	7.4	8.3	8.0	0.6	4.5
11	---	---	---	---	---	---	10.0	7.4	8.6	3.3	0.1	1.7
12	---	---	---	---	---	---	12.3	7.7	9.7	1.2	0.1	0.4
13	---	---	---	---	---	---	16.3	9.8	12.6	1.7	0.1	0.7
14	---	---	---	---	---	---	17.3	11.5	14.5	6.3	0.1	2.3
15	---	---	---	---	---	---	16.4	12.5	14.4	10.9	0.4	4.5
16	---	---	---	---	---	---	13.1	5.9	9.0	7.6	0.8	3.8
17	---	---	---	---	---	---	7.2	3.5	5.9	5.0	1.3	2.7
18	---	---	---	---	---	---	7.0	3.4	5.0	4.5	0.8	2.4
19	---	---	---	---	---	---	9.9	3.7	7.2	9.2	1.4	4.0
20	---	---	---	---	---	---	9.8	5.7	8.0	8.5	0.5	3.5
21	---	---	---	---	---	---	6.4	3.5	5.4	11.7	1.2	5.1
22	---	---	---	---	---	---	5.3	2.2	3.3	16.2	3.7	9.1
23	---	---	---	---	---	---	9.4	2.7	4.0	22.8	6.8	11.8
24	---	---	---	---	---	---	9.8	5.4	7.2	16.1	4.7	9.1
25	---	---	---	---	---	---	5.5	1.9	4.4	10.9	0.3	5.4
26	---	---	---	---	---	---	5.8	1.5	3.9	9.6	0.6	4.4
27	---	---	---	---	---	---	6.6	2.3	5.4	9.4	0.6	5.2
28	---	---	---	---	---	---	6.3	2.8	5.2	12.0	1.6	5.4
29	---	---	---	---	---	---	7.4	2.1	5.8	11.6	0.1	3.0
30	---	---	---	---	---	---	21.1	5.9	11.9	10.5	0.8	4.7
31	---	---	---	---	---	---	---	---	---	9.4	1.4	4.7
MONTH	---	---	---	---	---	---	21.1	1.5	7.6	22.8	0.1	4.8

06893562 BRUSH CREEK AT ROCKHILL ROAD IN KANSAS CITY, MO—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, mg/L,—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.2	0.2	2.6	15.8	4.3	e9.5	6.7	0.8	3.0	8.0	3.8	6.6
2	8.8	0.4	3.9	19.6	4.6	e12.5	10.4	1.3	5.9	6.7	4.8	5.8
3	4.9	0.9	e1.9	18.2	13.6	e16.2	11.8	1.3	6.1	6.7	4.5	5.8
4	4.5	1.4	e2.3	16.0	13.3	e14.8	20.6	2.6	9.4	6.5	4.4	5.3
5	5.3	2.5	e3.8	13.3	10.5	e11.9	18.7	6.0	11.4	8.2	5.2	6.5
6	10.1	4.2	e7.3	11.7	8.5	e9.9	15.5	10.4	11.9	7.6	2.6	e4.4
7	6.6	4.1	e5.1	14.8	5.6	e9.9	10.5	5.2	8.1	8.8	4.5	e6.6
8	9.1	4.8	e6.3	17.7	6.2	e11.6	10.3	4.1	7.5	12.6	8.4	e10.3
9	14.5	5.6	e8.1	13.8	5.8	e10.6	11.6	4.2	7.7	17.8	12.6	e15.7
10	15.3	5.2	10.4	11.3	2.2	6.1	12.4	4.8	8.6	20.7	17.7	e18.9
11	16.1	6.1	10.9	9.2	1.8	5.1	10.9	2.2	7.1	18.3	5.0	12.4
12	17.7	0.1	10.6	11.3	0.6	5.9	13.2	5.2	9.3	5.1	0.3	2.7
13	0.1	0.1	0.1	9.3	2.3	6.1	12.8	5.3	8.8	8.5	0.1	3.0
14	0.2	0.0	0.1	9.5	1.0	5.3	12.3	6.7	9.1	7.7	4.3	6.6
15	3.2	0.0	0.4	11.2	2.6	6.6	9.0	5.0	7.2	4.6	2.3	3.8
16	3.9	0.1	0.3	10.4	1.6	6.2	11.5	3.1	6.5	3.6	1.1	2.1
17	1.2	0.2	0.6	10.8	2.2	6.5	13.7	3.0	8.7	6.0	2.4	4.0
18	1.9	0.4	1.0	12.1	1.9	7.2	11.6	3.1	7.9	7.8	3.0	5.5
19	14.4	0.1	3.0	10.6	4.1	7.4	12.0	4.8	9.1	11.6	6.2	8.6
20	10.1	0.1	3.6	11.1	2.6	6.7	13.1	4.2	9.4	16.1	6.3	10.9
21	10.0	0.2	3.9	10.1	4.2	7.4	14.1	5.8	9.9	14.1	5.8	9.2
22	8.1	0.1	3.0	8.4	2.4	5.4	14.8	6.2	10	12.6	3.1	8.4
23	7.5	0.1	e3.6	10.1	1.8	5.2	13.1	7.0	10.0	20.6	7.3	12.7
24	6.0	1.2	4.3	9.9	2.0	5.7	12.4	5.7	9.0	17.8	10.4	14.9
25	7.9	2.7	5.0	9.6	2.4	6.3	11.6	6.5	9.1	20.3	12.2	15.1
26	8.3	1.9	e4.7	9.2	2.5	5.8	12.6	6.2	9.2	15.6	11.2	13.2
27	13.9	3.0	7.6	9.2	3.4	6.4	9.4	0.1	4.8	13.8	9.4	11.4
28	17.4	4.8	11.8	11.6	1.7	6.2	6.8	0.0	1.8	13.9	8.8	11.2
29	15.4	5.2	10.3	11.1	2.0	6.0	6.8	1.4	3.8	12.9	8.9	11.1
30	11.6	3.4	e7.0	11.0	2.0	6.7	9.2	1.2	5.8	11.0	6.9	8.5
31	---	---	---	10.2	2.9	7.6	10.2	6.8	9.3	---	---	---
MONTH	17.7	0.0	4.8	19.6	0.6	7.9	20.6	0.0	7.9	20.7	0.1	8.7

e Estimated

06893562 BRUSH CREEK AT ROCKHILL ROAD IN KANSAS CITY, MO—Continued

TURBIDITY, WATER, UNFILTERED, NEPHELOMETRIC TURBIDITY UNITS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	41	2.0	5.9	16	8.0	11	4.0	1.0	1.3	---	---	---
2	160	1.0	40	12	8.0	10	4.0	1.0	1.4	---	---	---
3	130	41	69	14	7.0	8.6	5.0	1.0	1.3	---	---	---
4	55	8.0	20	15	5.0	7.3	3.0	1.0	1.3	---	---	---
5	12	4.0	6.6	25	6.0	12	2.0	0.0	1.0	---	---	---
6	16	4.0	8.7	12	6.0	8.6	3.0	0.0	1.1	---	---	---
7	28	5.0	8.0	12	6.0	7.7	3.0	0.0	1.2	---	---	---
8	19	5.0	6.5	13	8.0	10	3.0	0.0	0.9	---	---	---
9	9.0	4.0	5.9	9.0	4.0	6.7	4.0	0.0	1.3	---	---	---
10	20	4.0	6.2	11	5.0	6.0	6.0	0.0	0.8	---	---	---
11	8.0	3.0	5.2	8.0	4.0	5.3	---	---	---	---	---	---
12	9.0	4.0	5.7	7.0	4.0	5.2	---	---	---	---	---	---
13	9.0	2.0	5.0	7.0	5.0	5.7	---	---	---	---	---	---
14	7.0	3.0	4.6	22	4.0	7.2	---	---	---	---	---	---
15	9.0	4.0	5.1	12	4.0	7.8	---	---	---	---	---	---
16	10	3.0	5.5	9.0	4.0	5.4	---	---	---	---	---	---
17	9.0	3.0	6.1	6.0	3.0	4.2	---	---	---	---	---	---
18	12	1.0	5.1	5.0	2.0	3.2	---	---	---	---	---	---
19	50	4.0	14	3.0	2.0	2.4	---	---	---	---	---	---
20	15	4.0	7.3	4.0	2.0	2.2	---	---	---	---	---	---
21	8.0	1.0	4.4	7.0	1.0	2.2	---	---	---	---	---	---
22	6.0	2.0	2.9	10	1.0	1.6	---	---	---	---	---	---
23	16	2.0	5.7	3.0	1.0	1.3	---	---	---	---	---	---
24	11	7.0	9.5	3.0	1.0	1.3	---	---	---	---	---	---
25	23	11	19	3.0	1.0	1.1	---	---	---	---	---	---
26	20	10	15	3.0	1.0	1.2	---	---	---	---	---	---
27	43	8.0	21	3.0	1.0	1.1	---	---	---	---	---	---
28	41	16	23	2.0	1.0	1.2	---	---	---	---	---	---
29	41	14	21	4.0	1.0	1.2	---	---	---	---	---	---
30	21	11	14	5.0	1.0	1.7	---	---	---	---	---	---
31	17	10	12	---	---	---	---	---	---	---	---	---
MONTH	160	1.0	13	25	1.0	5.0	6.0	0.0	1.2	---	---	---

	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	52	10	15
2	---	---	---	---	---	---	---	---	---	16	5.0	9.1
3	---	---	---	---	---	---	---	---	---	50	5.0	7.2
4	---	---	---	---	---	---	---	---	---	220	6.0	21
5	---	---	---	---	---	---	---	---	---	48	7.0	13
6	---	---	---	---	---	---	---	---	---	330	5.0	22
7	---	---	---	---	---	---	---	---	---	25	6.0	8.2
8	---	---	---	---	---	---	---	---	---	260	5.0	e31
9	---	---	---	---	---	---	10	5.0	7.8	600	25	66
10	---	---	---	---	---	---	14	5.0	7.0	400	33	130
11	---	---	---	---	---	---	44	3.0	6.0	100	32	60
12	---	---	---	---	---	---	22	2.0	4.5	76	18	29
13	---	---	---	---	---	---	27	3.0	5.6	98	13	29
14	---	---	---	---	---	---	38	5.0	8.3	41	8.0	15
15	---	---	---	---	---	---	23	8.0	12	35	6.0	13
16	---	---	---	---	---	---	73	11	27	480	8.0	38
17	---	---	---	---	---	---	55	9.0	16	58	14	32
18	---	---	---	---	---	---	25	5.0	9.1	36	3.0	8.7
19	---	---	---	---	---	---	840	7.0	140	27	1.0	6.1
20	---	---	---	---	---	---	140	37	65	24	1.0	7.9
21	---	---	---	---	---	---	48	31	39	31	0.0	3.7
22	---	---	---	---	---	---	80	27	39	8.0	0.0	2.9
23	---	---	---	---	---	---	150	23	41	54	0.0	4.5
24	---	---	---	---	---	---	150	28	48	49	1.0	5.2
25	---	---	---	---	---	---	39	18	26	65	1.0	6.2
26	---	---	---	---	---	---	38	16	22	10	0.0	2.3
27	---	---	---	---	---	---	30	9.0	15	37	0.0	2.2
28	---	---	---	---	---	---	20	9.0	12	25	1.0	7.4
29	---	---	---	---	---	---	29	8.0	10	21	0.0	6.1
30	---	---	---	---	---	---	27	8.0	12	84	3.0	11
31	---	---	---	---	---	---	---	---	---	58	6.0	17
MONTH	---	---	---	---	---	---	840	2.0	26	600	0.0	20

06893562 BRUSH CREEK AT ROCKHILL ROAD IN KANSAS CITY, MO—Continued

TURBIDITY, WATER, UNFILTERED, NEPHELOMETRIC TURBIDITY UNITS,—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	43	12	26	130	5.0	16	19	3.0	9.0	1,400	9.0	51
2	160	13	40	140	3.0	13	18	2.0	4.8	1,500	8.0	71
3	34	6.0	11	71	6.0	10	20	2.0	6.1	1,500	110	220
4	12	2.0	4.7	69	5.0	8.9	8.0	1.0	3.4	1,500	100	220
5	66	1.0	3.0	69	3.0	11	11	1.0	3.4	1,500	82	280
6	630	1.0	24	31	3.0	e5.9	9.0	2.0	3.9	310	48	110
7	43	0.0	2.9	53	3.0	8.5	11	2.0	4.8	84	16	31
8	16	0.0	2.0	87	3.0	11	13	2.0	4.6	42	14	22
9	32	1.0	4.2	67	3.0	12	7.0	2.0	4.5	70	10	19
10	15	5.0	6.8	18	2.0	4.9	9.0	3.0	5.2	19	9.0	11
11	38	5.0	7.8	8.0	0.0	1.7	46	4.0	9.9	260	8.0	39
12	840	4.0	46	8.0	1.0	2.7	34	5.0	8.4	70	20	47
13	110	28	48	11	1.0	3.2	14	6.0	8.8	160	9.0	43
14	110	27	48	10	1.0	3.0	18	3.0	7.5	56	26	38
15	100	19	36	8.0	1.0	2.4	17	3.0	5.4	30	11	21
16	100	10	25	6.0	1.0	2.5	27	2.0	5.0	28	2.0	5.2
17	24	2.0	5.9	10	1.0	1.7	23	1.0	4.3	12	2.0	3.1
18	43	2.0	4.9	14	1.0	2.6	30	2.0	5.3	72	3.0	10
19	34	1.0	4.3	8.0	1.0	3.8	10	1.0	3.6	13	6.0	9.1
20	95	2.0	10	11	1.0	2.4	23	3.0	5.1	18	5.0	6.7
21	120	2.0	6.5	12	1.0	2.1	10	3.0	5.3	58	4.0	17
22	110	2.0	11	5.0	1.0	2.5	12	3.0	6.2	16	3.6	7.3
23	---	---	---	10	2.0	3.1	11	5.0	7.1	30	4.0	7.6
24	---	---	---	6.0	2.0	3.4	12	3.0	6.1	29	5.8	9.0
25	100	9.0	26	12	3.0	4.6	21	1.0	4.5	32	5.0	9.0
26	45	4.0	8.3	11	2.0	5.2	31	2.0	7.6	22	6.0	9.5
27	75	3.0	7.5	10	2.0	4.1	73	3.0	21	18	5.0	8.0
28	33	4.0	8.1	9.0	2.0	4.0	420	9.0	51	26	4.0	7.2
29	420	6.0	18	10	1.0	4.1	440	35	110	13	2.0	5.6
30	64	5.0	11	16	1.0	5.3	1,500	31	230	150	4.0	17
31	---	---	---	33	2.0	5.8	1,400	38	220	---	---	---
MONTH	840	0.0	16	140	0.0	5.5	1,500	1.0	25	1,500	2.0	45

e Estimated

06893578 BLUE RIVER AT STADIUM DRIVE IN KANSAS CITY, MO

LOCATION.--Lat 39°03'30", long 94°30'42", in SE $^1/_4$ NW $^1/_4$ NW $^1/_4$ sec.24 , T.49 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on right bank on the downstream side of Stadium Blvd. bridge.

DRAINAGE AREA.--256 mi^2.

PERIOD OF RECORD.--July 1, 2002 to current year.

GAGE.--Water-stage recorder. Datum of gage is 718.29 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are poor.

EXTREMES FOR CURRENT YEAR.-- Maximum discharge for the period July 1 to Sept. 30, 2,490 ft^3/s, Aug. 13, gage height 12.37 ft; minimum 21 ft^3/s, July 26 and Aug. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	e30	33	30
2	---	---	---	---	---	---	---	---	---	29	27	28
3	---	---	---	---	---	---	---	---	---	29	29	27
4	---	---	---	---	---	---	---	---	---	e74	32	26
5	---	---	---	---	---	---	---	---	---	e93	29	29
6	---	---	---	---	---	---	---	---	---	42	29	30
7	---	---	---	---	---	---	---	---	---	35	29	30
8	---	---	---	---	---	---	---	---	---	e93	28	31
9	---	---	---	---	---	---	---	---	---	e40	26	34
10	---	---	---	---	---	---	---	---	---	e45	23	34
11	---	---	---	---	---	---	---	---	---	55	23	35
12	---	---	---	---	---	---	---	---	---	134	44	33
13	---	---	---	---	---	---	---	---	---	50	1,180	32
14	---	---	---	---	---	---	---	---	---	41	157	91
15	---	---	---	---	---	---	---	---	---	27	74	123
16	---	---	---	---	---	---	---	---	---	24	54	60
17	---	---	---	---	---	---	---	---	---	23	66	41
18	---	---	---	---	---	---	---	---	---	22	97	46
19	---	---	---	---	---	---	---	---	---	e35	214	370
20	---	---	---	---	---	---	---	---	---	e620	145	131
21	---	---	---	---	---	---	---	---	---	e190	59	63
22	---	---	---	---	---	---	---	---	---	e55	47	46
23	---	---	---	---	---	---	---	---	---	30	73	38
24	---	---	---	---	---	---	---	---	---	28	45	37
25	---	---	---	---	---	---	---	---	---	27	36	34
26	---	---	---	---	---	---	---	---	---	22	36	33
27	---	---	---	---	---	---	---	---	---	23	34	33
28	---	---	---	---	---	---	---	---	---	63	31	34
29	---	---	---	---	---	---	---	---	---	384	31	29
30	---	---	---	---	---	---	---	---	---	86	28	28
31	---	---	---	---	---	---	---	---	---	46	29	---
MEAN	---	---	---	---	---	---	---	---	---	80.5	89.9	54.5
MAX	---	---	---	---	---	---	---	---	---	620	1,180	370
MIN	---	---	---	---	---	---	---	---	---	22	23	26

e Estimated

06893578 BLUE RIVER AT STADIUM DRIVE IN KANSAS CITY, MO—Continued

LOCATION.--Lat 39°03'30", long 94°30'42", in SE $^1/_4$ NW $^1/_4$ NW $^1/_4$ sec.24 , T.49 N., R.33 W., Jackson County, Hydrologic Unit 10300101, on right bank on the downstream side of Stadium Blvd. bridge.

DRAINAGE AREA.--256 mi^2.

PERIOD OF RECORD.--July 1, 2002 to current year.

GAGE.--Water-stage recorder. Datum of gage is 718.29 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	69	32	30	70	36	33	154	e31	98	23	5,560
2	110	57	32	29	41	38	32	106	e1,600	66	56	501
3	159	54	32	30	37	35	34	72	398	51	53	233
4	273	53	32	30	35	36	35	144	114	44	35	149
5	115	90	32	31	33	43	35	166	79	37	28	105
6	97	78	33	30	33	39	85	117	366	33	90	86
7	80	50	35	31	38	54	98	145	130	31	39	76
8	47	42	34	34	40	43	49	140	87	28	28	69
9	41	37	33	35	31	35	39	220	66	36	25	60
10	36	38	35	31	32	32	37	1,080	55	313	25	59
11	35	36	34	30	32	41	36	324	328	67	87	233
12	36	37	34	29	28	95	33	135	479	48	55	219
13	50	36	31	28	30	568	30	99	995	39	31	633
14	44	36	29	28	446	89	29	83	104	37	29	819
15	35	52	30	28	605	61	29	71	74	32	31	181
16	34	44	31	e26	136	48	117	173	59	30	28	121
17	107	37	32	e26	80	40	134	158	46	e27	27	96
18	62	36	33	e27	67	40	54	77	40	e26	26	95
19	100	34	32	e29	56	72	1,010	70	38	24	22	138
20	62	33	30	e28	46	331	1,940	75	76	23	23	80
21	41	33	25	e28	e42	138	210	56	52	24	22	101
22	37	31	29	e27	e41	82	112	47	291	23	20	94
23	68	33	31	e26	e39	63	125	44	1,290	24	22	70
24	217	32	31	e29	e39	58	807	43	213	24	22	61
25	124	31	33	e34	e37	46	457	43	105	22	22	55
26	79	32	27	e32	e36	44	199	39	180	23	25	44
27	196	33	29	35	36	39	124	36	71	23	87	e37
28	150	32	30	36	37	e37	105	36	57	23	95	e39
29	193	31	29	36	---	e35	80	35	63	24	503	e38
30	149	31	29	35	---	e34	69	35	275	24	2,390	89
31	107	---	29	80	---	34	---	e34	---	22	14,300	---
MEAN	93.9	42.3	31.2	31.9	79.4	77.0	206	131	259	43.4	589	338
MAX	273	90	35	80	605	568	1,940	1,080	1,600	313	14,300	5,560
MIN	27	31	25	26	28	32	29	34	31	22	20	37

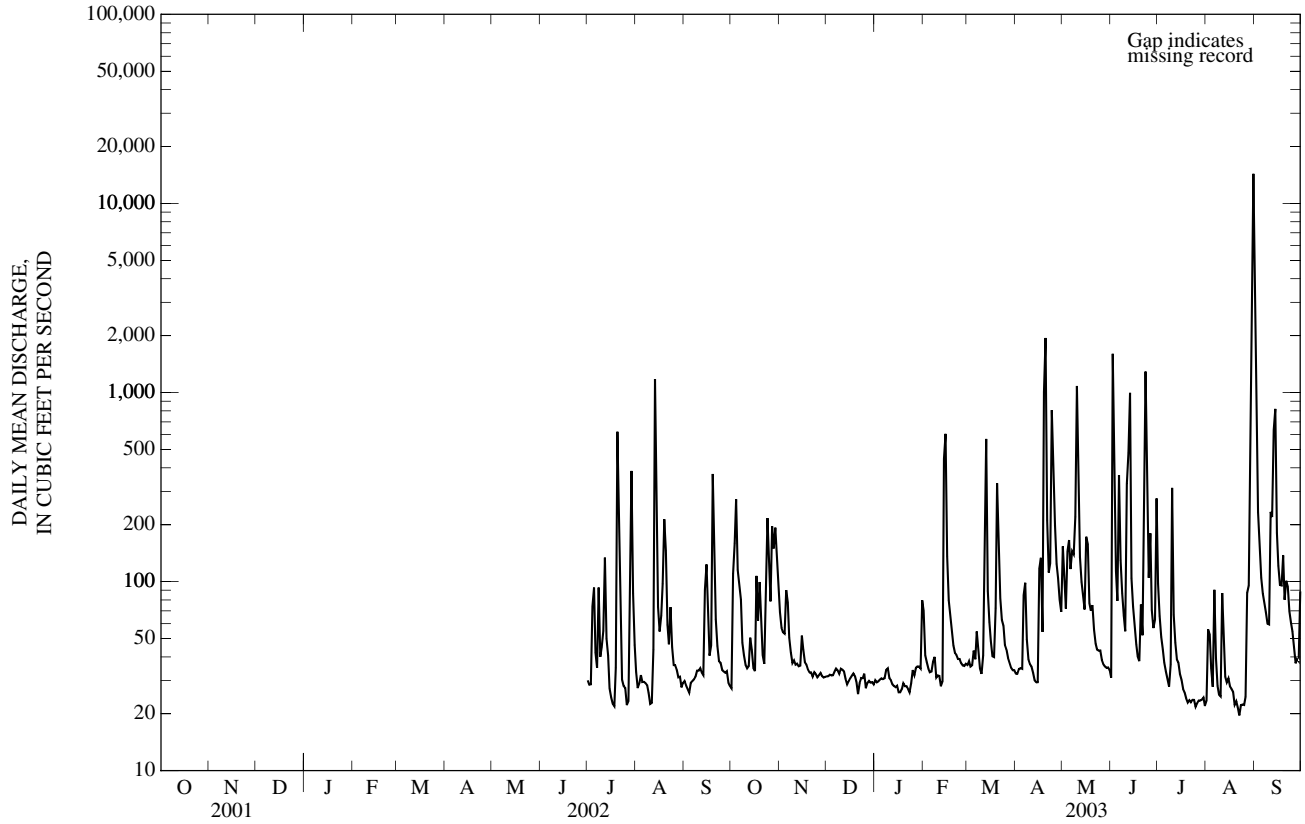
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	93.9	42.3	31.2	31.9	79.4	77.0	206	131	259	62.0	340	196
MAX	93.9	42.3	31.2	31.9	79.4	77.0	206	131	259	80.5	589	338
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2003)	(2003)
MIN	93.9	42.3	31.2	31.9	79.4	77.0	206	131	259	43.4	89.9	54.5
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)

06893578 BLUE RIVER AT STADIUM DRIVE IN KANSAS CITY, MO—Continued

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL MEAN	60		160	
HIGHEST ANNUAL MEAN			160	2003
LOWEST ANNUAL MEAN			160	2003
HIGHEST DAILY MEAN	14,300	Aug 31	14,300	Aug 31, 2003
LOWEST DAILY MEAN	20	Aug 22	20	Aug 22, 2003
ANNUAL SEVEN-DAY MINIMUM	22	Aug 19	22	Aug 19, 2003
MAXIMUM PEAK FLOW	19,000	Aug 31	19,000	Aug 31, 2003
MAXIMUM PEAK STAGE	26.34	Aug 31	26.34	Aug 31, 2003
INSTANTANEOUS LOW FLOW	15	Aug 19,22	15	Aug 19,22 2003
10 PERCENT EXCEEDS	97		197	
50 PERCENT EXCEEDS	39		39	
90 PERCENT EXCEEDS	28		28	

e Estimated



06893791 LONGVIEW RESERVOIR AT KANSAS CITY, MO

LOCATION.--Lat 38°55'29", long 94°27'35", in 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 National Geodetic Vertical Datum of 1929 (levels by the 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. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 37,100 ac-ft, May 16, 1990, elevation, 903.36 ft; minimum, 2,680 ac-ft, Oct. 1, 1985, elevation, 849.40 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 24,000 ac-ft, Sept. 1, elevation, 892.90 ft; minimum, 21,200 ac-ft, Aug. 28, elevation, 889.97 ft.

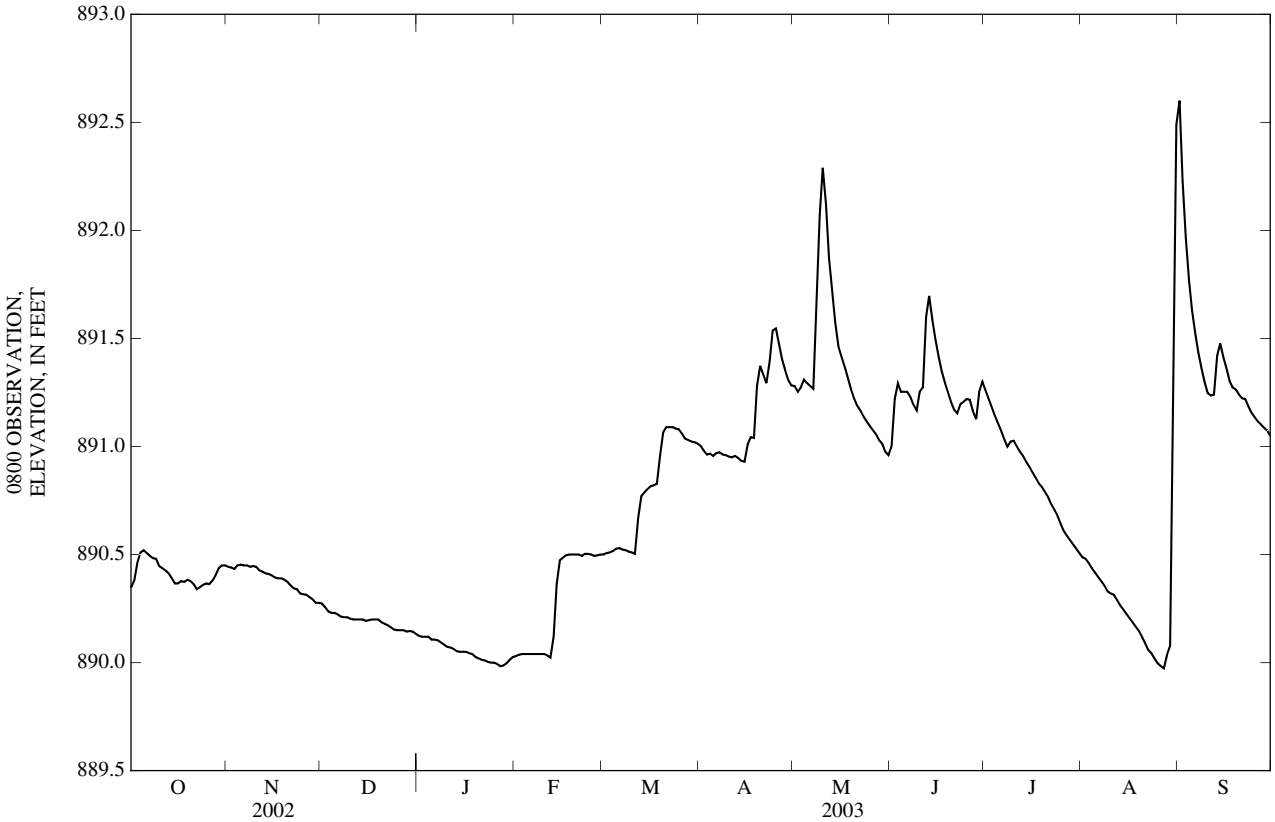
ELEVATION, IN FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
OBSERVATION AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	890.36	890.45	890.28	890.13	890.03	890.50	891.01	891.28	890.96	891.29	890.50	892.90
2	890.34	890.44	890.27	890.12	890.03	890.50	891.00	891.28	891.02	891.25	890.48	892.45
3	890.40	890.44	890.25	890.12	890.04	890.51	890.97	891.24	891.32	891.21	890.48	892.12
4	890.49	890.43	890.23	890.12	890.04	890.51	890.96	891.29	891.28	891.17	890.45	891.89
5	890.52	890.46	890.23	890.12	890.04	890.52	890.97	891.32	891.24	891.13	890.43	891.71
6	890.52	890.45	890.23	890.10	890.04	890.53	890.95	891.28	891.26	891.10	890.41	891.59
7	890.50	890.45	890.22	890.11	890.04	890.53	890.98	891.28	891.25	891.06	890.39	891.49
8	890.49	890.45	890.21	890.10	890.04	890.52	890.97	891.26	891.22	891.02	890.37	891.41
9	890.48	890.44	890.21	890.09	890.04	890.52	890.96	891.79	891.18	890.99	890.35	891.34
10	890.48	890.45	890.21	890.08	890.04	890.51	890.96	892.21	891.16	891.04	890.32	891.28
11	890.43	890.44	890.20	890.07	890.04	890.51	890.95	892.33	891.30	891.02	890.32	891.23
12	890.44	890.42	890.20	890.07	890.03	890.50	890.95	892.02	891.26	890.99	890.31	891.24
13	890.42	890.42	890.20	890.06	890.02	890.75	890.96	891.80	891.77	890.97	890.28	891.24
14	890.41	890.41	890.20	890.05	890.17	890.78	890.94	891.66	891.66	890.95	890.26	891.51
15	890.38	890.41	890.20	890.05	890.46	890.79	890.93	891.53	891.55	890.92	890.24	891.46
16	890.36	890.40	890.19	890.05	890.48	890.81	890.93	891.43	891.47	890.90	890.22	891.39
17	890.37	890.39	890.20	890.05	890.49	890.82	891.05	891.41	891.39	890.87	890.20	891.35
18	890.38	890.39	890.20	890.04	890.50	890.82	891.04	891.35	891.33	890.85	890.18	891.28
19	890.37	890.39	890.20	890.04	890.50	890.83	891.04	891.30	891.28	890.82	890.16	891.27
20	890.39	890.38	890.20	890.02	890.50	891.02	891.40	891.25	891.24	890.81	890.14	891.26
21	890.37	890.37	890.18	890.02	890.50	891.09	891.36	891.21	891.19	890.78	890.11	891.23
22	890.36	890.35	890.18	890.01	890.50	891.09	891.32	891.18	891.16	890.76	890.08	891.22
23	890.33	890.34	890.17	890.01	890.49	891.09	891.28	891.16	891.15	890.72	890.05	891.22
24	890.36	890.34	890.16	890.00	890.51	891.09	891.45	891.13	891.22	890.70	890.04	891.17
25	890.36	890.31	890.15	890.00	890.50	891.08	891.58	891.11	891.20	890.67	890.01	891.15
26	890.37	890.32	890.15	890.00	890.50	891.08	891.53	891.09	891.23	890.63	889.99	891.13
27	890.36	890.31	890.15	889.99	890.49	891.05	891.45	891.07	891.21	890.60	889.98	891.11
28	890.39	890.30	890.15	889.98	890.50	891.03	891.38	891.05	891.14	890.58	889.97	891.10
29	890.41	890.29	890.14	889.99	---	891.03	891.34	891.02	891.12	890.56	890.07	891.08
30	890.45	890.27	890.15	890.00	---	891.02	891.29	891.01	891.32	890.54	890.08	891.07
31	890.45	---	890.14	890.02	---	891.02	---	890.96	---	890.52	891.67	---
MAX	890.52	890.46	890.28	890.13	890.51	891.09	891.58	892.33	891.77	891.29	891.67	892.90
MIN	890.33	890.27	890.14	889.98	890.02	890.50	890.93	890.96	890.96	890.52	889.97	891.07
(-)	21,700	21,500	21,400	21,300	21,700	22,200	22,400	22,100	22,400	21,700	22,800	22,200
(=)	+100	-200	-100	-100	+400	+500	+200	-300	+300	-700	+1,100	-600

CAL YR 2002.... -600
WTR YR 2003....+600

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

06893791 LONGVIEW RESERVOIR AT KANSAS CITY, MO—Continued



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 National Geodetic Vertical Datum of 1929 (levels by the 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, 15,900 ac-ft (elevation 802.0 to 820.3 ft); and of multipurpose pool, 10,640 ac-ft (elevation 760.0 to 802.0 ft). U.S. Army Corps of Engineers satellite telemeter at station.

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

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 12,200 ac-ft, May 11, elevation, 803.86 ft; minimum, 10,100 ac-ft, Jan. 22, 26-30, Feb. 12 and 13, elevation, 800.92 ft.

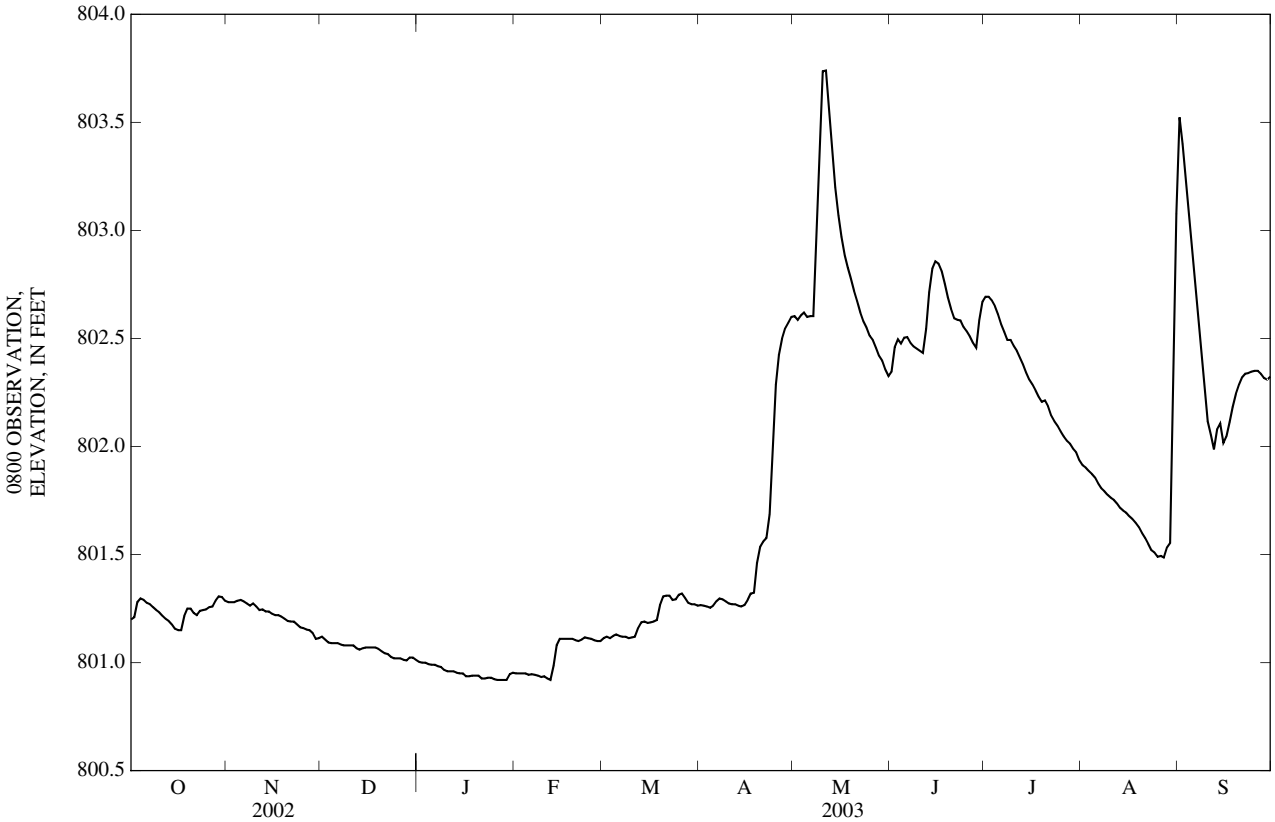
ELEVATION, IN FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
OBSERVATION AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	801.22	801.28	801.12	801.01	800.95	801.10	801.26	802.61	802.32	802.68	801.92	803.45
2	801.19	801.28	801.12	801.00	800.95	801.12	801.27	802.60	802.36	802.70	801.91	803.56
3	801.22	801.28	801.10	801.00	800.95	801.12	801.26	802.58	802.51	802.69	801.90	803.32
4	801.31	801.28	801.09	801.00	800.95	801.11	801.26	802.62	802.49	802.67	801.88	803.06
5	801.29	801.29	801.09	800.99	800.95	801.13	801.25	802.62	802.47	802.64	801.87	802.87
6	801.29	801.29	801.09	800.99	800.94	801.13	801.27	802.59	802.52	802.60	801.85	802.70
7	801.27	801.28	801.09	800.99	800.95	801.12	801.29	802.61	802.50	802.55	801.82	802.55
8	801.27	801.27	801.08	800.98	800.94	801.12	801.30	802.60	802.47	802.52	801.80	802.43
9	801.25	801.26	801.08	800.98	800.94	801.12	801.29	803.12	802.46	802.48	801.79	802.31
10	801.24	801.28	801.08	800.96	800.93	801.11	801.28	803.49	802.45	802.50	801.77	802.19
11	801.23	801.25	801.08	800.96	800.94	801.12	801.27	803.86	802.44	802.45	801.76	802.08
12	801.21	801.24	801.08	800.96	800.93	801.12	801.27	803.68	802.43	802.44	801.75	802.04
13	801.20	801.25	801.06	800.96	800.93	801.18	801.27	803.46	802.60	802.40	801.73	801.96
14	801.19	801.23	801.06	800.95	801.02	801.19	801.26	803.30	802.77	802.37	801.71	802.14
15	801.17	801.24	801.07	800.95	801.11	801.19	801.26	803.15	802.85	802.33	801.70	802.09
16	801.15	801.22	801.07	800.95	801.11	801.18	801.27	803.03	802.86	802.30	801.69	801.98
17	801.15	801.22	801.07	800.93	801.11	801.19	801.30	802.94	802.84	802.28	801.67	802.08
18	801.15	801.22	801.07	800.94	801.11	801.19	801.33	802.86	802.80	802.25	801.66	802.13
19	801.25	801.21	801.07	800.94	801.11	801.20	801.32	802.81	802.73	802.22	801.64	802.21
20	801.25	801.20	801.06	800.94	801.11	801.30	801.53	802.76	802.67	802.20	801.62	802.26
21	801.25	801.19	801.05	800.94	801.10	801.31	801.54	802.70	802.62	802.22	801.59	802.30
22	801.22	801.19	801.04	800.92	801.10	801.31	801.57	802.66	802.58	802.17	801.57	802.33
23	801.22	801.19	801.04	800.93	801.11	801.31	801.58	802.60	802.59	802.13	801.54	802.34
24	801.25	801.17	801.02	800.93	801.12	801.28	801.74	802.57	802.58	802.11	801.51	802.34
25	801.24	801.16	801.02	800.93	801.11	801.30	802.16	802.54	802.54	802.09	801.51	802.35
26	801.25	801.16	801.02	800.92	801.11	801.32	802.35	802.50	802.53	802.06	801.48	802.35
27	801.26	801.15	801.02	800.92	801.10	801.32	802.46	802.49	802.50	802.04	801.50	802.35
28	801.26	801.15	801.01	800.93	801.10	801.29	802.52	802.44	802.47	802.02	801.48	802.33
29	801.30	801.13	801.01	800.93	---	801.27	802.56	802.41	802.45	802.01	801.56	802.31
30	801.31	801.10	801.03	800.92	---	801.27	802.58	802.39	802.65	801.98	801.55	802.31
31	801.30	---	801.02	800.96	---	801.27	---	802.34	---	801.97	802.33	---
MAX	801.31	801.29	801.12	801.01	801.12	801.32	802.58	803.86	802.86	802.70	802.33	803.56
MIN	801.15	801.10	801.01	800.92	800.92	801.10	801.25	802.34	802.32	801.97	801.48	801.96
(-)	10,400	10,200	10,200	10,100	10,200	10,400	11,300	11,100	11,400	10,900	11,100	11,100
(=)	+100	-200	0	-100	+100	+200	+900	-200	+300	-500	+200	0

CAL YR 2002.... +480
WTR YR 2003... +800

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

06893885 BLUE SPRINGS RESERVOIR NEAR BLUE SPRINGS, MO—Continued



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 National Geodetic Vertical Datum of 1929. 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.--Records fair except for the month of October and estimated daily discharges, which are poor. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	6.7	5.4	5.4	11	7.4	5.6	87	16	98	3.2	1,120
2	9.6	5.2	5.4	5.3	7.7	7.7	5.5	81	167	73	3.1	467
3	12	e5.5	5.5	5.3	7.7	7.5	5.9	62	163	62	3.1	346
4	38	5.4	5.5	5.2	6.6	7.4	e7.8	88	72	54	3.2	252
5	19	8.9	5.5	5.4	5.7	7.7	9.1	112	54	48	3.5	189
6	5.8	7.8	5.5	5.5	5.5	7.1	14	87	107	40	3.4	150
7	5.1	6.1	5.4	5.6	5.6	9.5	25	98	71	34	3.2	123
8	4.1	5.2	5.3	5.6	5.1	8.6	15	429	49	29	3.1	104
9	5.0	5.3	5.2	5.4	4.8	7.8	10	344	41	26	3.1	89
10	e3.4	6.5	5.1	5.4	5.1	6.8	8.4	682	38	116	3.1	77
11	e3.3	7.1	5.0	5.2	5.2	6.2	7.7	463	78	35	3.5	98
12	e3.3	7.1	5.1	5.1	5.0	7.1	7.9	323	48	24	5.0	90
13	e3.3	6.5	5.1	5.2	4.8	114	7.9	243	645	20	3.7	254
14	e3.2	6.2	5.4	5.4	79	29	7.9	195	173	17	e2.9	273
15	e3.1	9.3	5.6	5.4	165	13	9.0	156	130	14	e3.2	129
16	3.0	8.6	5.8	5.4	38	10	40	144	111	12	3.1	105
17	4.4	6.9	5.4	5.8	17	8.5	79	136	98	11	2.8	38
18	4.3	6.2	5.8	5.8	13	7.6	24	103	84	9.4	2.5	42
19	35	6.1	5.5	5.5	11	10	112	90	70	7.9	2.5	52
20	7.0	6.0	4.7	5.6	9.3	85	307	92	57	7.3	2.7	26
21	4.9	6.0	5.3	5.6	8.2	48	80	65	48	5.7	2.7	31
22	4.2	6.3	5.2	5.6	8.4	19	49	54	54	5.1	2.5	28
23	4.1	5.6	5.0	e5.5	9.1	14	38	48	92	4.5	2.5	23
24	9.8	5.6	4.9	e5.3	7.9	12	337	43	72	3.9	2.5	22
25	8.6	5.6	4.8	e5.2	7.4	11	336	38	46	3.4	2.5	19
26	7.2	5.5	4.7	e5.2	6.8	9.0	133	32	54	3.3	2.5	17
27	16	5.6	4.9	e5.1	7.1	8.1	100	28	42	3.7	2.7	16
28	12	5.5	5.4	e5.0	7.3	9.1	98	25	34	3.5	3.6	15
29	17	5.4	5.2	5.5	---	8.6	80	22	99	3.5	33	13
30	19	5.3	5.2	5.5	---	6.6	72	23	304	3.4	365	35
31	9.6	---	5.2	12	---	6.0	---	18	---	3.2	2,030	---
MEAN	9.29	6.30	5.26	5.61	16.9	16.8	67.7	142	104	25.2	81.1	141
MAX	38	9.3	5.8	12	165	114	337	682	645	116	2,030	1,120
MIN	3.0	5.2	4.7	5.0	4.8	6.0	5.5	18	16	3.2	2.5	13
IN.	0.06	0.04	0.03	0.04	0.10	0.10	0.41	0.89	0.63	0.16	0.51	0.86

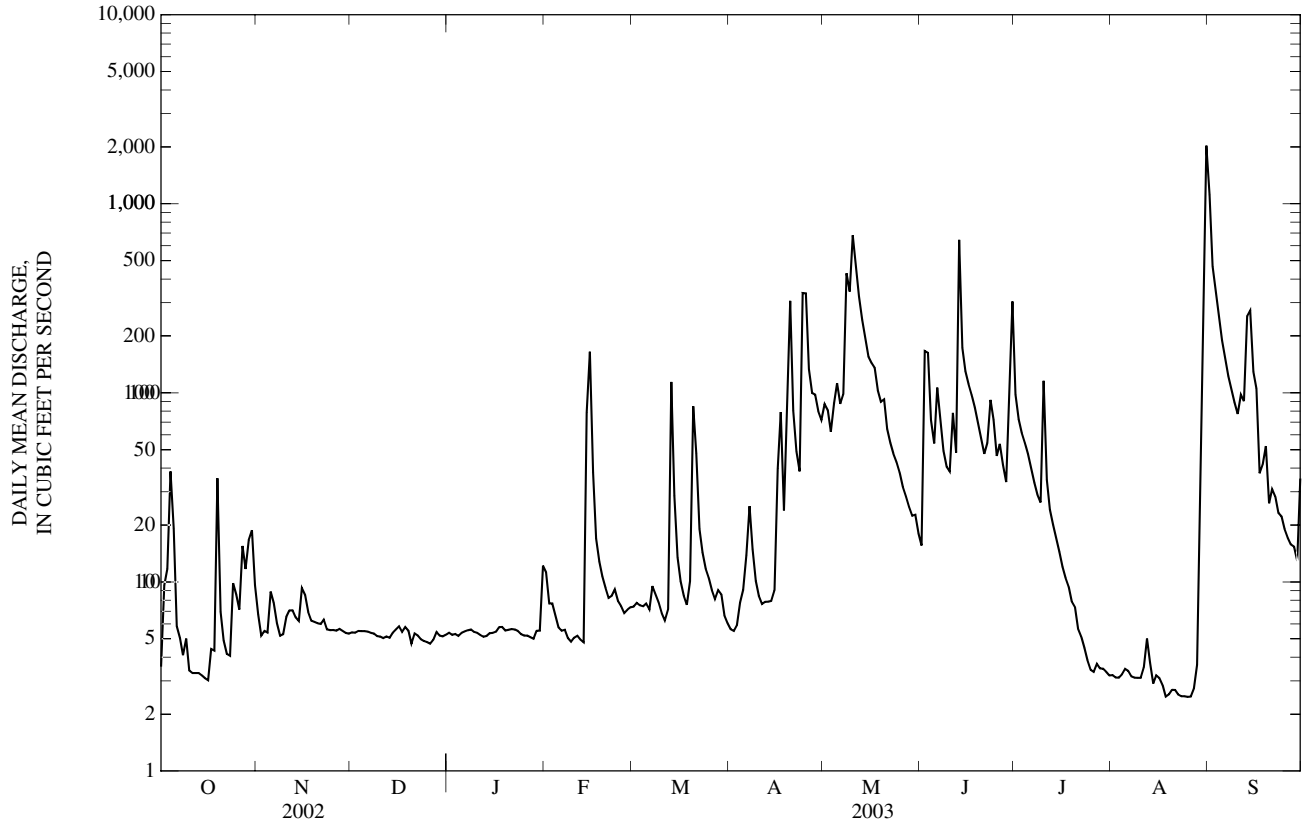
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 2003, BY WATER YEAR (WY)

MEAN	132	107	87.5	85.7	130	189	246	278	269	142	91.8	154
MAX	983	854	495	357	576	1,153	1,069	1,534	1,216	1,103	1,455	1,018
(WY)	(1987)	(1962)	(1993)	(1993)	(1985)	(1973)	(1983)	(1995)	(1967)	(1993)	(1982)	(1961)
MIN	0.13	0.49	1.36	1.36	3.09	4.15	11.3	27.9	10.3	0.26	0.016	0.20
(WY)	(1954)	(1957)	(1956)	(1957)	(1957)	(1956)	(1954)	(1988)	(1953)	(1954)	(1953)	(1953)

06894000 LITTLE BLUE RIVER NEAR LAKE CITY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1948 - 2003	
ANNUAL MEAN	135		51.8		160	
HIGHEST ANNUAL MEAN					440	1993
LOWEST ANNUAL MEAN					11.5	1956
HIGHEST DAILY MEAN	4,320	May 12	2,030	Aug 31	27,700	Aug 13, 1982
LOWEST DAILY MEAN	2.8	Sep 26-28	2.5	Aug 18,19,22-26	0.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	3.0	Sep 23	2.6	Aug 18	0.00	Several Years
MAXIMUM PEAK FLOW	---		2,590	Aug 31	42,300	Aug 13, 1982
MAXIMUM PEAK STAGE	---		11.42	Aug 31	27.94	Sep 14, 1961
INSTANTANEOUS LOW FLOW	---		2.3	Aug 18	0.00	Several Years
ANNUAL RUNOFF (INCHES)	9.95		3.82		11.79	
10 PERCENT EXCEEDS	276		112		312	
50 PERCENT EXCEEDS	19		7.9		47	
90 PERCENT EXCEEDS	4.4		3.5		7.6	

e Estimated



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 on bridge on State Highway 24 and U.S. Highway 65 at Waverly and at mile 293.5.

DRAINAGE AREA.--485,900 mi^2. The 3,959 mi^2 in Great Divide basin are not included.

PERIOD OF RECORD.--October 1928 to current year. Gage-height records collected at same site 1878-79, 1883-99 are contained in reports of the Missouri River Commission; since 1915 in reports of the National Weather Service. Daily discharge not computed Apr. 1, 1977, to Mar. 31, 1978.

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

GAGE.--Water-stage recorder. Datum of gage is 646.00 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1934, at datum 5.00 ft lower; Mar. 30, 1929, to Apr. 4, 1934, nonrecording gage; Apr. 5, 1934, to June 13, 1943, water-stage recorder; June 14, 1943, to Sept. 15, 1944, nonrecording gage; Sept. 16, 1944, to May 28, 1969, water-stage recorder all at present site and datum; May 29, 1969, to Jan. 8, 1984, water-stage recorder at site 450 ft downstream, present datum; Jan. 9, 1984, to May 24, 1984, nonrecording gage at present site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Some regulation from many upstream reservoirs. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34,400	40,400	32,000	21,200	21,500	24,500	33,300	41,000	42,500	56,800	36,300	66,800
2	34,300	41,000	30,000	21,600	22,000	22,100	34,100	41,200	42,600	54,000	35,900	50,000
3	35,900	40,800	28,100	22,100	22,200	20,800	34,000	42,100	46,400	51,200	35,800	36,900
4	38,200	39,800	26,800	22,300	22,300	20,300	33,600	50,800	43,900	49,300	35,700	33,800
5	40,100	39,200	26,000	22,300	21,900	21,000	33,500	52,700	42,600	48,000	35,700	32,200
6	41,400	38,600	25,000	22,200	21,700	22,600	33,500	49,900	42,700	46,900	35,300	31,300
7	43,800	37,500	24,100	22,200	22,100	23,800	33,900	50,600	43,800	45,700	35,100	31,100
8	45,700	36,500	24,000	22,400	22,400	24,200	34,100	70,200	43,100	44,500	34,900	31,800
9	42,700	35,800	23,900	22,900	22,400	24,100	34,500	69,700	42,300	46,000	34,700	32,600
10	40,000	35,900	23,100	22,900	22,300	23,700	35,300	65,500	41,700	54,200	34,600	33,300
11	38,900	36,200	22,400	22,900	22,300	22,600	35,900	77,600	42,900	54,900	35,000	33,700
12	38,900	36,300	22,700	22,700	23,100	21,500	35,800	67,500	51,600	50,700	34,900	34,400
13	38,600	36,300	23,200	22,500	23,900	22,800	34,900	59,500	55,500	52,200	34,500	35,200
14	38,000	36,200	23,400	22,600	23,800	25,400	34,400	56,300	73,000	60,000	34,300	37,500
15	38,300	36,200	23,300	22,500	24,700	23,800	34,500	53,700	69,300	58,900	34,300	41,400
16	38,000	36,300	23,300	21,700	25,000	22,700	34,400	52,600	55,100	51,600	34,000	41,700
17	37,800	36,200	23,600	20,400	22,600	24,300	35,400	52,900	49,200	48,500	33,200	40,700
18	38,200	36,300	23,800	19,700	22,400	28,000	35,800	52,600	46,100	46,400	31,900	38,900
19	38,700	36,300	23,600	20,200	22,800	31,500	35,800	51,600	44,000	44,600	30,600	37,600
20	39,000	35,900	23,500	20,300	23,700	33,100	38,800	50,600	42,400	43,100	29,300	37,500
21	38,800	35,500	23,500	19,600	24,400	31,000	42,600	50,000	42,400	41,700	28,600	39,600
22	38,900	35,800	23,500	19,300	24,100	28,900	42,300	51,600	43,000	40,500	29,400	39,200
23	39,300	36,200	23,400	19,100	23,900	30,100	42,200	51,300	43,700	39,800	31,600	37,600
24	39,600	35,900	23,300	19,200	24,400	32,900	41,200	49,800	44,800	39,100	31,300	36,800
25	40,500	35,700	23,600	20,000	26,900	34,900	43,800	47,300	47,800	38,500	30,600	36,400
26	40,900	35,800	23,400	e20,700	34,000	34,600	44,400	46,300	53,400	38,100	30,200	35,400
27	41,100	35,700	22,700	e21,200	34,000	33,300	46,800	46,000	49,500	37,500	29,800	34,900
28	41,700	36,000	21,800	21,200	28,900	33,200	44,100	45,300	46,900	37,300	29,600	34,300
29	41,500	35,700	21,400	20,800	---	33,600	41,300	44,300	52,800	36,800	29,700	33,700
30	40,800	34,000	21,700	20,800	---	33,100	41,000	43,600	56,300	36,400	30,300	33,500
31	40,400	---	21,400	20,900	---	32,900	---	42,900	---	36,300	36,900	---
MEAN	39,500	36,800	24,050	21,300	24,130	27,140	37,510	52,480	48,040	46,110	33,030	37,330
MAX	45,700	41,000	32,000	22,900	34,000	34,900	46,800	77,600	73,000	60,000	36,900	66,800
MIN	34,300	34,000	21,400	19,100	21,500	20,300	33,300	41,000	41,700	36,300	28,600	31,100
IN.	0.09	0.08	0.06	0.05	0.05	0.06	0.09	0.12	0.11	0.11	0.08	0.09

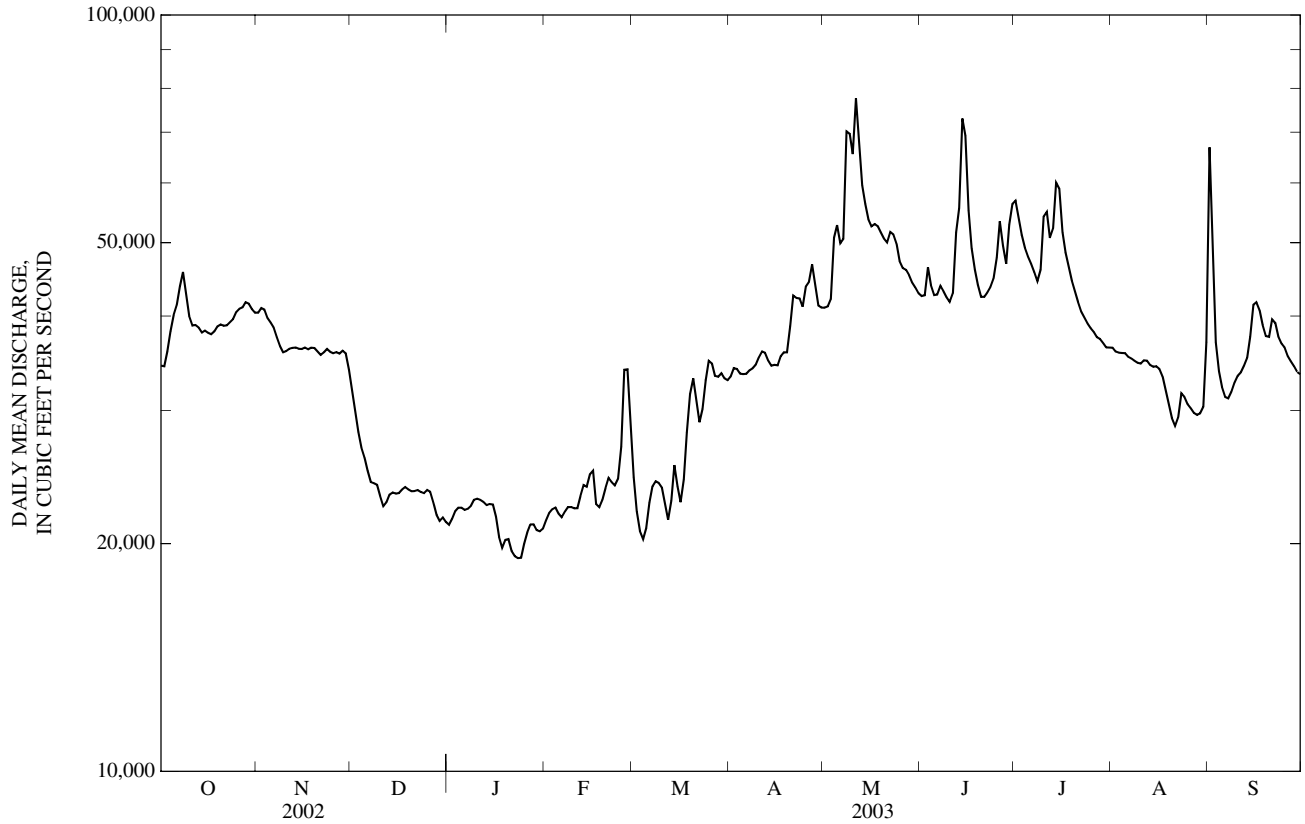
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003[a], BY WATER YEAR (WY)

MEAN	57,300	53,200	38,050	30,450	39,780	55,700	73,100	75,820	81,000	72,770	56,990	57,270
MAX	141,900	116,200	74,470	65,720	79,780	133,500	145,500	168,400	176,600	306,500	155,700	121,700
(WY)	(1974)	(1999)	(1987)	(1973)	(1973)	(1979)	(1984)	(1995)	(1984)	(1993)	(1993)	(1993)
MIN	35,340	21,620	13,010	14,770	16,830	19,250	37,510	39,350	41,340	34,800	33,030	35,380
(WY)	(1992)	(1992)	(1964)	(1963)	(1964)	(1964)	(2003)	(1989)	(1988)	(2002)	(2003)	(1991)

06895500 MISSOURI RIVER AT WAVERLY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1958 - 2003[a]	
ANNUAL MEAN	37,210		35,670		57,740	
HIGHEST ANNUAL MEAN					109,900	1993
LOWEST ANNUAL MEAN					35,670	2003
HIGHEST DAILY MEAN	100,000	May 13	77,600	May 11	611,000	Jul 28, 1993
LOWEST DAILY MEAN	21,400	Dec 29,31	19,100	Jan 23	5,000	Dec 20, 1963
ANNUAL SEVEN-DAY MINIMUM	22,300	Dec 25	19,600	Jan 18	5,540	Dec 17, 1963
MAXIMUM PEAK FLOW	---		81,200	Jun 14	633,000	Jul 27, 1993
MAXIMUM PEAK STAGE	---		16.69	Jun 14	31.15	Jul 27, 1993
INSTANTANEOUS LOW FLOW	---		18,900	Jan 23,24	5,000	Dec 20, 1963
ANNUAL RUNOFF (INCHES)	1.04		1.00		1.61	
10 PERCENT EXCEEDS	51,000		50,600		97,300	
50 PERCENT EXCEEDS	35,900		35,700		49,000	
90 PERCENT EXCEEDS	25,100		22,300		25,400	

[a] Post-regulation period.
e Estimated



06896187 MIDDLE FORK GRAND RIVER NEAR GRANT CITY, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 40°27'17", long 94°24'12", in NW ¼ SW ¼ NW ¼ sec.9, T.65 N., R.31 W., Worth County, Hydrologic Unit 10280101, on Highway 169 approximately 2.0 mi south of the junction of Highway 169 and State Highway 46 in Grant City.

DRAINAGE AREA.--82.4 mi^2.

PERIOD OF RECORD.--November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
06...	0950	Environmental	0.96	11.6	92	7.9	555	4.5	220	65.1	14.6	4.45
JAN												
15...	0915	Environmental	0.41	12.6	89	8.0	749	0.5	--	--	--	--
MAR												
27...	0910	Environmental	0.46	9.5	91	8.2	560	11.0	--	--	--	--
27...	0911	Replicate	--	--	--	--	--	--	--	--	--	--
MAY												
21...	0955	Environmental	4.2	9.1	92	8.2	577	15.0	200	58.7	13.4	7.39
JUL												
16...	0850	Environmental	0.39	6.6	79	8.0	505	22.5	--	--	--	--
SEP												
03...	1305	Environmental	0.01	9.1	117	8.2	507	28.5	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
06...	26.0	200	203	248	<1	25.1	0.3	55.4	337	<10	0.28	<0.04	<0.06
JAN													
15...	--	288	290	354	<1	--	--	--	--	<10	0.25	<0.04	<0.06
MAR													
27...	--	184	184	225	<1	--	--	--	--	<10	0.40	<0.04	<0.06
27...	--	--	--	--	--	--	--	--	--	12	0.40	<0.04	<0.06
MAY													
21...	32.2	160	159	194	<1	49.6	0.4	50.2	335	22	0.60	E.03	0.46
JUL													
16...	--	180	179	219	<1	--	--	--	--	12	0.66	<0.04	<0.06
SEP													
03...	--	180	180	220	<1	--	--	--	--	28	0.32	<0.04	<0.06

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
06...	<0.008	0.04	0.04	0.06	140k	300k	310	<2	146	0.9	0.04	<0.2	<6
JAN													
15...	<0.008	<0.02	E.02	E.02	35k	28	9k	--	--	--	--	--	--
MAR													
27...	<0.008	0.02	E.03	0.06	110	83	310	--	--	--	--	--	--
27...	<0.008	0.02	E.03	0.05	--	--	--	--	--	--	--	--	--
MAY													
21...	0.042	0.03	E.03	0.09	1,000	920	660	3	256	1.6	E.02	<0.2	<6
JUL													
16...	<0.008	0.06	0.09	0.15	120	160	220	--	--	--	--	--	--
SEP													
03...	<0.008	<0.18d	0.06	0.08	1,000k	1,100k	1,400k	--	--	--	--	--	--

06896187 MIDDLE FORK GRAND RIVER NEAR GRANT CITY, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
06...	E10	<0.08	<1	1,080	<0.02	<0.5	M	E2
JAN								
15...	--	--	--	--	--	--	--	--
MAR								
27...	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--
MAY								
21...	<10	<0.08	M	378	<0.02	0.6	M	2
JUL								
16...	--	--	--	--	--	--	--	--
SEP								
03...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range

06896320 EAST FORK GRAND RIVER AT ALLENDALE, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 40°28'53", long 94°19'06", in SE ¼ NE ¼ NW ¼ sec.32, T.66 N., R.30 W., Worth County, Hydrologic Unit 10280101, in Allendale on Highway 46, approximately 1.6 mi west of the junction of Highway NN and State Highway 46.

DRAINAGE AREA.--211 mi^2.

PERIOD OF RECORD.--November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
06...	1310	Environmental	0.01	10.7	107	8.3	474	14.0	200	58.1	12.8	2.76
MAR												
27...	1330	Environmental	1.7	12.0	122	8.5	436	13.5	--	--	--	--
APR												
29...	1245	Environmental	5.6	8.4	84	8.2	418	14.0	--	--	--	--
MAY												
21...	1345	Environmental	10	11.3	129	8.5	416	20.5	190	54.7	12.4	5.70
JUL												
16...	1310	Environmental	0.67	9.9	139	8.5	401	31.5	--	--	--	--
SEP												
04...	0840	Environmental	0.34	7.1	74	8.0	377	17.5	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
06...	11.3	233	232	283	<1	6.70	0.3	20.1	279	<10	1.4	<0.04	<0.06
MAR													
27...	--	199	200	234	5	--	--	--	--	<10	0.44	<0.04	<0.06
APR													
29...	--	172	174	212	<1	--	--	--	--	<10	0.76	<0.04	0.06
MAY													
21...	9.74	156	157	188	2	11.1	0.3	33.5	249	11	0.79	<0.04	1.08
JUL													
16...	--	175	177	198	9	--	--	--	--	22	0.66	<0.04	E.04
SEP													
04...	--	160	159	194	<1	--	--	--	--	<100d	0.41	E.02n	<0.06

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
06...	<0.008	0.10	0.11	0.24	97	110	240	<2	15	1.2	0.05	<0.2	<6
MAR													
27...	<0.008	E.01	E.02	E.04	13k	4k	8k	--	--	--	--	--	--
APR													
29...	<0.008	E.01	E.02	0.07	490	230	950	--	--	--	--	--	--
MAY													
21...	0.014	E.01	<0.04	0.08	180k	110k	160	2	146	1.8	E.02	<0.2	<6
JUL													
16...	<0.008	0.03	0.05	0.10	300	480	100	--	--	--	--	--	--
SEP													
04...	<0.008	<0.18d	<0.04	0.08	130	290	670	--	--	--	--	--	--

06896320 EAST FORK GRAND RIVER AT ALLENDALE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
06...	<10	0.08	<1	4,440	<0.02	<0.5	2	E2
MAR								
27...	--	--	--	--	--	--	--	--
APR								
29...	--	--	--	--	--	--	--	--
MAY								
21...	E7	<0.08	<1	47.7	<0.02	1.2	M	E2
JUL								
16...	--	--	--	--	--	--	--	--
SEP								
04...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

06897000 EAST FORK BIG CREEK NEAR BETHANY, MO

LOCATION.--Lat 40°17'50", long 94°01'36", in SE 1/4 sec.34, T.64 N., R.28 W., Harrison County, Hydrologic Unit 10280101, on right downstream side of bridge on old U.S. Highway 69, 2 mi north of Bethany, and 4 mi upstream from confluence with West Fork.

DRAINAGE AREA.--95 mi^2, approximately.

PERIOD OF RECORD.--April 1934 to September 1972, October 1996 to September 1999, October 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is 854.74 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for discharges in December and January, and estimated daily discharges, which are poor. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.18	0.20	0.24	e0.01	e0.45	0.60	248	1.6	0.57	0.00	0.00
2	0.20	0.13	0.09	0.59	e0.02	e0.25	0.39	42	1.9	0.33	0.00	0.00
3	0.02	0.13	0.09	0.94	e0.02	e0.20	0.37	18	2.0	0.19	0.00	0.00
4	0.03	0.09	0.11	1.4	e0.01	e1.0	0.32	9.6	3.0	0.14	0.00	0.00
5	0.01	0.14	0.18	0.53	e0.01	e0.40	0.32	6.7	1.8	0.09	0.00	0.00
6	0.10	0.14	0.12	0.29	e0.01	e0.60	0.41	9.3	5.7	0.07	0.00	0.00
7	0.00	0.15	0.17	0.25	e0.00	e1.0	0.71	16	29	0.04	0.00	0.00
8	0.00	0.24	0.13	0.18	e0.00	e1.5	0.73	14	23	0.45	0.00	0.00
9	0.00	0.26	0.11	0.25	e0.01	e1.0	0.80	53	5.6	1.8	0.00	0.00
10	0.00	0.09	0.26	0.14	e0.00	e0.60	1.3	66	41	0.50	0.00	0.00
11	0.00	0.13	0.16	0.08	e0.00	e2.0	1.2	14	21	0.15	0.00	0.00
12	0.00	0.09	0.21	0.10	e0.00	e3.0	0.98	6.3	22	0.07	0.00	0.00
13	0.00	0.09	0.25	e0.20	e0.01	e3.0	0.80	4.3	6.6	0.06	0.00	0.00
14	0.00	0.11	0.14	e0.10	e0.02	e2.6	0.67	3.5	3.3	0.04	0.00	0.16
15	0.00	0.16	0.08	e0.05	e0.01	2.2	0.66	2.8	2.1	0.03	0.00	0.01
16	0	0.14	0.14	e0.02	e0.00	1.8	0.71	2.9	1.5	0.02	0.00	0.01
17	0.00	0.17	0.13	e0.00	e0.00	1.7	0.78	3.6	1.2	0.03	0.00	0.00
18	0.00	0.14	0.13	e0.00	e0.00	1.7	0.73	3.6	1.1	0.02	0.00	0.00
19	0.00	0.12	0.12	e0.00	e0.01	2.3	5.9	2.8	0.93	0.02	0.00	0.01
20	0.00	0.28	0.13	e0.01	e0.04	4.0	41	14	0.84	0.02	0.00	0.09
21	0.00	0.29	0.18	e0.01	e0.08	3.6	14	9.7	0.70	0.01	0.00	0.08
22	0.00	0.13	0.08	e0.01	e0.40	2.4	12	4.3	0.57	0.01	0.00	0.11
23	0.00	0.35	e0.12	e0.00	e0.60	1.7	7.6	3.5	0.61	0.01	0.00	0.07
24	0.10	0.48	e0.15	e0.00	e0.80	1.0	6.8	2.9	0.57	0.01	0.00	0.21
25	0.09	0.33	e0.14	e0.00	e0.06	0.75	3.9	2.9	21	0.01	0.00	0.02
26	0.06	0.22	e0.10	e0.00	e0.04	0.68	2.6	2.2	53	0.00	0.00	0.01
27	0.05	0.28	e0.08	e0.01	e0.02	0.74	2.0	1.9	5.7	0.00	0.00	0.00
28	0.06	0.27	e0.12	e0.01	e0.20	0.64	2.8	1.7	2.3	0.03	0.00	0.00
29	0.72	0.25	e0.22	e0.01	---	0.37	2.2	1.5	1.4	0.01	0.00	0.00
30	1.1	0.16	0.10	e0.01	---	0.35	18	1.7	0.95	0.01	0.00	0.00
31	0.58	---	0.04	e0.01	---	0.66	---	1.4	---	0.01	0.00	---
MEAN	0.10	0.19	0.14	0.18	0.08	1.43	4.38	18.5	8.73	0.15	0.00	0.03
MAX	1.1	0.48	0.26	1.4	0.80	4.0	41	248	53	1.8	0.00	0.21
MIN	0.00	0.09	0.04	0.00	0.00	0.20	0.32	1.4	0.57	0.00	0.00	0.00
IN.	0.00	0.00	0.00	0.00	0.00	0.02	0.05	0.22	0.10	0.00	0.00	0.00

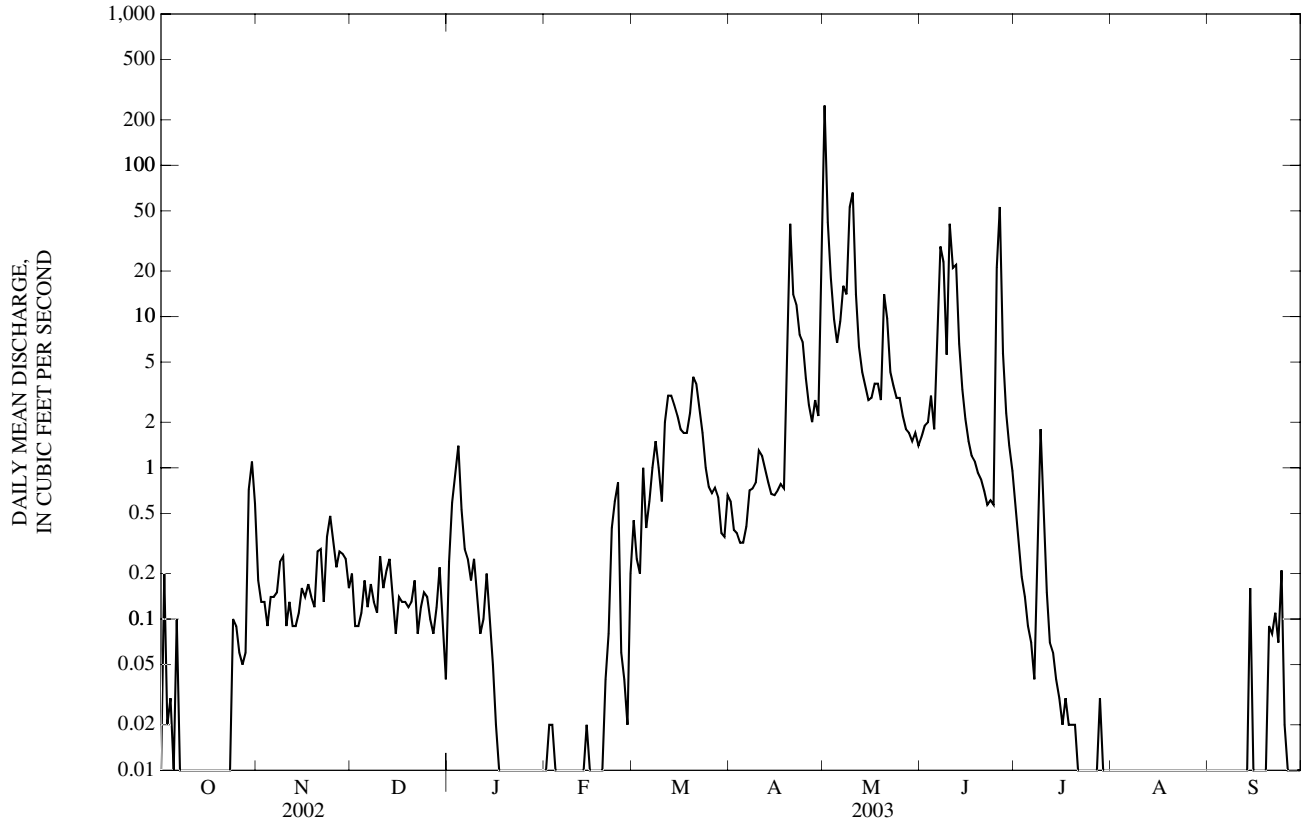
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	26.3	27.2	15.3	24.0	64.8	84.9	80.6	77.4	109	31.9	15.2	32.0
MAX	140	313	78.1	240	349	341	305	332	932	284	94.1	425
(WY)	(1960)	(1962)	(1945)	(1946)	(1937)	(1960)	(1944)	(1945)	(1947)	(1969)	(1959)	(1961)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1938)	(1938)	(1938)	(1939)	(1938)	(1956)	(1956)	(1956)	(1956)	(1936)	(1936)	(1937)

06897000 EAST FORK BIG CREEK NEAR BETHANY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	26.5		2.84		49.3	
HIGHEST ANNUAL MEAN					111	1947
LOWEST ANNUAL MEAN					2.27	1938
HIGHEST DAILY MEAN	1,310	May 12	248	May 1	6,200	Jun 6, 1947
LOWEST DAILY MEAN	0.00	Many Days	0.00	Many Days	0.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	0.00	Sep 4,Oct 7	0.00	Oct 7,Aug 1	0.00	Several Years
MAXIMUM PEAK FLOW	---		543	May 1	8,120	Jun 6, 1947
MAXIMUM PEAK STAGE	---		5.22	May 1	17.65	Jun 6, 1947
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Several Years
ANNUAL RUNOFF (INCHES)	3.79		0.41		7.05	
10 PERCENT EXCEEDS	40		3.7		88	
50 PERCENT EXCEEDS	2.9		0.14		4.0	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated



06897500 GRAND RIVER NEAR GALLATIN, MO

LOCATION.--Lat 39°55'37", long 93°56'33", in SW 1/4 NW 1/4 sec.16, T.59 N., R.27 W., Daviess County, Hydrologic Unit 10280101, on left bank 100 ft upstream from bridge on State Highway 6, 50 ft downstream from Chicago, Rock Island and Pacific Railroad Company Bridge, 1.0 mi northeast of Gallatin, 6.0 mi upstream from Honey Creek, and at mile 90.0.

DRAINAGE AREA.--2,250 mi^2.

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

REVISED RECORDS.--WSP 786: 1933-34. WSP 1280: 1922. WDR MO-83-1: 1981. WDR MO-93-1: 1991(M).

GAGE.--Water-stage recorder. Datum of gage is 707.56 ft above National Geodetic Vertical Datum of 1929. This figure supercedes 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.--Records good except for estimated daily discharges, which are poor. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	41	21	34	e26	e26	27	89	54	154	12	16
2	13	38	22	35	e30	e26	24	712	58	111	14	10
3	15	37	26	30	e30	e28	22	701	59	90	13	8.4
4	16	35	24	36	e28	e30	26	349	52	70	13	7.8
5	17	35	e20	36	e28	e32	25	216	60	61	12	7.5
6	18	32	e17	34	e25	e30	23	185	76	54	11	6.8
7	19	31	e20	34	e23	e28	27	138	72	47	9.8	5.9
8	21	31	e20	40	e21	e26	30	346	135	42	9.2	5.1
9	31	29	e16	40	e24	e28	30	345	183	32	8.5	4.7
10	28	27	e20	34	e25	e32	30	1,260	177	32	7.9	4.5
11	25	26	29	27	e26	e34	29	2,080	140	83	7.5	5.9
12	23	25	27	e25	e28	e40	27	1,090	154	201	7.3	12
13	21	24	27	e25	e30	43	24	855	406	185	6.9	35
14	20	24	31	e30	e30	48	24	434	962	105	6.7	43
15	18	24	32	e26	e30	48	23	267	427	64	6.5	15
16	16	24	32	e28	e26	45	21	191	224	49	6.0	12
17	17	23	32	e24	e26	46	21	164	150	42	5.7	11
18	18	23	32	e23	e27	49	19	151	120	36	6.0	12
19	17	23	32	e22	e30	50	25	148	98	27	5.7	11
20	16	23	32	e25	e32	62	65	127	86	24	5.3	8.5
21	16	23	31	e25	e34	69	116	132	72	22	4.8	130
22	16	23	29	e22	e34	81	154	156	64	20	4.3	114
23	16	23	25	e22	e28	73	139	130	67	18	4.0	91
24	23	22	e22	e20	e26	63	156	112	60	17	3.5	33
25	33	23	e20	e24	e24	55	159	106	59	16	3.3	17
26	37	22	e20	e22	e22	49	157	119	74	14	3.2	13
27	39	21	e24	e20	e23	42	124	121	1,440	14	3.1	10
28	47	21	28	e24	e26	36	92	97	477	13	3.3	8.9
29	45	24	33	e25	---	32	77	71	390	13	3.5	7.7
30	43	24	36	e25	---	28	92	65	238	12	4.4	7.1
31	44	---	35	e26	---	28	---	59	---	11	14	---
MEAN	23.9	26.7	26.3	27.8	27.2	42.2	60.3	355	221	54.2	7.27	22.5
MAX	47	41	36	40	34	81	159	2,080	1,440	201	14	130
MIN	12	21	16	20	21	26	19	59	52	11	3.1	4.5
MED	19	24	27	25	26	40	28	156	109	36	6.5	10
IN.	0.01	0.01	0.01	0.01	0.01	0.02	0.03	0.18	0.11	0.03	0.00	0.01

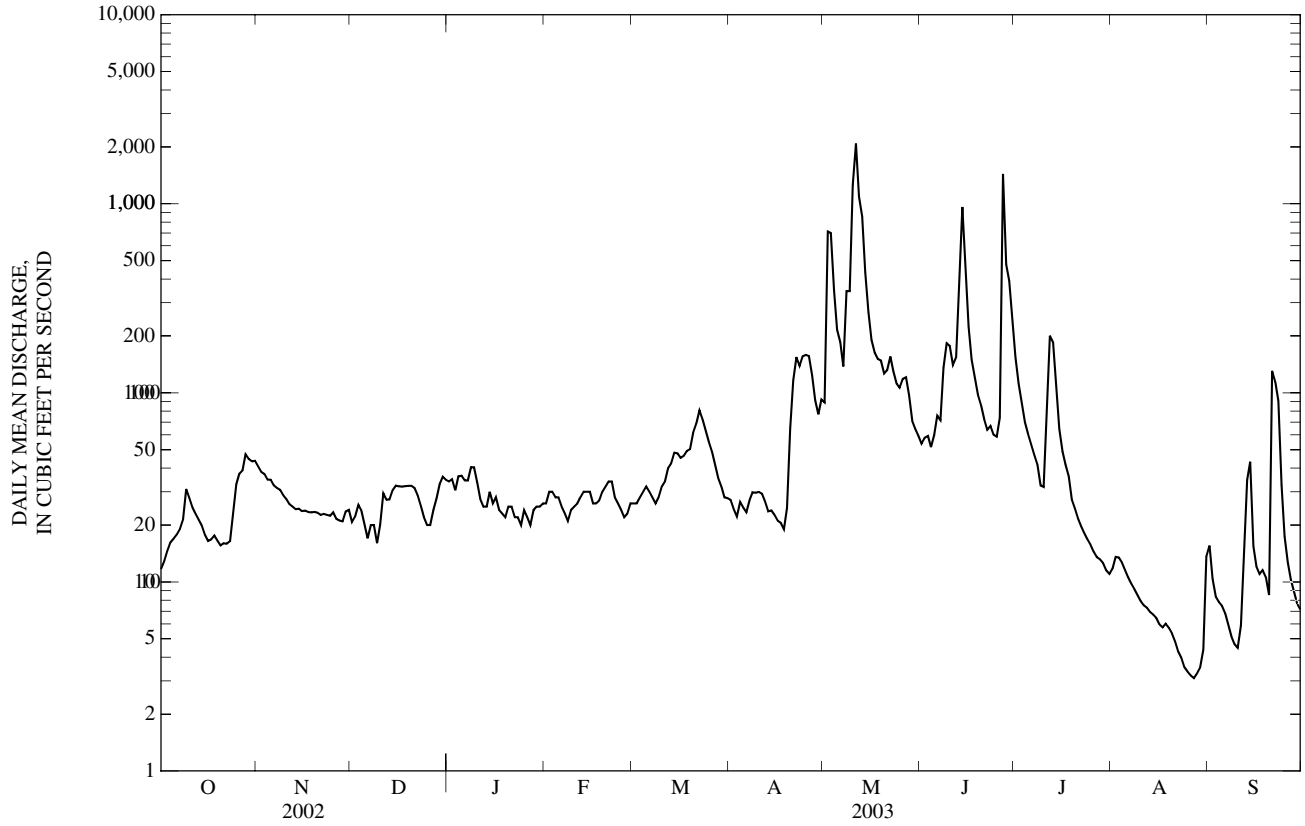
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2003, BY WATER YEAR (WY)

MEAN	811	846	519	477	991	1,715	1,975	2,012	2,329	1,593	515	1,032
MAX	8,965	8,613	5,463	4,212	6,196	8,760	7,906	14,820	22,670	33,930	4,136	11,610
(WY)	(1974)	(1929)	(1983)	(1932)	(1962)	(1979)	(1927)	(1995)	(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)

06897500 GRAND RIVER NEAR GALLATIN, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1921 - 2003	
ANNUAL MEAN	441		74.9		1,233	
HIGHEST ANNUAL MEAN					5,740	1993
LOWEST ANNUAL MEAN					74.9	2003
HIGHEST DAILY MEAN	26,100	May 12	2,080	May 11	85,500	Jul 24, 1993
LOWEST DAILY MEAN	12	Oct 1	3.1	Aug 27	2.0	Aug 30, 1980
ANNUAL SEVEN-DAY MINIMUM	13	Sep 26	3.4	Aug 23	2.6	Oct 23, 1956
MAXIMUM PEAK FLOW	---		2,620	May 11	89,800	Jul 7, 1993
MAXIMUM PEAK STAGE	---		9.23	May 11	41.50	Jul 7, 1993
INSTANTANEOUS LOW FLOW	---		2.9	Aug 26-28	2.0	Aug 30, 1980
ANNUAL RUNOFF (INCHES)	2.66		0.45		7.44	
10 PERCENT EXCEEDS	813		149		2,510	
50 PERCENT EXCEEDS	56		28		212	
90 PERCENT EXCEEDS	18		9.6		27	

e Estimated



06898100 THOMPSON RIVER NEAR MOUNT MORIAH, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 40°20'11", long 93°46'02", in NW ¼ NE ¼ NE ¼ sec.24, T.64 N., R.26 W., Harrison County, Hydrologic Unit 10280102, on Highway 136 approximately 15 mi east of junction I-35 and Highway 136, 1.5 mi northeast of Mt. Moriah.

DRAINAGE AREA.--891 mi^2, including Panther Creek.

PERIOD OF RECORD.--November 1999 to current year.

REMARKS.--August 29 sample was collected as an alternative sample for 06899580, No Creek near Dunlap, Mo., due to drought conditions at the primary site.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
07...	0950	Environmental	18	12.5	101	8.0	444	5.0	210	64.0	12.1	3.11
JAN												
15...	1400	Environmental	15	13.6	96	7.8	564	0.5	--	--	--	--
MAR												
28...	0910	Environmental	50	10.6	92	8.3	397	7.5	--	--	--	--
MAY												
22...	0910	Environmental	196	9.1	95	8.3	432	16.5	200	59.6	13.3	4.20
JUL												
15...	1245	Environmental	76	10.3	143	8.8	387	31.0	--	--	--	--
15...	1246	Replicate	--	--	--	--	--	--	--	--	--	--
AUG												
29...	1300	Environmental	6.1	11.4	150	8.4	426	30.0	--	--	--	--
SEP												
04...	1330	Environmental	10	9.1	117	8.3	448	28.0	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
07...	12.8	189	188	230	<1	8.62	0.2	42.2	271	<10	0.28	<0.04	<0.06
JAN													
15...	--	248	249	304	<1	--	--	--	--	<10	0.28	0.09	<0.06
MAR													
28...	--	154	154	188	<1	--	--	--	--	11	0.61	<0.04	0.07
MAY													
22...	9.06	154	154	182	3	11.2	0.3	30.9	259	107	0.87	<0.04	4.20
JUL													
15...	--	159	159	169	12	--	--	--	--	66	1.3	<0.04	0.07
15...	--	--	--	--	--	--	--	--	--	125	1.4	<0.04	0.15
AUG													
29...	--	160	160	191	2	--	--	--	--	<10	0.38	<0.04	<0.06
SEP													
04...	--	166	165	201	<1	--	--	--	--	146d	0.80	<0.04	<0.06

06898100 THOMPSON RIVER NEAR MOUNT MORIAH, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
07...	E.004	<0.02	<0.04	0.05	30k	33k	44k	<2	113	0.5	E.03	<0.2	<6
JAN													
15...	<0.008	<0.02	<0.04	E.04	15k	11k	2k	--	--	--	--	--	--
MAR													
28...	<0.008	<0.02	<0.04	0.07	16k	26k	27k	--	--	--	--	--	--
MAY													
22...	0.009	0.06	0.07	0.22	220k	190k	230	4	1,220	1.9	<0.04	<0.2	<6
JUL													
15...	0.011	0.02	0.04	0.28	59k	140k	200	--	--	--	--	--	--
15...	0.008	0.03	0.07	0.28	--	--	--	--	--	--	--	--	--
AUG													
29...	<0.008	E.01n	E.02n	0.08	75k	130k	220k	--	--	--	--	--	--
SEP													
04...	<0.008	<0.18d	E.03n	0.34	80	270	110	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
07...	26	<0.08	<1	1,250	<0.02	E.3	<1	E1
JAN								
15...	--	--	--	--	--	--	--	--
MAR								
28...	--	--	--	--	--	--	--	--
MAY								
22...	<10	<0.08	2	33.3	<0.02	1.9	M	8
JUL								
15...	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--
AUG								
29...	--	--	--	--	--	--	--	--
SEP								
04...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

06898800 WELDON RIVER AT PRINCETON, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 40°24'03", long 93°36'10", in SW ¼ NW ¼ SE ¼ sec.28, T.65 N., R.24 W., Mercer County, Hydrologic Unit 10280102, approximately 1 mi west of Princeton on US Highway 136.

DRAINAGE AREA.--452 mi^2.

PERIOD OF RECORD.--November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
24...	1200	Environmental	5.0	11.3	95	8.1	449	7.0	--	--	--	--
NOV												
05...	1340	Environmental	6.5	13.8	114	8.2	453	5.5	210	61.9	12.5	2.61
DEC												
10...	1255	Environmental	4.3	14.1	105	8.0	555	2.0	--	--	--	--
JAN												
14...	1310	Environmental	1.9	15.9	115	7.8	563	1.5	--	--	--	--
MAR												
07...	1210	Environmental	8.6	13.8	99	7.8	488	0.5	--	--	--	--
26...	1315	Environmental	7.3	13.1	139	8.3	444	16.5	--	--	--	--
MAY												
20...	1320	Environmental	168	8.4	91	8.0	309	18.5	140	43.5	7.76	4.57
20...	1410	Blank	--	--	--	--	--	--	--	E.01	<0.008	<0.16
JUL												
17...	0920	Environmental	6.1	8.4	104	8.2	461	24.5	--	--	--	--
SEP												
05...	0910	Environmental	0.73	7.3	73	7.7	498	15.5	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
24...	--	189	191	233	<1	--	--	--	--	<10	0.30	<0.04	E.04
NOV													
05...	13.2	191	190	231	<1	7.66	0.2	39.2	270	<10	0.24	<0.04	<0.06
DEC													
10...	--	238	236	288	<1	--	--	--	--	<10	0.26	0.07	E.03
JAN													
14...	--	243	245	298	<1	--	--	--	--	<10	0.22	<0.04	<0.06
MAR													
07...	--	198	196	239	<1	--	--	--	--	<10	0.51	<0.04	0.12
26...	--	168	167	203	<1	--	--	--	--	<10	0.34	<0.04	<0.06
MAY													
20...	6.57	120	119	146	<1	6.87	0.2	25.9	189	264	1.3	<0.04	0.38
20...	<0.09	--	--	--	--	<0.20	<0.2	<0.2	<10	<10	<0.10	<0.04	<0.06
JUL													
17...	--	187	189	230	<1	--	--	--	--	19	0.58	<0.04	<0.06
SEP													
05...	--	200	199	243	<1	--	--	--	--	52	0.26	0.14	<0.06

06898800 WELDON RIVER AT PRINCETON, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
24...	0.011	<0.02	<0.04	E.03	330	210k	740	--	--	--	--	--	--
NOV													
05...	<0.008	<0.02	<0.04	<0.04	33k	25k	80	<2	39	E.2	E.02	<0.2	<6
DEC													
10...	<0.008	<0.02	<0.04	E.02	5k	5k	18k	--	--	--	--	--	--
JAN													
14...	<0.008	<0.02	<0.04	E.02	2k	1k	3k	--	--	--	--	--	--
MAR													
07...	E.004	<0.02	<0.04	E.03	5k	<1b	6k	--	--	--	--	--	--
26...	<0.008	<0.02	<0.04	0.04	5k	10k	4k	--	--	--	--	--	--
MAY													
20...	0.009	0.05	0.07	0.33	2,975	2,500	20,000k	5	3,510	1.1	E.02	E.1	<6
20...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<6
JUL													
17...	<0.008	E.01	E.02	0.08	55k	90	80	--	--	--	--	--	--
SEP													
05...	<0.008	<0.18d	<0.04	<0.04	190	240	120	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT								
24...	--	--	--	--	--	--	--	--
NOV								
05...	E6	<0.08	<1	1,810	<0.02	<0.5	M	<2
DEC								
10...	--	--	--	--	--	--	--	--
JAN								
14...	--	--	--	--	--	--	--	--
MAR								
07...	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--
MAY								
20...	21	<0.08	5	27.4	E.02	0.8	M	16
20...	<10	<0.08	<1	<2.0	<0.02	<0.5	<1	<2
JUL								
17...	--	--	--	--	--	--	--	--
SEP								
05...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range

06899500 THOMPSON RIVER AT TRENTON, MO

LOCATION.--Lat 40°04'10", long 93°38'16" in SW ¼ NE ¼ sec.19, T.61 N., R.24 W., Grundy County, Hydrologic Unit 10280102, at downstream side of bridge pier in Trenton, 2.6 mi downstream from Weldon River, and at mile 25.2.

DRAINAGE AREA.--1,720 mi^2.

PERIOD OF RECORD.--June 1921 to September 1923, August 1928 to current year. June 1921 to September 1923, published as "near Hickory". Monthly discharge only for some periods, published in WSP 1310. Gage-height records collected in vicinity 1910-14 and since 1925 in reports of the National Weather Service.

REVISED RECORDS.--WSP 1116: 1945(M). WDR MO-83-1: 1981.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 721.87 ft above National Geodetic Vertical Datum of 1929. June 25, 1921, to Aug. 26, 1923, nonrecording gage at two sites 12 mi downstream (by old channel route) at different datums; Aug. 1, 1928, to Sept. 15, 1930, nonrecording gage at site 0.8 mi upstream from current site at current datum; Sept. 16, 1930, to May 31 1945, nonrecording gage at site 0.7 mi downstream at datum 3.46 ft lower; June 1, 1945, to Dec. 7, 1959, nonrecording gage at same site and datum; Dec. 8, 1959 to Oct. 27, 1998 at site 0.8 mi upstream, at same datum.

REMARKS.--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.--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 the U.S. Army Corps of Engineers, occurred before new channel was dredged.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	44	25	37	e35	e40	54	1,030	109	209	33	52
2	26	44	31	27	e35	e40	52	892	120	161	32	33
3	31	45	24	21	e36	e41	50	434	122	133	28	26
4	34	39	22	35	e35	e47	59	510	109	112	27	22
5	33	37	18	46	e34	e46	55	1,350	99	98	29	19
6	32	36	19	41	e34	e46	54	1,860	239	89	27	17
7	34	33	e20	31	e32	e44	59	2,610	308	84	26	16
8	48	31	e22	38	e28	e50	56	1,430	416	200	31	e11
9	45	30	22	36	e28	e44	57	1,320	250	249	31	e9.0
10	40	30	22	29	e32	e42	57	3,510	265	139	27	e9.0
11	38	29	32	e28	e32	e45	62	2,650	1,490	138	25	13
12	36	29	31	e27	e34	e60	64	1,750	1,450	134	20	40
13	34	28	31	e26	e35	85	59	1,010	756	129	18	451
14	32	29	32	e26	e40	82	56	712	617	97	18	411
15	28	31	31	26	e32	88	52	564	408	83	20	119
16	25	34	29	e24	e33	92	58	485	299	71	20	72
17	26	33	28	e26	e34	99	64	440	322	71	18	52
18	26	32	29	e24	e35	167	58	400	243	58	15	46
19	24	29	29	e23	e40	205	66	342	157	55	12	45
20	23	27	30	e26	e42	184	144	634	125	53	e12	40
21	23	29	32	e27	e43	148	181	592	119	48	e10	371
22	23	31	28	28	e48	127	158	334	105	43	e9.7	415
23	24	31	24	e27	e46	113	170	263	108	39	e9.7	117
24	32	30	e24	e24	e48	101	175	236	103	37	e9.2	69
25	47	24	e23	e23	e38	88	153	225	101	36	e9.2	49
26	46	25	27	e25	e38	79	152	198	235	34	e9.7	40
27	42	23	32	e25	e37	71	193	171	208	33	49	39
28	40	23	35	e25	e26	67	214	152	1,300	40	33	37
29	42	34	40	26	---	66	162	140	569	42	20	29
30	44	30	47	30	---	62	126	134	313	40	13	27
31	46	---	43	e32	---	58	---	117	---	36	56	---
MEAN	33.8	31.7	28.5	28.7	36.1	81.5	97.3	855	369	90.0	22.5	89.9
MAX	48	45	47	46	48	205	214	3,510	1,490	249	56	451
MIN	23	23	18	21	26	40	50	117	99	33	9.2	9.0
IN.	0.02	0.02	0.02	0.02	0.02	0.05	0.06	0.57	0.24	0.06	0.02	0.06

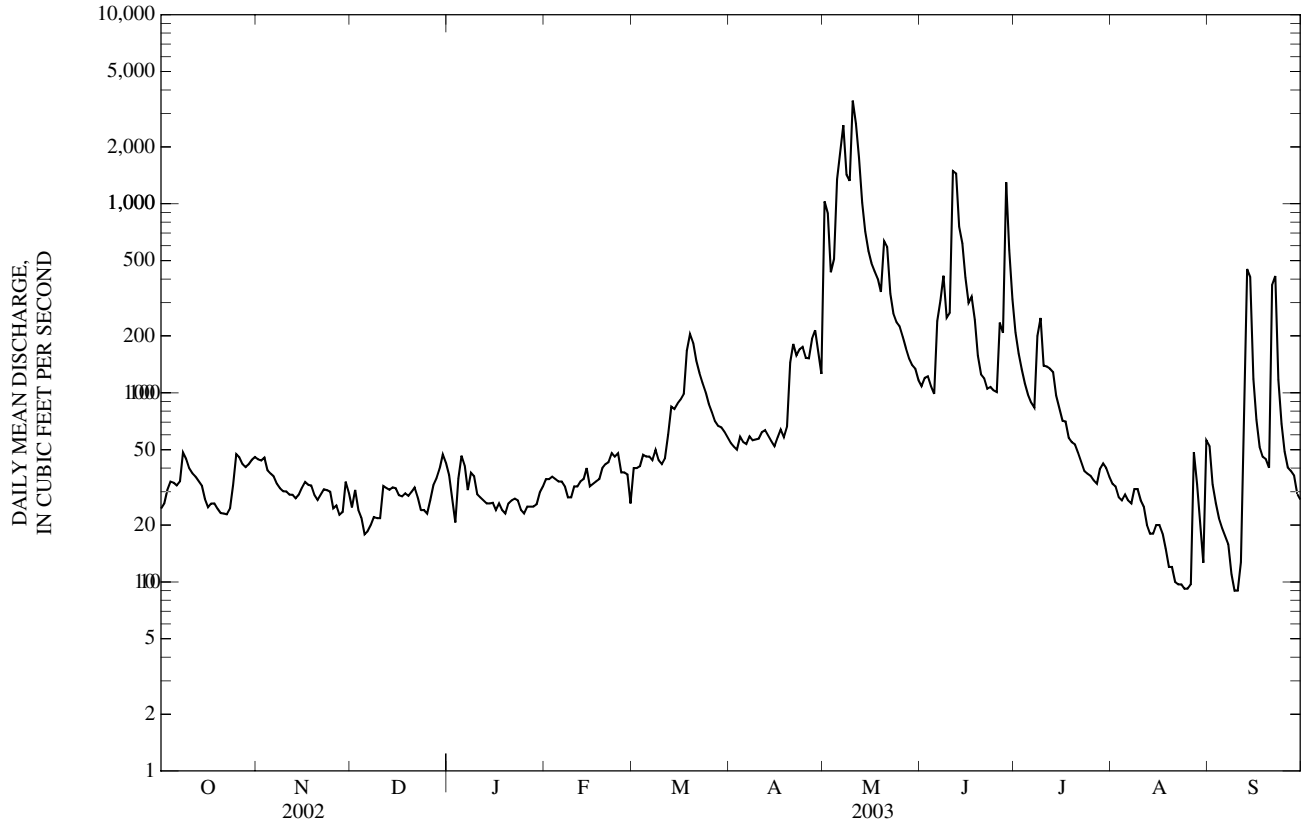
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	574	642	464	450	913	1,574	1,713	1,778	1,797	1,065	503	671
MAX	4,678	6,280	4,209	3,682	4,378	5,765	5,580	8,757	16,460	18,860	3,990	8,443
(WY)	(1974)	(1962)	(1983)	(1946)	(1962)	(1979)	(1973)	(1995)	(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)

06899500 THOMPSON RIVER AT TRENTON, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	395		148		1,011	
HIGHEST ANNUAL MEAN					3,576	1993
LOWEST ANNUAL MEAN					117	1934
HIGHEST DAILY MEAN	19,700	May 12	3,510	May 10	73,800	Jun 6, 1947
LOWEST DAILY MEAN	18	Dec 5	9.0	Sep 9,10	1.0	Jun 17, 1956
ANNUAL SEVEN-DAY MINIMUM	21	Dec 4	9.9	Aug 20	1.7	Aug 4, 1934
MAXIMUM PEAK FLOW	---		4,130	May 10	95,000	Jun 6, 1947
MAXIMUM PEAK STAGE	---		16.32	May 10	25.70	Jun 6, 1947
INSTANTANEOUS LOW FLOW	---		4.2	Dec 6	1.0	Jun 17, 1956
ANNUAL RUNOFF (INCHES)	3.11		1.17		7.98	
10 PERCENT EXCEEDS	664		310		2,320	
50 PERCENT EXCEEDS	72		40		210	
90 PERCENT EXCEEDS	28		23		29	

e Estimated



06899580 NO CREEK NEAR DUNLAP, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 40°06'19", long 93°29'29", in SE ¼ SE ¼ SW ¼ sec.4, T.61 N., R.23 W., Grundy County, Hydrologic Unit 10280102, on upstream side of bridge on County Road N approximately 0.6 mi west of Dunlap.

DRAINAGE AREA.--34.0 mi^2.

PERIOD OF RECORD.--November 1997 to current year.

REMARKS.--August sample collected at alternative site 06898100, Thompson River at Mount Moriah, Mo., due to drought conditions at primary site.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
DEC												
19...	1010	Environmental	0.01	6.2	46	7.9	554	1.5	--	--	--	--
MAR												
13...	1345	Environmental	0.41	11.4	82	8.1	390	1.0	--	--	--	--
20...	1100	Environmental	0.34	9.6	83	8.1	350	7.0	--	--	--	--
APR												
25...	1010	Environmental	2.1	8.1	77	8.1	308	11.5	--	--	--	--
30...	1340	Environmental	0.62	10.7	129	8.4	355	22.5	--	--	--	--
MAY												
06...	1600	Environmental	6.4	6.4	70	7.6	192	18.0	74	21.4	5.01	5.33
JUN												
12...	1405	Environmental	3.0	7.0	82	7.8	247	21.5	--	--	--	--
JUL												
09...	1145	Environmental	0.01	8.4	108	8.0	376	26.5	140	38.2	10.6	11.4
SEP												
19...	1155	Environmental	0.26	10.4	101	8.1	195	14.0	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
DEC													
19...	--	257	259	316	<1	--	--	--	--	37	2.4	0.57	<0.06
MAR													
13...	--	179	176	215	<1	--	--	--	--	<10	0.68	<0.04	<0.06
20...	--	154	153	187	<1	--	--	--	--	12	0.79	E.03	<0.06
APR													
25...	--	130	128	157	<1	--	--	--	--	82	1.1	<0.04	0.12
30...	--	136	136	161	2	--	--	--	--	12	0.90	<0.04	<0.06
MAY													
06...	5.01	65	63	76	<1	4.95	0.23	14.7	141	164	2.1	0.18	1.43
JUN													
12...	--	68	67	82	<1	--	--	--	--	68	1.9	0.23	6.38
JUL													
09...	14.9	167	167	204	<1	7.11	0.40	<0.2	222	43	4.7	3.03	0.14
SEP													
19...	--	74	74	90	<1	--	--	--	--	144d	0.94	E.03n	0.15

06899580 NO CREEK NEAR DUNLAP, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
DEC													
19...	<0.008	<0.02	E.03	0.16	1,300	1200k	840	--	--	--	--	--	--
MAR													
13...	<0.008	E.01	E.03	0.17	150	35k	470	--	--	--	--	--	--
20...	<0.008	0.02	0.04	0.15	140	170	57k	--	--	--	--	--	--
APR													
25...	E.005	0.04	0.05	0.22	1,900	3,300	2,500	--	--	--	--	--	--
30...	<0.008	0.03	E.03	0.14	680	1,900	260k	--	--	--	--	--	--
MAY													
06...	0.125	0.04	0.06	0.38	4,700k	21,000k	3,300	6	4,880	1.6	<0.04	E.2	E4
JUN													
12...	0.255	0.04	0.07	0.24	1,100	1,000	1,000	--	--	--	--	--	--
JUL													
09...	0.077	0.02	0.06	0.27	1,600k	1,300	720	2	880	4.7	0.04	<0.2	<7
SEP													
19...	0.012	0.06	0.08	0.28	6,200	9,000	4,700	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
DEC								
19...	--	--	--	--	--	--	--	--
MAR								
13...	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--
APR								
25...	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--
MAY								
06...	58	E.05	6	204	0.02	0.6	M	19
JUN								
12...	--	--	--	--	--	--	--	--
JUL								
09...	E7	<0.08	2	3,280	<0.02	0.6	<1	6
SEP								
19...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

06899950 MEDICINE CREEK AT HARRIS, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 40°18'32", long 93°20'15", in NE ¼ NE ¼ NW ¼ sec.35, T.64 N., R.22 W., Sullivan County, Hydrologic Unit 10280103, on the left bank on upstream side of the bridge on State Highway E, approximately 0.6 mi east of Harris.

DRAINAGE AREA.--192 mi^2.

PERIOD OF RECORD.--October 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
17...	1320	Environmental	1.4	11.9	106	8.0	458	9.0	--	--	--	--
NOV												
19...	1415	Environmental	2.0	15.1	134	7.8	454	9.0	200	59.4	12.8	2.23
DEC												
18...	1345	Environmental	2.8	13.7	128	8.1	448	10.0	--	--	--	--
18...	1346	Replicate	--	--	--	--	--	--	--	--	--	--
JAN												
30...	1055	Environmental	0.90	10.0	71	7.5	531	0.5	240	71.2	14.5	1.92
FEB												
20...	1410	Environmental	3.4	14.2	108	8.1	450	3.0	--	--	--	--
MAR												
12...	1345	Environmental	3.9	14.1	120	8.1	479	7.0	--	--	--	--
APR												
23...	1500	Environmental	14	10.5	117	8.4	544	19.0	--	--	--	--
MAY												
08...	1115	Environmental	27	8.0	82	7.8	359	15.0	140	42.0	9.15	6.74
08...	1300	Blank	--	--	--	--	--	--	--	E.01n	<0.008	<0.16
JUN												
11...	1410	Environmental	51	7.3	90	8.0	288	24.0	--	--	--	--
JUL												
10...	1455	Environmental	65	7.4	100	8.1	397	29.0	160	47.6	10.6	6.45
AUG												
25...	1600	Environmental	0.61	7.5	106	8.0	467	33.0	--	--	--	--
SEP												
17...	1330	Environmental	4.5	8.7	103	8.1	364	24.0	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
17...	--	161	160	196	<1	--	--	--	--	<10	0.20	<0.04	<0.06
NOV													
19...	15.4	154	154	188	<1	11.1	0.20	68.2	295	<10	0.17	<0.04	<0.06
DEC													
18...	--	154	154	187	<1	--	--	--	--	<10	0.29	<0.04	<0.06
18...	--	--	--	--	--	--	--	--	--	<10	0.23	<0.04	<0.06
JAN													
30...	19.6	159	159	194	<1	11.8	0.19	75.8	348	<10	0.19	<0.04	<0.06
FEB													
20...	--	161	159	194	<1	--	--	--	--	<10	0.22	<0.04	<0.06
MAR													
12...	--	165	162	198	<1	--	--	--	--	<10	0.37	<0.04	<0.06
APR													
23...	--	180	178	211	3	--	--	--	--	12	0.94	<0.04	<0.06
MAY													
08...	10.3	109	110	134	<1	10.9	0.23	43.9	238	104	1.6	0.21	1.33
08...	<0.09	--	--	--	--	<0.20	<0.17	<0.2	<10	<10	<0.10	<0.04	<0.06
JUN													
11...	--	93	92	112	<1	--	--	--	--	282	2.3	0.33	3.53
JUL													
10...	14.8	139	139	169	<1	9.35	0.20	40.2	241	161	1.2	<0.04	0.32
AUG													
25...	--	145	148	181	<1	--	--	--	--	<10	0.42	<0.04	<0.06
SEP													
17...	--	119	118	144	<1	--	--	--	--	49	0.96	0.10	0.47

06899950 MEDICINE CREEK AT HARRIS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
17...	<0.008	<0.02	<0.04	E.03	330	300	430	--	--	--	--	--	--
NOV													
19...	<0.008	<0.02	<0.04	E.03	20k	42k	470	M	29	0.4	0.04	<0.2	<6
DEC													
18...	<0.008	<0.02	<0.04	0.04	62	20k	190	--	--	--	--	--	--
18...	<0.008	<0.02	<0.04	0.06	--	--	--	--	--	--	--	--	--
JAN													
30...	<0.008	<0.02	<0.04	E.03	13k	4k	80	M	16	0.4	0.07	<0.2	<6
FEB													
20...	<0.008	<0.02	<0.04	E.03	73	3k	176	--	--	--	--	--	--
MAR													
12...	<0.008	<0.02	<0.04	0.10	83	31k	120	--	--	--	--	--	--
APR													
23...	<0.008	0.13	0.15	0.25	64k	120	180	--	--	--	--	--	--
MAY													
08...	0.065	0.06	0.08	0.29	20k	1,100	690	3	1,610	1.5	<0.04	E.1	<6
08...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<6
JUN													
11...	0.108	0.07	0.10	0.47	5,500	6,900k	14,000k	--	--	--	--	--	--
JUL													
10...	0.017	0.07	0.08	0.30	2,200	2,200	1,500	3	1,980	1.7	E.02	<0.2	<7
AUG													
25...	E.004n	<0.02	<0.04	0.06	480k	1,400k	300	--	--	--	--	--	--
SEP													
17...	0.027	0.12	0.16	0.36	550k	910	630	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT								
17...	--	--	--	--	--	--	--	--
NOV								
19...	30	<0.08	<1	1,910	<0.02	E.3	1	3
DEC								
18...	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--
JAN								
30...	23	<0.08	<1	5,420	<0.02	<0.5	4	4
FEB								
20...	--	--	--	--	--	--	--	--
MAR								
12...	--	--	--	--	--	--	--	--
APR								
23...	--	--	--	--	--	--	--	--
MAY								
08...	13	<0.08	2	282	<0.02	1.0	1	8
08...	<10	<0.08	<1	<1.6	--	<0.5	<1	<2
JUN								
11...	--	--	--	--	--	--	--	--
JUL								
10...	<8	<0.08	3	30.1	E.01	0.7	M	11
AUG								
25...	--	--	--	--	--	--	--	--
SEP								
17...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

06900050 MEDICINE CREEK AT LAREDO, MO

LOCATION.--Lat 40°01'36", long 93°26'09", in SW ¼ NW ¼ SE ¼ sec.12, T.60 N., R.23 W., Grundy County, Hydrologic Unit 10280103, on downstream side of Highway E bridge, approximately 0.5 mi east of Laredo.

DRAINAGE AREA.--355 mi^2.

PERIOD OF RECORD.--November 14, 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--No estimated daily discharges. Records fair. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

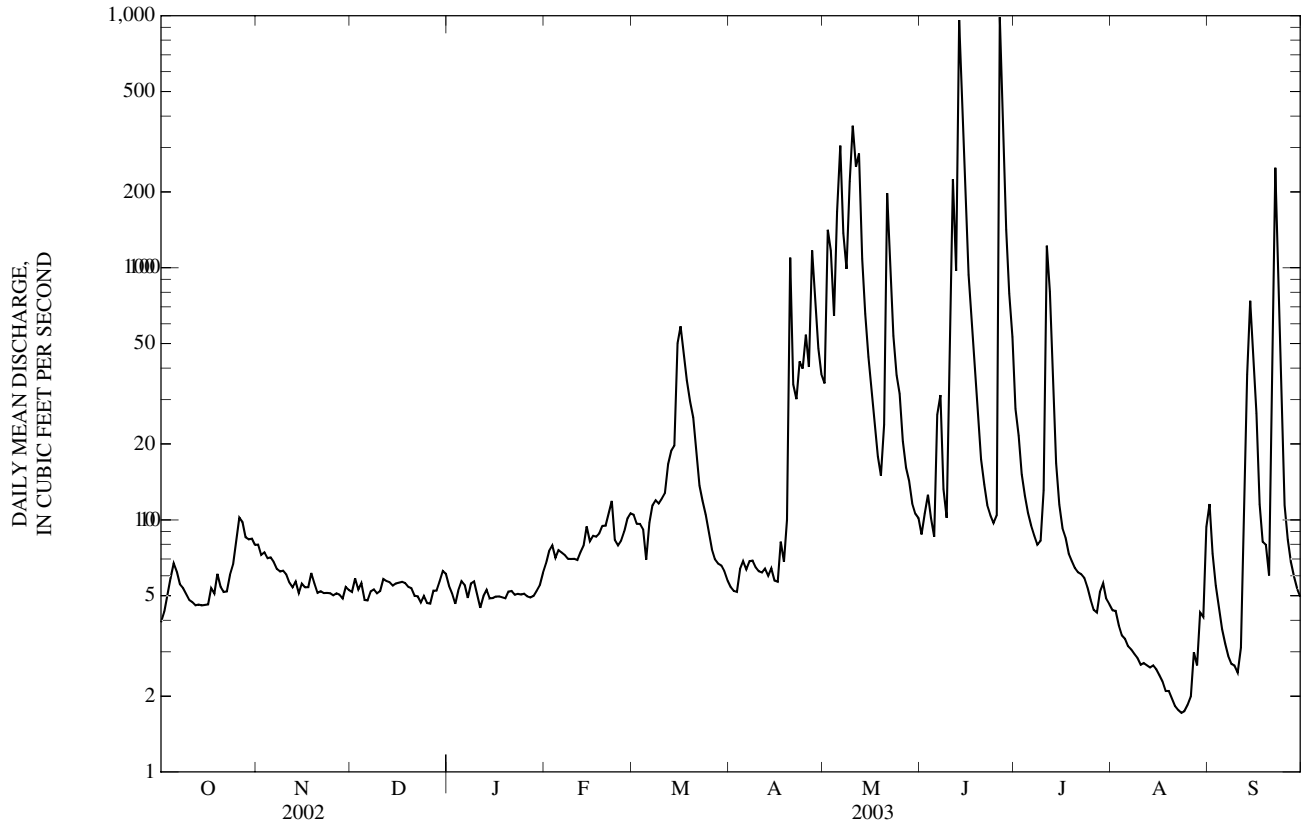
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	8.0	5.2	5.5	6.7	10	5.4	35	8.8	28	4.4	12
2	4.3	7.3	5.9	5.1	7.5	9.7	5.2	141	11	22	4.4	7.3
3	5.0	7.4	5.3	4.6	7.9	9.6	5.2	117	13	15	3.8	5.5
4	5.9	7.1	5.6	5.3	7.1	9.2	6.4	64	10	12	3.5	4.5
5	6.7	7.1	4.8	5.7	7.6	7.0	6.9	167	8.6	11	3.4	3.7
6	6.3	6.8	4.8	5.5	7.4	9.7	6.4	305	26	9.5	3.2	3.2
7	5.6	6.4	5.2	4.9	7.2	11	6.9	137	31	8.6	3.1	2.9
8	5.4	6.2	5.3	5.6	7.0	12	6.9	99	13	8.0	2.9	2.7
9	5.1	6.3	5.1	5.7	7.0	12	6.5	220	10	8.3	2.8	2.6
10	4.8	6.1	5.2	5.1	7.0	12	6.3	366	37	13	2.7	2.5
11	4.7	5.6	5.8	4.5	6.9	13	6.2	251	224	122	2.7	3.1
12	4.6	5.4	5.7	5.0	7.4	17	6.4	284	97	80	2.6	7.2
13	4.6	5.7	5.7	5.3	7.9	19	6.0	109	961	33	2.6	38
14	4.6	5.1	5.5	4.9	9.4	20	6.4	66	477	17	2.6	74
15	4.6	5.6	5.6	4.9	8.2	50	5.7	44	210	11	2.6	44
16	4.6	5.4	5.6	5.0	8.6	59	5.7	33	94	9.3	2.4	27
17	5.4	5.4	5.7	5.0	8.6	45	8.2	24	61	8.5	2.3	12
18	5.1	6.2	5.6	4.9	8.8	36	6.8	18	38	7.3	2.1	8.2
19	6.1	5.6	5.4	4.9	9.5	30	10	15	26	6.9	2.1	8.0
20	5.4	5.1	5.4	5.2	9.5	25	110	24	17	6.4	2.0	6.0
21	5.2	5.2	5.0	5.2	11	19	34	198	14	6.2	1.8	51
22	5.2	5.1	5.0	5.0	12	14	30	105	11	6.1	1.8	249
23	6.1	5.1	4.7	5.1	8.3	12	43	54	10	5.9	1.7	63
24	6.6	5.1	5.0	5.1	7.9	10	40	37	9.7	5.4	1.7	23
25	8.3	5.0	4.7	5.1	8.3	9.0	54	32	10	4.8	1.8	11
26	10	5.1	4.7	5.0	9.0	7.6	40	21	987	4.4	2.0	8.3
27	9.8	5.1	5.2	4.9	10	7.0	117	16	396	4.3	3.0	6.8
28	8.5	4.9	5.2	5.0	11	6.7	74	14	142	5.2	2.6	6.0
29	8.4	5.4	5.7	5.2	---	6.6	48	12	79	5.6	4.3	5.3
30	8.4	5.3	6.3	5.5	---	6.3	38	11	53	4.9	4.1	5.0
31	8.0	---	6.1	6.2	---	5.7	---	10	---	4.6	9.4	---
MEAN	6.04	5.84	5.35	5.16	8.38	16.8	25.1	97.7	136	15.9	2.98	23.4
MAX	10	8.0	6.3	6.2	12	59	117	366	987	122	9.4	249
MIN	3.9	4.9	4.7	4.5	6.7	5.7	5.2	10	8.6	4.3	1.7	2.5
IN.	0.02	0.02	0.02	0.02	0.02	0.05	0.08	0.32	0.43	0.05	0.01	0.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

MEAN	23.1	8.88	9.12	52.3	346	314	333	639	492	93.4	17.0	16.4
MAX	40.2	11.9	16.0	141	971	860	504	1,026	1,307	252	30.5	23.4
(WY)	(2002)	(2002)	(2002)	(2001)	(2001)	(2001)	(2001)	(2002)	(2001)	(2001)	(2001)	(2003)
MIN	6.04	5.84	5.35	5.16	8.38	16.8	25.1	97.7	32.6	12.7	2.98	5.21
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2003)	(2002)

06900050 MEDICINE CREEK AT LAREDO, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL MEAN	144		29.0		88.6	
HIGHEST ANNUAL MEAN					148	2002
LOWEST ANNUAL MEAN					29.0	2003
HIGHEST DAILY MEAN	9,050	May 12	987	Jun 26	9,050	May 12, 2002
LOWEST DAILY MEAN	3.9	Oct 1	1.7	Aug 23,24	1.7	Aug 23,24 2003
ANNUAL SEVEN-DAY MINIMUM	4.4	Sep 26	1.8	Aug 20	1.8	Aug 20, 2003
MAXIMUM PEAK FLOW	---		2,370	Jun 13	13,900	May 12, 2002
MAXIMUM PEAK STAGE	---		7.23	Jun 13	17.95	May 12, 2002
INSTANTANEOUS LOW FLOW	---		1.2	Aug 25,26	1.2	Aug 25,26 2003
ANNUAL RUNOFF (INCHES)	5.50		1.11		3.39	
10 PERCENT EXCEEDS	184		54		117	
50 PERCENT EXCEEDS	12		6.7		11	
90 PERCENT EXCEEDS	5.0		4.3		4.9	



06900100 LITTLE MEDICINE CREEK NEAR HARRIS, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 40°19'02", long 93°22'52", in SW ¼ SE ¼ NW ¼ sec.28, T.64 N., R.22 W., Mercer County, Hydrologic Unit 10280103, on the left bank on upstream side of bridge on State Highway E, approximately 1.7 mi west of Harris.

DRAINAGE AREA.--66.5 mi^2.

PERIOD OF RECORD.--November 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
17...	0935	Environmental	0.31	10.1	87	8.0	443	7.5	--	--	--	--
NOV												
19...	1300	Environmental	0.41	15.7	136	8.0	478	8.0	220	64.5	14.0	2.82
DEC												
18...	0950	Environmental	0.64	11.2	92	8.0	481	5.0	--	--	--	--
JAN												
29...	1515	Environmental	0.11	12.3	87	7.4	535	0.5	230	68.9	15.2	2.30
FEB												
20...	0945	Environmental	0.64	9.5	68	7.7	542	0.5	--	--	--	--
MAR												
12...	0950	Environmental	1.4	13.9	100	8.0	501	0.5	--	--	--	--
APR												
23...	1215	Environmental	0.47	9.8	109	8.1	463	19.0	--	--	--	--
MAY												
08...	1550	Environmental	3.5	8.9	92	7.9	394	15.0	160	48.8	9.94	6.11
JUN												
11...	0950	Environmental	30	8.1	91	7.9	258	19.0	--	--	--	--
JUL												
10...	1050	Environmental	138	6.8	81	7.6	180	22.0	66	20.0	3.90	6.04
AUG												
25...	1215	Environmental	0.08	9.5	140	7.8	487	36.0	--	--	--	--
SEP												
18...	1005	Environmental	0.48	8.3	90	8.0	416	19.0	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
17...	--	174	174	213	<1	--	--	--	--	<10	0.21	<0.04	<0.06
NOV													
19...	18.0	187	189	231	<1	7.58	0.20	62.3	304	<10	0.19	<0.04	<0.06
DEC													
18...	--	184	185	226	<1	--	--	--	--	<10	0.17	<0.04	<0.06
JAN													
29...	20.0	210	213	260	<1	10.9	0.19	60.3	332	<10	0.38	0.14	<0.06
FEB													
20...	--	213	213	260	<1	--	--	--	--	<10	0.28	<0.04	<0.06
MAR													
12...	--	192	192	235	<1	--	--	--	--	<10	0.22	<0.04	<0.06
APR													
23...	--	171	171	209	<1	--	--	--	--	<10	0.45	<0.04	0.16
MAY													
08...	10.7	128	128	156	<1	10.7	0.22	45.5	256	127	1.3	0.16	1.15
JUN													
11...	--	84	83	102	<1	--	--	--	--	344	2.4	0.08	3.04
JUL													
10...	4.80	64	60	73	<1	8.52	0.20	10.0	216	E2,060	5.8	<0.04	1.93
AUG													
25...	--	179	178	218	<1	--	--	--	--	13	0.60	0.05	E.04n
SEP													
18...	--	154	154	188	<1	--	--	--	--	20	0.50	0.09	0.15

06900100 LITTLE MEDICINE CREEK NEAR HARRIS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
17...	<0.008	<0.02	<0.04	E.03	250	160	370	--	--	--	--	--	--
NOV													
19...	<0.008	E.01	<0.04	0.06	27k	12k	53	M	54	0.4	<0.04	<0.2	<6
DEC													
18...	<0.008	<0.02	E.02	E.02	93	52	160	--	--	--	--	--	--
JAN													
29...	<0.008	<0.02	<0.04	0.05	840k	1,600k	110	<2	6	0.4	E.04	<0.2	<6
FEB													
20...	<0.008	<0.02	<0.04	E.03	32k	6k	120	--	--	--	--	--	--
MAR													
12...	<0.008	<0.02	<0.04	<0.04	24k	2k	110	--	--	--	--	--	--
APR													
23...	0.023	<0.02	<0.04	0.04	48	33	62	--	--	--	--	--	--
MAY													
08...	0.035	0.03	0.04	0.19	140k	1,500k	1,500	2	1,720	1.1	E.02	<0.2	E3
JUN													
11...	0.075	0.03	0.07	0.51	13,000	9,000	23,000	--	--	--	--	--	--
JUL													
10...	0.024	0.05	0.11	1.76	560k	5,300	49,000	1,330d	22,700d	1.4	0.06	1.0d	E4n
AUG													
25...	0.009	<0.02	E.02n	0.10	400k	960k	>200a	--	--	--	--	--	--
SEP													
18...	0.009	E.01n	0.04	0.07	270k	330	630	--	--	--	--	--	--

06900100 LITTLE MEDICINE CREEK NEAR HARRIS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT								
17...	--	--	--	--	--	--	--	--
NOV								
19...	82	<0.08	<1	811	<0.02	<0.5	3	2
DEC								
18...	--	--	--	--	--	--	--	--
JAN								
29...	265	E.06	<1	6,210	<0.02	<0.5	4	E2
FEB								
20...	--	--	--	--	--	--	--	--
MAR								
12...	--	--	--	--	--	--	--	--
APR								
23...	--	--	--	--	--	--	--	--
MAY								
08...	E5	<0.08	2	554	E.01	0.8	M	8
JUN								
11...	--	--	--	--	--	--	--	--
JUL								
10...	598	1.70	40d	76.5	0.09	E.4n	6	104
AUG								
25...	--	--	--	--	--	--	--	--
SEP								
18...	--	--	--	--	--	--	--	--

Remark codes used in this table:
> -- Greater than
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this report:
a -- Value was extrapolated above
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

06900900 LOCUST CREEK NEAR UNIONVILLE, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 40°28'23", long 93°07'37", in SW 1/4 SW 1/4 SW 1/4 sec.35, T.66 N., R.20 W., Putnam County, Hydrologic Unit 10280103, on left bank on upstream side of bridge on Highway HH approximately 3.2 mi west of State Highway 5, 9.4 mi south of Unionville.

DRAINAGE AREA.--77.5 mi^2.

PERIOD OF RECORD.--October 1999 to current year.

REMARKS.--August sample collected at alternative site 06901500, Locust Creek near Linneus, MO, due to drought conditions at primary site.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
16...	1310	Environmental	0.03	7.5	66	8.0	446	8.5	--	--	--	--
NOV												
20...	1120	Environmental	0.15	8.2	69	8.0	459	6.5	200	58.7	13.5	4.47
DEC												
17...	1335	Environmental	0.28	10.8	85	8.1	487	3.5	--	--	--	--
FEB												
19...	1350	Environmental	0.36	9.5	67	7.9	520	0.5	--	--	--	--
MAR												
11...	1340	Environmental	0.23	9.8	71	7.6	582	0.5	--	--	--	--
APR												
24...	0950	Environmental	3.4	8.0	77	8.2	514	12.0	--	--	--	--
MAY												
07...	1015	Environmental	20	8.2	84	7.8	388	15.0	160	46.9	10.1	7.58
JUN												
10...	1345	Environmental	53	7.2	84	7.9	273	20.5	--	--	--	--
JUL												
11...	1000	Environmental	25	7.0	83	7.7	280	22.0	100	30.2	6.53	9.25
11...	1015	Blank	--	--	--	--	--	--	--	0.01	<0.008	<0.16
SEP												
16...	1350	Environmental	0.58	8.9	102	8.3	363	22.0	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
16...	--	219	220	269	<1	--	--	--	--	<10	0.46	<0.04	<0.06
NOV													
20...	14.8	212	212	259	<1	8.92	0.20	22.5	283	<10	0.41	<0.04	<0.06
DEC													
17...	--	228	228	279	<1	--	--	--	--	<10	0.31	<0.04	<0.06
FEB													
19...	--	239	241	294	<1	--	--	--	--	<10	0.45	<0.04	<0.06
MAR													
11...	--	264	263	321	<1	--	--	--	--	<10	0.37	<0.04	<0.06
APR													
24...	--	165	167	203	<1	--	--	--	--	10	0.90	<0.04	<0.06
MAY													
07...	10.5	113	113	138	<1	12.3	0.21	51.7	260	68	1.6	0.17	1.65
JUN													
10...	--	79	79	96	<1	--	--	--	--	27	5.1	0.86	6.01
JUL													
11...	6.91	86	84	102	<1	10.1	0.20	23.0	183	216	2.0	0.10	2.04
11...	<0.10	--	--	--	--	<0.20	<0.20	<0.2	<10	<10	<0.10	<0.04	<0.06
SEP													
16...	--	152	150	184	<1	--	--	--	--	<10	0.46	<0.04	E.04n

06900900 LOCUST CREEK NEAR UNIONVILLE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover-able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
16...	<0.008	0.06	0.06	0.09	60	54	100	--	--	--	--	--	--
NOV													
20...	<0.008	0.02	E.03	0.09	65k	31k	80	<2	45	0.8	E.02	<0.2	<6
DEC													
17...	<0.008	<0.02	<0.04	0.06	61	14k	92	--	--	--	--	--	--
FEB													
19...	<0.008	<0.02	<0.04	0.04	17k	2k	53	--	--	--	--	--	--
MAR													
11...	<0.008	<0.02	<0.04	<0.04	3k	2k	11k	--	--	--	--	--	--
APR													
24...	<0.008	E.01	E.03	0.07	320k	190	200	--	--	--	--	--	--
MAY													
07...	0.051	0.05	0.07	0.23	>800	870	690	4	1,330	1.6	<0.04	E.1	<6
JUN													
10...	0.065	0.11	0.15	1.13	47,000k	55,000k	78,000k	--	--	--	--	--	--
JUL													
11...	0.100	0.08	0.11	0.42	2,100k	13,000	3,000	5	3,390	1.8	<0.04	<0.2	E4
11...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<7
SEP													
16...	E.004n	E.01n	E.03n	0.06	160	170	570	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover-able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover-able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover-able, µg/L (01092)
OCT								
16...	--	--	--	--	--	--	--	--
NOV								
20...	89	<0.08	<1	599	<0.02	<0.5	2	E2
DEC								
17...	--	--	--	--	--	--	--	--
FEB								
19...	--	--	--	--	--	--	--	--
MAR								
11...	--	--	--	--	--	--	--	--
APR								
24...	--	--	--	--	--	--	--	--
MAY								
07...	14	<0.08	2	147	<0.02	1.6	<1	7
JUN								
10...	--	--	--	--	--	--	--	--
JUL								
11...	20	E.04	5	7.2	E.01	0.7	2	16
11...	<8	<0.08	<1	<0.4	<0.02	<0.5	<1	<2
SEP								
16...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
> -- Greater than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

06901500 LOCUST CREEK NEAR LINNEUS, MO

LOCATION.--Lat 39°53'45", long 93°14'10", in NW ¼ NE ¼ sec.34, T.59 N., R.21 W., Linn County, Hydrologic Unit 10280103, on right bank on upstream side of county road, 1 mi upstream from Boyer bridge, 1.5 mi upstream from Strawberry and Couch Creeks, 3 mi northwest of Linneus, and 5 mi downstream from West Locust Creek.

DRAINAGE AREA.--550 mi^2.

REVISED RECORDS.--WSP 896: 1939.

PERIOD OF RECORD.--October 1928 to September 1972, July 2000 to current year. Prior to April 1929 monthly discharge only published in WSP 1310.

GAGE.--Water-stage recorder. Datum of gage is 692.61 ft above National Geodetic Vertical Datum of 1929. Prior to July 26, 1956, nonrecording gage at same site and datum.

REMARKS.--Records poor. U.S.G.S satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 1909 reached a discharge of about 18,000 ft^3/s, determination by the Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	9.0	5.4	5.5	7.4	5.4	5.3	352	15	16	3.7	31
2	5.0	7.0	6.4	5.5	6.5	e5.5	4.8	193	17	13	4.0	15
3	5.3	6.7	5.8	4.5	6.0	e5.5	4.4	112	16	11	3.1	14
4	7.1	6.1	5.9	4.8	e6.0	e5.0	5.4	95	14	8.6	3.3	8.2
5	5.5	7.6	e5.5	4.4	e6.0	e5.0	4.6	310	13	7.9	3.5	5.2
6	5.9	7.5	e5.0	4.2	e6.0	e4.5	9.5	374	15	6.0	2.1	4.9
7	5.5	8.2	e6.0	4.7	e6.5	e5.0	8.0	156	18	5.5	1.8	4.2
8	5.0	9.1	e5.5	4.9	e6.0	e5.5	8.0	88	17	5.3	1.7	3.4
9	4.6	7.6	e5.5	4.4	e5.5	e5.0	8.4	283	15	4.9	1.2	2.7
10	4.7	8.1	e4.5	4.7	e5.5	e5.5	7.0	488	17	5.2	1.1	2.9
11	4.5	6.4	e5.5	4.2	e5.5	e5.5	6.2	374	25	15	1.1	5.0
12	4.1	6.2	5.3	5.0	e6.0	e5.0	4.9	325	e52	41	1.1	19
13	4.2	6.3	5.4	5.7	e5.5	e5.0	3.9	147	e32	30	1.1	36
14	4.2	6.3	5.5	4.8	5.7	e4.5	3.1	86	e38	16	1.1	79
15	4.2	6.6	5.3	4.3	5.0	e5.0	2.7	59	e30	12	1.1	24
16	4.2	6.4	5.1	4.7	7.3	22	3.3	45	e16	8.7	1.1	15
17	5.2	6.6	5.0	e4.0	e7.0	22	6.6	36	e11	7.9	0.97	11
18	4.3	7.4	5.1	e3.5	e6.5	17	4.7	31	e9.3	7.2	0.88	9.6
19	5.2	6.4	5.1	e3.0	e7.0	13	14	27	8.6	6.6	0.88	10
20	4.7	6.0	4.6	e4.0	e6.5	11	444	25	8.2	5.5	0.94	9.6
21	5.2	6.1	4.8	e3.5	7.2	8.3	170	23	7.7	4.4	0.77	30
22	5.2	5.5	5.0	e3.2	5.5	e6.6	70	20	7.4	3.5	0.67	42
23	5.4	5.8	4.6	e3.0	5.9	e6.5	43	25	7.3	3.5	0.62	19
24	7.2	5.5	4.5	e2.8	e6.0	e6.5	41	26	7.0	3.3	0.57	76
25	8.8	5.6	e4.5	e3.0	e6.0	e6.3	82	27	6.9	3.3	0.58	34
26	8.0	5.4	e4.0	e4.0	e5.5	e6.3	100	22	8.5	3.5	0.56	20
27	8.0	6.6	e4.5	e3.5	e6.0	6.2	64	19	23	4.2	0.63	11
28	7.4	6.2	e4.5	e4.5	e6.0	5.3	76	17	113	4.4	1.3	10
29	8.6	6.2	e5.5	e5.0	---	5.0	95	14	42	4.4	1.1	7.9
30	8.8	5.7	5.9	e6.0	---	5.2	67	15	25	3.9	0.96	6.7
31	7.5	---	5.5	7.5	---	5.3	---	15	---	3.8	17	---
MEAN	5.74	6.67	5.18	4.41	6.12	7.40	45.6	124	21.2	8.89	1.95	18.9
MAX	8.8	9.1	6.4	7.5	7.4	22	444	488	113	41	17	79
MIN	4.1	5.4	4.0	2.8	5.0	4.5	2.7	14	6.9	3.3	0.56	2.7
IN.	0.01	0.01	0.01	0.01	0.01	0.02	0.09	0.26	0.04	0.02	0.00	0.04

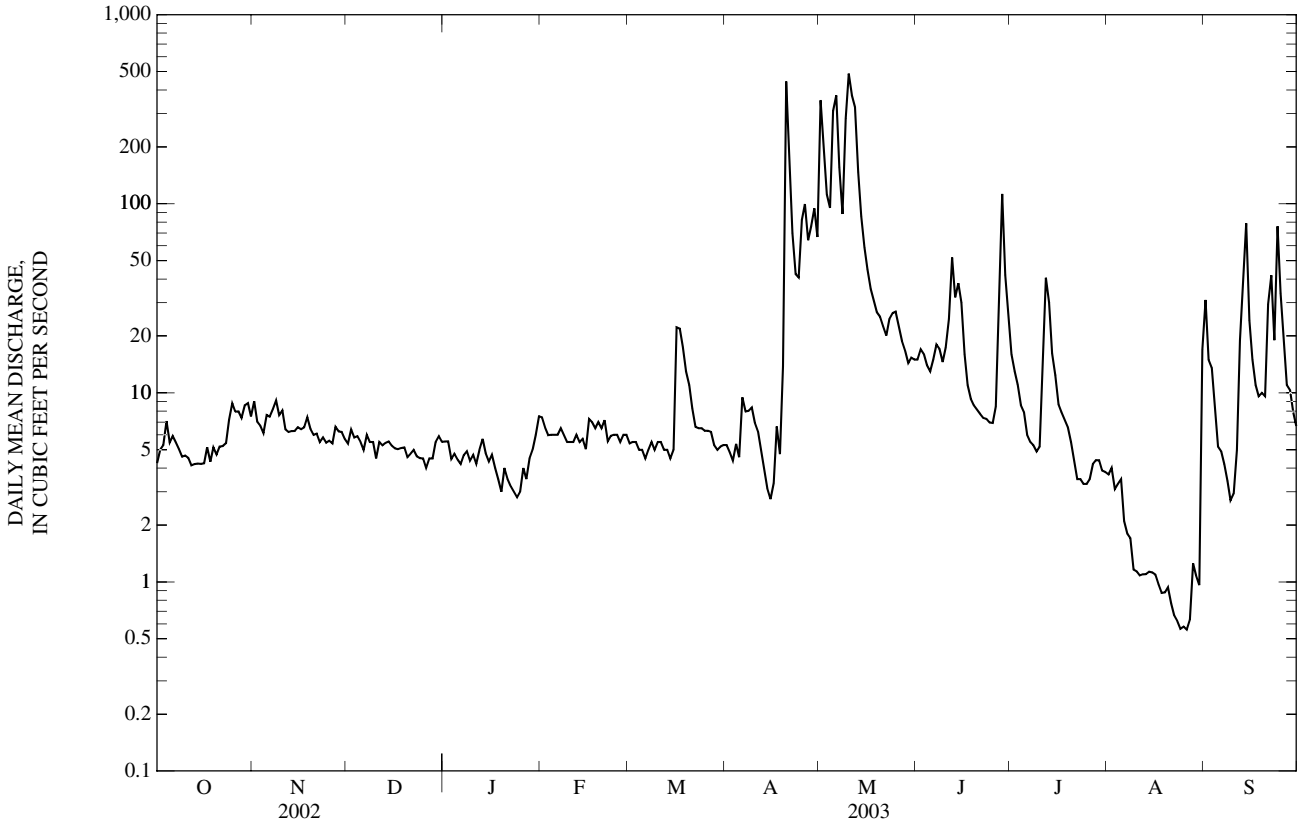
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2003, BY WATER YEAR (WY)

MEAN	160	194	138	185	321	471	580	494	691	271	127	157
MAX	1,174	2,272	803	1,027	1,557	1,898	2,103	2,647	5,820	2,903	1,812	2,079
(WY)	(1930)	(1932)	(1943)	(1946)	(2001)	(1961)	(1944)	(1935)	(1947)	(1958)	(1932)	(1970)
MIN	0.92	2.38	2.70	1.29	3.61	6.47	5.92	23.2	4.72	0.40	0.67	1.97
(WY)	(1957)	(1957)	(1938)	(1940)	(1957)	(1957)	(1956)	(1938)	(1934)	(1934)	(1936)	(1955)

06901500 LOCUST CREEK NEAR LINNEUS, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	252		21.4		311	
HIGHEST ANNUAL MEAN					796	1947
LOWEST ANNUAL MEAN					21.4	2003
HIGHEST DAILY MEAN	17,100	May 12	488	May 10	27,300	Jun 6, 1947
LOWEST DAILY MEAN	4.0	Dec 26	0.56	Aug 26	0.00	Jul 17-Aug 11, 1934
ANNUAL SEVEN-DAY MINIMUM	4.3	Oct 10	0.63	Aug 21	0.00	Jul 17, 1934
MAXIMUM PEAK FLOW	---		984	May 10	38,000	Jun 6, 1947
MAXIMUM PEAK STAGE	---		8.40	May 10	26.93	Jun 6, 1947
INSTANTANEOUS LOW FLOW	---		0.43	Aug 26	0.00	Jul 17-Aug 11, 1934
ANNUAL RUNOFF (INCHES)	6.22		0.53		7.68	
10 PERCENT EXCEEDS	299		36		573	
50 PERCENT EXCEEDS	19		6.0		40	
90 PERCENT EXCEEDS	5.2		3.3		4.0	

e Estimated



06901500 LOCUST CREEK NEAR LINNEUS, MO—Continued
(Ambient Water-Quality Monitoring Network)

PERIOD OF RECORD.--August 2003 to current year.

REMARKS.--This is an alternative sampling site for primary site, 06900900, Locust Creek near Unionville, Mo., when the primary site is dry due to drought conditions.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)
AUG												
26...	1045	Environmental	0.80	9.6	122	8.2	427	27.5	165	165	202	<1

Date	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/100 mL (31625)	Fecal streptococci KF MF, col/100 mL (31673)
AUG											
26...	<10	0.55	<0.04	<0.06	E.004n	<0.02	<0.04	0.05	55	E760k	E840k

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to current year. Prior to April 1924 monthly discharge only, published in WSP 1310.

GAGE.--Water-stage recorder. Datum of gage is 631.18 ft above National Geodetic Vertical Datum of 1929. Prior to July 11, 1926, nonrecording gage at site 200 ft upstream at same datum; July 11, 1926, to July 9, 1939, nonrecording gage at same site and datum; July 10, 1939, to Aug. 8, 1952, water-stage recorder at site 200 ft upstream at same datum; Aug. 9, 1952, to Nov. 12, 1953, nonrecording gage at site 120 ft upstream and at same datum; Nov. 13, 1953, to July 6, 1964, water-stage recorder and nonrecording gage, for stages below 8.3 ft, at site 120 ft upstream and at same datum; July 7, 1964, to May 26, 1965, nonrecording gage at present site and datum. Auxiliary water-stage recorder at site 3.2 mi downstream from base gage at datum 631.30 ft above National Geodetic Vertical Datum of 1929; Mar. 15, 1939, to Aug. 4, 1942, auxiliary nonrecording gage at various sites; Aug. 5, 1942, to Dec. 14, 1956, auxiliary nonrecording gage at present site.

REMARKS.--Water-discharge records 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	125	91	132	128	e150	177	1,980	491	852	127	e4,300
2	84	122	90	134	133	e155	175	1,960	489	588	124	2,430
3	87	120	92	127	151	e145	173	2,000	596	488	119	673
4	91	119	105	115	148	e160	173	1,730	654	420	116	282
5	104	120	102	125	148	e150	173	1,670	509	361	111	177
6	102	112	97	129	146	148	172	2,440	450	e314	106	132
7	97	105	95	131	148	159	176	2,660	706	e275	102	107
8	95	106	102	134	146	182	181	2,820	1,330	e245	97	93
9	84	103	99	130	139	188	182	2,340	952	e222	94	85
10	84	100	88	124	142	164	183	2,920	837	396	90	90
11	97	100	89	118	137	168	170	5,940	820	362	86	91
12	99	106	91	109	122	179	156	5,170	1,730	e294	83	630
13	87	109	93	114	109	192	163	3,640	4,280	e417	84	720
14	84	109	98	118	122	198	179	2,350	4,380	523	82	3,750
15	80	108	96	111	144	195	194	1,630	2,690	434	80	4,160
16	80	112	96	118	146	215	193	1,260	1,660	e293	78	1,470
17	83	119	98	109	132	232	189	1,120	1,050	e341	77	589
18	87	120	114	121	134	236	197	1,040	797	589	74	343
19	90	122	108	120	148	265	240	970	668	e337	72	254
20	86	122	106	120	153	345	864	934	509	e223	70	214
21	80	120	103	114	153	353	1,700	1,070	484	162	65	246
22	80	116	108	112	156	329	1,160	1,430	407	e148	65	1,370
23	81	115	117	118	151	309	689	1,020	376	e148	62	2,240
24	84	113	117	112	e145	286	515	828	315	e150	59	975
25	90	113	112	111	e130	269	1,080	827	298	e145	59	513
26	99	113	106	112	e110	261	1,440	837	288	e140	58	343
27	109	112	111	111	e130	252	1,000	768	945	e135	55	242
28	117	108	116	112	e145	217	1,220	708	1,200	e130	58	184
29	119	102	121	116	---	190	2,280	628	1,530	130	71	169
30	129	89	132	119	---	184	1,640	572	1,220	128	77	155
31	134	---	132	127	---	181	---	541	---	132	e670	---
MEAN	93.8	112	104	119	139	215	568	1,800	1,089	307	102	901
MAX	134	125	132	134	156	353	2,280	5,940	4,380	852	670	4,300
MIN	80	89	88	109	109	145	156	541	288	128	55	85
IN.	0.02	0.02	0.02	0.02	0.02	0.04	0.09	0.30	0.18	0.05	0.02	0.15

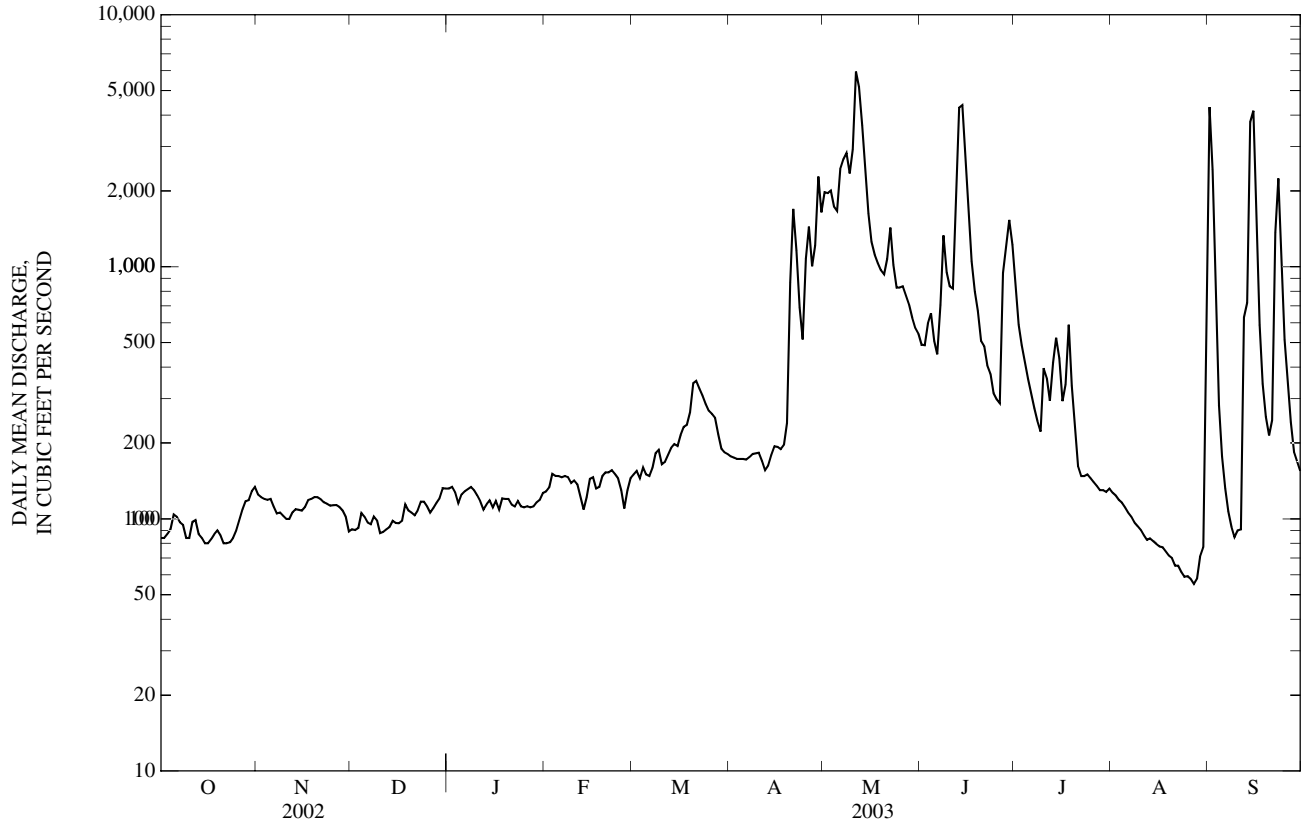
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 2003, BY WATER YEAR (WY)

MEAN	2,666	2,878	2,000	1,910	3,761	5,966	7,018	6,548	7,372	4,586	1,686	3,009
MAX	20,630	29,030	15,440	14,750	19,250	34,220	26,680	43,450	67,270	87,900	9,194	28,090
(WY)	(1974)	(1932)	(1983)	(1932)	(1962)	(1979)	(1973)	(1995)	(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)

06902000 GRAND RIVER NEAR SUMNER, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1925 - 2003	
ANNUAL MEAN	1,972		463		4,109	
HIGHEST ANNUAL MEAN					17,390	1993
LOWEST ANNUAL MEAN					367	1934
HIGHEST DAILY MEAN	69,300	May 13	5,940	May 11	166,000	Jun 8, 1947
LOWEST DAILY MEAN	80	Oct 15,16,21,22	55	Aug 27	10	Aug 12, 1934
ANNUAL SEVEN-DAY MINIMUM	84	Oct 15	59	Aug 22	12	Aug 7, 1934
MAXIMUM PEAK FLOW	---		6,320	May 11	180,000	Jun 8, 1947
MAXIMUM PEAK STAGE	---		16.21	May 11	42.52	Jul 10, 1993
INSTANTANEOUS LOW FLOW	---		53	Aug 27	10	Aug 12, 1934
ANNUAL RUNOFF (INCHES)	3.89		0.91		8.11	
10 PERCENT EXCEEDS	4,040		1,220		10,100	
50 PERCENT EXCEEDS	334		145		957	
90 PERCENT EXCEEDS	97		87		128	

e Estimated



06902000 GRAND RIVER NEAR SUMNER, MO—Continued
(Ambient Water-Quality Monitoring Network)

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.

REMARKS.--National Stream-Quality Accounting Network station October 1967 to September 1993. Ambient Water-Quality Monitoring Network station October 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
22...	1110	Environmental	97	11.0	103	8.1	476	11.5	--	--	--	--
NOV												
27...	1040	Environmental	115	14.4	105	8.0	485	2.0	210	63.7	12.2	2.90
DEC												
12...	1210	Environmental	102	13.3	104	8.0	504	4.0	--	--	--	--
FEB												
12...	1320	Environmental	121	14.3	104	8.0	512	1.5	220	66.8	12.8	2.98
12...	1350	Blank	--	--	--	--	--	--	--	0.04	<0.008	<0.10
25...	1240	Environmental	e130	15.2	108	8.1	502	1.0	--	--	--	--
MAR												
21...	1145	Environmental	354	11.0	101	8.2	421	10.5	--	--	--	--
APR												
11...	1215	Environmental	163	11.7	111	8.1	461	12.0	--	--	--	--
MAY												
02...	1000	Environmental	1,940	6.1	65	7.7	287	17.5	120	35.5	6.91	5.33
JUN												
20...	1315	Environmental	516	10.0	125	8.5	354	25.5	--	--	--	--
20...	1316	Replicate	--	--	--	--	--	--	--	--	--	--
JUL												
29...	1120	Environmental	130	7.0	90	8.0	481	27.0	210	64.5	12.7	4.79
AUG												
21...	1240	Environmental	66	9.0	120	8.2	487	30.5	--	--	--	--
21...	1241	Replicate	--	--	--	--	--	--	--	--	--	--
SEP												
09...	1315	Environmental	85	9.6	113	8.2	392	23.5	--	--	--	--

06902000 GRAND RIVER NEAR SUMNER, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicar-bonate, wat unf incrm. titr., field, mg/L (00450)	Carbon-ate, wat unf incrm. titr., field, mg/L (00447)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
22...	--	205	207	253	<1	--	--	--	--	39	0.61	<0.04	<0.06
NOV													
27...	18.7	198	198	242	<1	17.5	0.20	36.5	291	10	0.43	<0.04	<0.06
DEC													
12...	--	204	206	251	<1	--	--	--	--	<10	0.30	<0.04	0.15
FEB													
12...	23.4	201	203	247	<1	24.3	0.21	38.4	312	<10	0.40	0.08	0.92
12...	<0.09	--	--	--	--	<0.20	<0.20	<0.2	<10	<10	<0.10	<0.04	<0.06
25...	--	186	184	225	<1	--	--	--	--	<10	0.36	<0.04	0.16
MAR													
21...	--	151	148	180	<1	--	--	--	--	29	0.70	<0.04	0.20
APR													
11...	--	176	175	214	<1	--	--	--	--	46	0.74	<0.04	<0.06
MAY													
02...	9.85	94	91	111	<1	8.99	0.22	27.9	186	524	2.6	0.12	0.69
JUN													
20...	--	135	135	161	2	--	--	--	--	114	1.6	<0.04	0.40
20...	--	--	--	--	--	--	--	--	--	108	1.5	<0.04	0.43
JUL													
29...	15.4	193	195	237	<1	13.5	0.30	28.1	282	19	0.76	<0.04	<0.06
AUG													
21...	--	192	190	232	<1	--	--	--	--	81	1.2	<0.04	<0.06
21...	--	--	--	--	--	--	--	--	--	78	1.2	<0.04	<0.06
SEP													
09...	--	155	154	189	<1	--	--	--	--	58	1.1	<0.04	<0.06

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µMF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
22...	<0.008	<0.02	<0.04	0.11	30k	46	29k	--	--	--	--	--	--
NOV													
27...	<0.008	<0.02	<0.04	0.07	7k	<2b	2k	<2	50	0.6	0.04	<0.2	<6
DEC													
12...	E.004	<0.02	<0.04	0.05	12k	13k	12k	--	--	--	--	--	--
FEB													
12...	0.033	<0.02	<0.04	0.06	30k	110	<3b	<2	47	0.7	0.05	<0.2	<6
12...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<6
25...	<0.008	<0.02	<0.04	0.08	5k	2k	3k	--	--	--	--	--	--
MAR													
21...	E.007	<0.02	E.02	0.09	43k	78	120	--	--	--	--	--	--
APR													
11...	<0.008	<0.02	<0.04	0.12	20k	40	18k	--	--	--	--	--	--
MAY													
02...	0.033	0.04	0.05	0.76	6,400	9,000	4,000	4	8,020	1.3	E.03	0.3	E5
JUN													
20...	0.020	0.02	0.04	0.28	--e	--e	33k	--	--	--	--	--	--
20...	0.020	0.03	E.03	0.29	--	--	--	--	--	--	--	--	--
JUL													
29...	<0.008	E.01	E.03	0.19	100k	40k	120	3	1,000	2.1	E.03n	<0.2	<7
AUG													
21...	<0.008	E.01n	E.02n	0.23	2k	24k	17k	--	--	--	--	--	--
21...	<0.008	E.02n	<0.04	0.22	--	--	--	--	--	--	--	--	--
SEP													
09...	<0.008	<0.02	<0.04	0.18	190	420k	68	--	--	--	--	--	--

06902000 GRAND RIVER NEAR SUMNER, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT								
22...	--	--	--	--	--	--	--	--
NOV								
27...	14	0.09	M	1,660	<0.02	<0.5	M	E2
DEC								
12...	--	--	--	--	--	--	--	--
FEB								
12...	33	<0.08	<1	2,180	<0.02	E.3	2	2
12...	<10	<0.08	<1	<2.0	<0.02	<0.5	<1	<2
25...	--	--	--	--	--	--	--	--
MAR								
21...	--	--	--	--	--	--	--	--
APR								
11...	--	--	--	--	--	--	--	--
MAY								
02...	22	<0.08	9	118	0.04	0.6	1	37
JUN								
20...	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--
JUL								
29...	E6n	<0.08	2	507	--b	E.5n	<1	5
AUG								
21...	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--
SEP								
09...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
e -- Estimated discharge
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail
b -- Sample broken/spilled during shipment

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated daily discharges, which are poor. 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	39	34	30	e40	e40	34	152	42	68	39	49
2	25	38	30	34	e45	e45	34	119	39	59	38	45
3	30	37	35	36	e50	e40	35	108	40	53	38	38
4	38	37	35	39	e45	e45	36	304	41	50	37	32
5	37	38	36	38	e38	e55	34	928	42	45	36	30
6	32	38	40	38	e32	e40	40	698	45	47	35	31
7	29	36	37	32	e28	e45	43	324	50	52	35	30
8	28	35	46	35	e25	e45	49	183	53	62	35	30
9	28	34	42	36	e25	e43	56	294	43	282	34	30
10	26	34	38	e32	e32	e40	47	532	69	176	34	30
11	23	33	36	e25	e30	e50	43	1,160	97	139	34	32
12	25	33	33	e28	e35	e100	40	802	75	83	35	63
13	28	33	32	e31	e35	231	41	364	56	63	36	131
14	29	33	33	e29	e40	e300	39	207	50	52	35	201
15	30	33	31	e25	e45	219	36	148	54	e48	33	139
16	30	32	34	e25	e40	138	35	127	61	e45	32	61
17	30	31	31	e24	e38	103	35	100	48	e42	32	43
18	31	31	30	e23	e35	79	35	83	44	e40	31	38
19	30	31	31	e24	e45	67	39	69	44	39	30	37
20	28	31	32	e30	e50	64	104	67	42	38	30	37
21	26	31	31	e27	e55	71	142	66	39	38	33	43
22	26	31	30	e27	e58	59	96	61	35	37	31	50
23	32	31	31	e24	e60	51	66	58	34	34	29	124
24	36	30	41	e23	e50	46	58	57	35	36	28	72
25	42	31	44	e23	e45	42	322	57	35	38	28	50
26	46	31	47	e29	e40	39	409	58	793	37	30	41
27	48	31	38	e24	e40	38	207	52	925	37	30	38
28	38	31	44	e27	e43	36	126	47	248	41	34	38
29	38	35	40	e30	---	36	83	45	126	49	42	36
30	38	34	36	e30	---	35	71	44	82	54	35	35
31	40	---	33	e38	---	35	---	44	---	43	43	---
MEAN	32.0	33.4	35.8	29.5	40.9	73.5	81.2	237	113	62.2	33.9	55.1
MAX	48	39	47	39	60	300	409	1,160	925	282	43	201
MIN	23	30	30	23	25	35	34	44	34	34	28	30
IN.	0.04	0.04	0.05	0.04	0.05	0.10	0.10	0.32	0.15	0.08	0.05	0.07

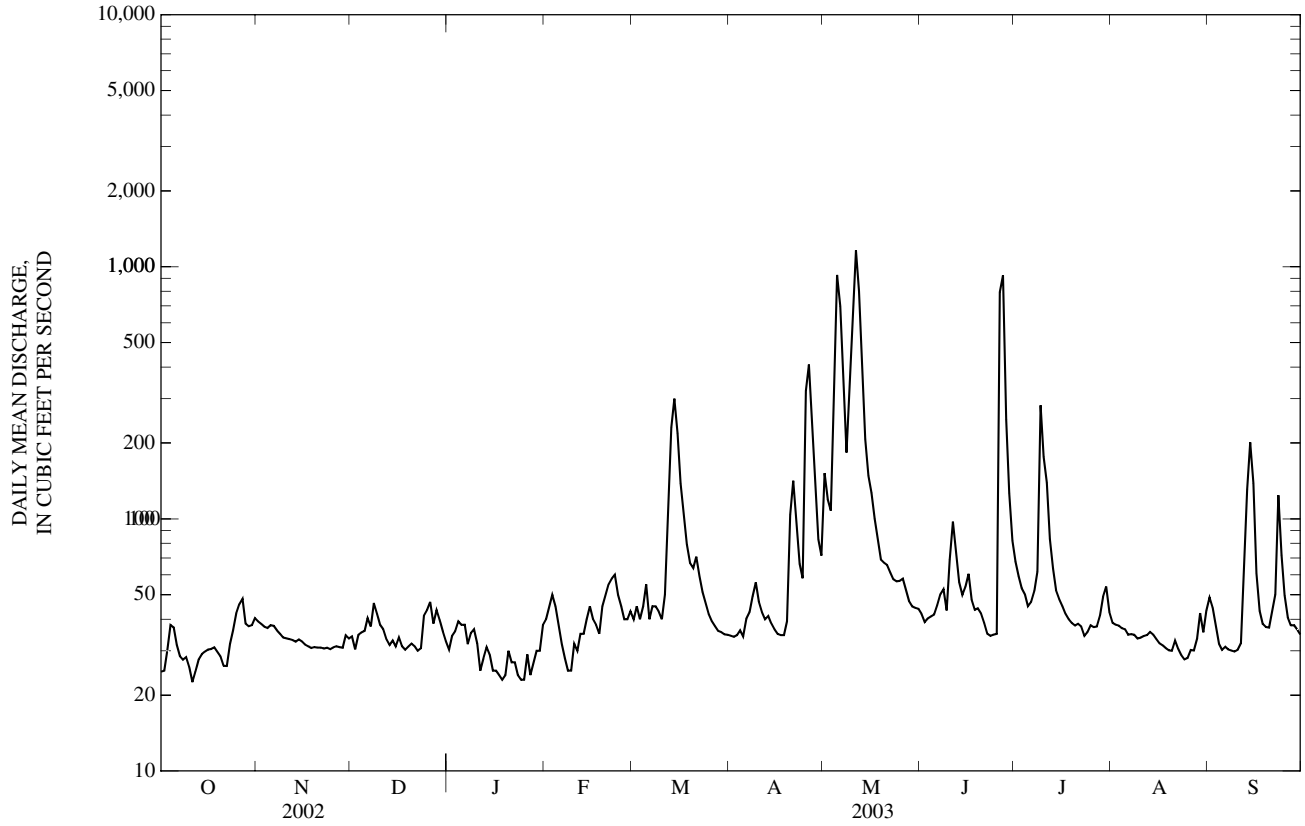
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2003, BY WATER YEAR (WY)

MEAN	407	440	570	330	523	823	830	912	852	981	594	458
MAX	1,764	1,714	2,005	1,797	1,956	2,046	1,898	2,239	1,839	3,923	2,045	2,029
(WY)	(1994)	(1994)	(1983)	(1993)	(1983)	(1993)	(1983)	(1995)	(1980)	(1993)	(1993)	(1993)
MIN	27.2	26.2	19.9	13.6	23.0	47.6	31.1	33.1	33.6	23.6	32.3	29.0
(WY)	(1977)	(1990)	(1977)	(1977)	(1989)	(2000)	(1989)	(2000)	(1988)	(1988)	(1988)	(2002)

06904050 CHARITON RIVER AT LIVONIA, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1974 - 2003	
ANNUAL MEAN	272		69.2		644	
HIGHEST ANNUAL MEAN					1,838	1993
LOWEST ANNUAL MEAN					69.2	2003
HIGHEST DAILY MEAN	4,820	May 12	1,160	May 11	8,960	Jul 18, 1982
LOWEST DAILY MEAN	23	Oct 11	23	Oct 11,Jan 18,24,25	13	Jan 11, 1977
ANNUAL SEVEN-DAY MINIMUM	26	Sep 26	25	Jan 21	13	Jan 11, 1977
MAXIMUM PEAK FLOW	---		1,670	Jun 26	9,200	Jul 18, 1982
MAXIMUM PEAK STAGE	---		11.09	Jun 26	28.33	Jul 18, 1982
INSTANTANEOUS LOW FLOW	---		11	Jan 1	11	Jan 1, 2003
ANNUAL RUNOFF (INCHES)	4.27		1.09		10.13	
10 PERCENT EXCEEDS	840		106		1,560	
50 PERCENT EXCEEDS	51		38		294	
90 PERCENT EXCEEDS	30		30		32	

e Estimated



06904500 CHARITON RIVER AT NOVINGER, MO

LOCATION.--Lat 40°14'05", long 92°41'14", on south line of SE 1/4 NE 1/4 sec.28, T.63 N., R.16 W., Adair County, Hydrologic Unit 10280202, on downstream side of center pier of bridge on State Highway 6, 0.6 mi east of Novinger, 1.0 mi downstream from Rye Creek, 2.0 mi upstream from Spring Creek, and at mile 73.1.

DRAINAGE AREA.--1,370 mi^2.

PERIOD OF RECORD.--October 1930 to September 1952, October 1954 to current year. Prior to February 1931 monthly discharge only, published in WSP 1310.

REVISED RECORDS.--WSP 896: 1939. WSP 1116: 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 737.65 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 20, 1939, nonrecording gage at bridge over old channel, 500 ft east, at the same datum; Dec. 20, 1939, to Sept. 30, 1952, and Oct. 1, 1954, to Aug. 1, 1956, water-stage recorder, supplemented by nonrecording gage, at same site and datum; Aug. 3, 1956, to May 16, 1957, nonrecording gage at present site and datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. 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, discharge, 27,000 ft^3/s, June 1917.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	53	34	36	e48	e45	42	1,420	49	87	43	150
2	28	51	41	32	e50	e48	39	469	48	79	39	110
3	28	50	31	42	e55	e42	38	281	55	83	39	68
4	40	48	34	41	e47	e50	61	1,980	49	63	38	51
5	45	49	39	57	e45	e60	49	2,990	46	52	38	40
6	42	50	42	52	e40	e40	46	1,480	69	46	37	36
7	34	48	45	42	e32	e45	86	647	74	47	36	35
8	31	46	45	42	e35	e48	86	380	80	60	37	34
9	30	48	52	46	e35	e45	94	943	72	676	37	33
10	31	43	49	32	e40	e40	86	917	171	501	37	32
11	28	42	47	25	e35	e60	71	1,860	216	256	38	34
12	24	43	53	e28	e40	e100	60	1,430	154	144	39	135
13	27	41	49	e29	e40	275	53	587	101	94	40	372
14	30	41	36	e30	e45	405	53	344	97	70	39	773
15	32	42	43	e22	e50	304	47	251	82	55	38	312
16	32	41	45	e28	e45	248	46	206	83	47	36	171
17	35	39	49	e27	e40	197	46	170	74	44	34	92
18	35	39	49	e24	e38	158	45	140	62	44	33	68
19	35	39	47	e28	e45	132	71	124	64	40	34	60
20	33	39	44	e31	e50	129	544	161	58	37	32	53
21	32	39	43	e28	e57	122	327	113	52	36	31	75
22	30	39	47	e28	e62	113	226	101	48	36	34	105
23	30	38	31	e26	e65	90	150	90	44	35	31	193
24	43	38	26	e25	e70	78	146	85	43	33	30	162
25	54	37	39	e24	e55	65	1,430	89	44	34	29	90
26	59	41	48	e32	e50	58	1,010	80	351	36	29	68
27	64	32	54	e28	e45	52	447	75	1,650	35	31	56
28	63	38	44	e30	e45	49	312	64	414	41	35	50
29	54	46	55	e35	---	47	299	58	185	42	63	48
30	52	45	59	e33	---	45	205	54	118	52	76	45
31	51	---	49	e45	---	44	---	51	---	50	71	---
MEAN	38.1	42.8	44.2	33.2	46.6	104	207	569	155	95.3	38.8	118
MAX	64	53	59	57	70	405	1,430	2,990	1,650	676	76	773
MIN	24	32	26	22	32	40	38	51	43	33	29	32
IN.	0.03	0.03	0.04	0.03	0.04	0.09	0.17	0.48	0.13	0.08	0.03	0.10

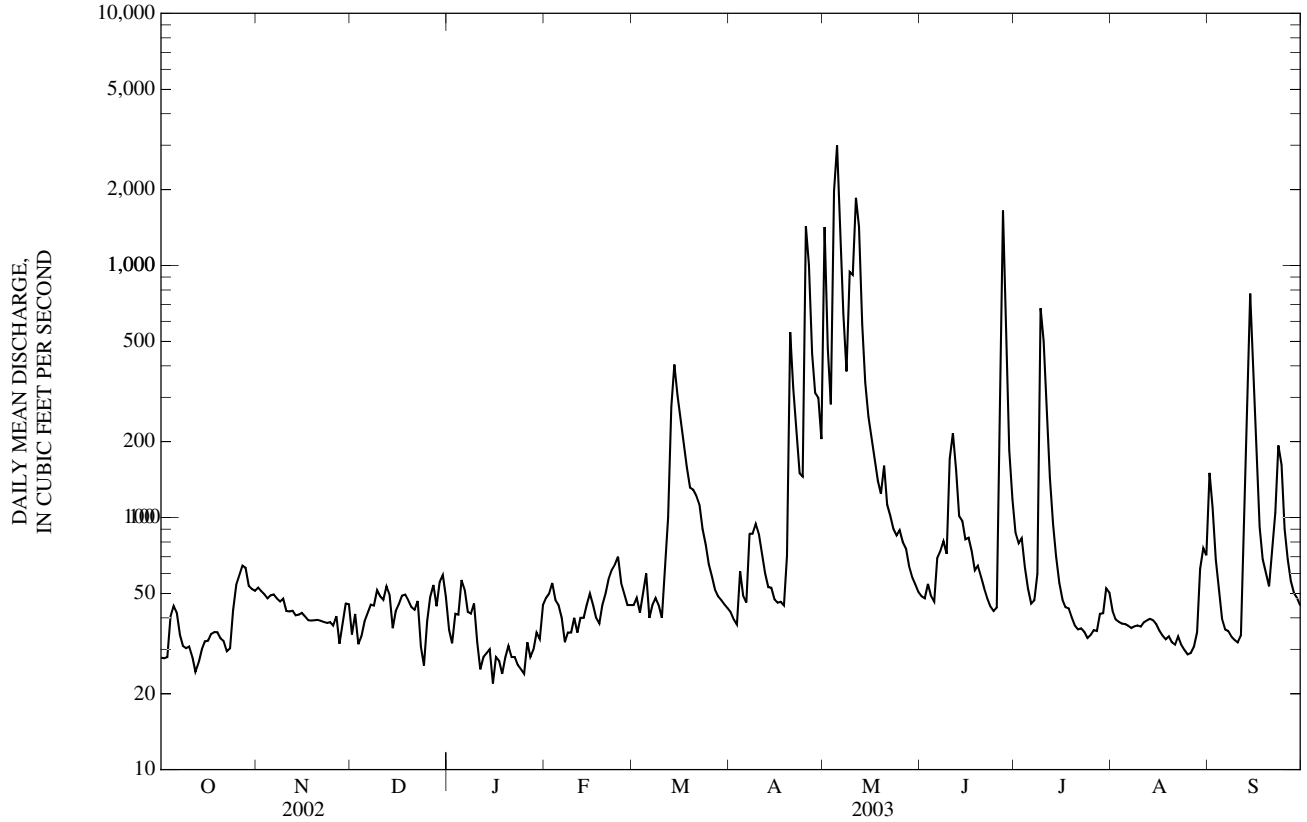
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2003[a], BY WATER YEAR (WY)

MEAN	737	697	840	546	951	1,511	1,570	1,836	1,331	1,444	746	710
MAX	3,352	2,403	3,318	2,686	2,652	4,105	5,302	5,447	4,482	9,877	2,770	3,232
(WY)	(1974)	(1993)	(1983)	(1993)	(2001)	(1993)	(1973)	(1995)	(2001)	(1993)	(1993)	(1993)
MIN	25.6	30.2	20.0	13.6	28.0	73.8	35.8	43.0	46.1	32.2	28.1	31.8
(WY)	(1972)	(1990)	(1977)	(1977)	(1989)	(2000)	(1989)	(2000)	(1988)	(1970)	(1971)	(2002)

06904500 CHARITON RIVER AT NOVINGER, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1970 - 2003[a]	
ANNUAL MEAN	581		125		1,078	
HIGHEST ANNUAL MEAN					3,299	1993
LOWEST ANNUAL MEAN					107	2000
HIGHEST DAILY MEAN	22,900	May 12	2,990	May 5	22,900	May 12, 2002
LOWEST DAILY MEAN	24	Oct 12	22	Jan 15	11	Aug 1, 1970
ANNUAL SEVEN-DAY MINIMUM	27	Sep 3	27	Jan 12	12	Jul 26, 1970
MAXIMUM PEAK FLOW	---		4,390	May 4	24,200	May 12, 2002
MAXIMUM PEAK STAGE	---		8.45	May 4	25.71	Jul 24, 1993
INSTANTANEOUS LOW FLOW	---		11	Jan 2	11	Aug 1, 1970, Jan 1, 1995,Dec 6, 2000,Jan 2, 2003
ANNUAL RUNOFF (INCHES)	5.76		1.24		10.69	
10 PERCENT EXCEEDS	1,460		220		2,300	
50 PERCENT EXCEEDS	70		47		479	
90 PERCENT EXCEEDS	33		31		40	

[a] Post-regulation period.
e Estimated



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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Prior to Oct. 1, 1953, published as Chariton River near Keytesville (06905600). Prior to May 1929, monthly discharge only, published in WSP 1309.

GAGE.--Water-stage recorder. Datum of gage is 632.05 ft above National Geodetic Vertical Datum of 1929 (levels by the 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.--Water-discharge records fair except for estimated daily discharges, which are poor. Some regulation by Rathbun Lake (Iowa station 06903880), 122 mi upstream, since 1970. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	101	46	82	e60	e55	92	616	71	251	70	600
2	51	87	61	71	e65	e70	94	2,170	79	177	82	376
3	54	85	63	42	e70	e90	97	849	94	134	68	298
4	68	83	50	48	57	98	103	499	82	115	57	219
5	63	81	44	54	47	67	114	3,110	84	111	52	148
6	66	78	45	59	e46	71	114	3,310	114	88	53	111
7	72	76	44	58	e36	79	149	1,760	143	69	54	84
8	68	72	68	69	e38	131	146	904	144	56	50	65
9	59	70	50	65	e42	81	175	557	116	55	46	57
10	52	75	50	54	e50	59	195	1,770	128	290	44	51
11	47	e77	72	20	55	77	187	3,150	154	779	46	48
12	48	e72	81	e27	49	121	176	2,390	380	453	43	178
13	49	e60	88	e30	54	146	147	1,720	605	305	46	804
14	43	e60	85	e29	100	218	122	902	260	202	49	2,140
15	39	e59	76	19	124	463	104	569	167	146	49	1,490
16	39	e62	69	e25	176	498	109	412	148	112	53	759
17	44	e60	58	e28	85	373	132	330	116	96	49	445
18	51	e60	80	e28	105	288	116	280	102	86	44	286
19	76	e59	116	e32	141	249	110	232	87	77	48	222
20	60	61	102	e35	107	221	127	205	67	77	55	173
21	54	58	83	e35	85	201	681	232	63	68	47	150
22	51	54	68	e32	111	191	726	219	57	66	41	339
23	51	54	57	e28	130	176	516	166	50	56	35	391
24	55	55	33	e26	80	162	404	158	47	52	38	262
25	60	55	23	e28	e70	140	333	167	55	49	41	296
26	64	55	39	e40	e55	127	1,650	148	154	44	38	239
27	84	49	48	e32	e50	109	1,340	139	88	43	44	184
28	96	50	58	e37	e50	110	804	118	1,410	72	41	142
29	113	59	78	e40	---	103	623	105	770	67	76	114
30	129	52	89	e40	---	97	544	93	397	60	77	96
31	119	---	77	e50	---	94	---	79	---	60	560	---
MEAN	63.4	66.0	64.5	40.7	76.4	160	341	883	208	139	67.6	359
MAX	129	101	116	82	176	498	1,650	3,310	1,410	779	560	2,140
MIN	39	49	23	19	36	55	92	79	47	43	35	48
IN.	0.04	0.04	0.04	0.03	0.04	0.10	0.20	0.54	0.12	0.09	0.04	0.21

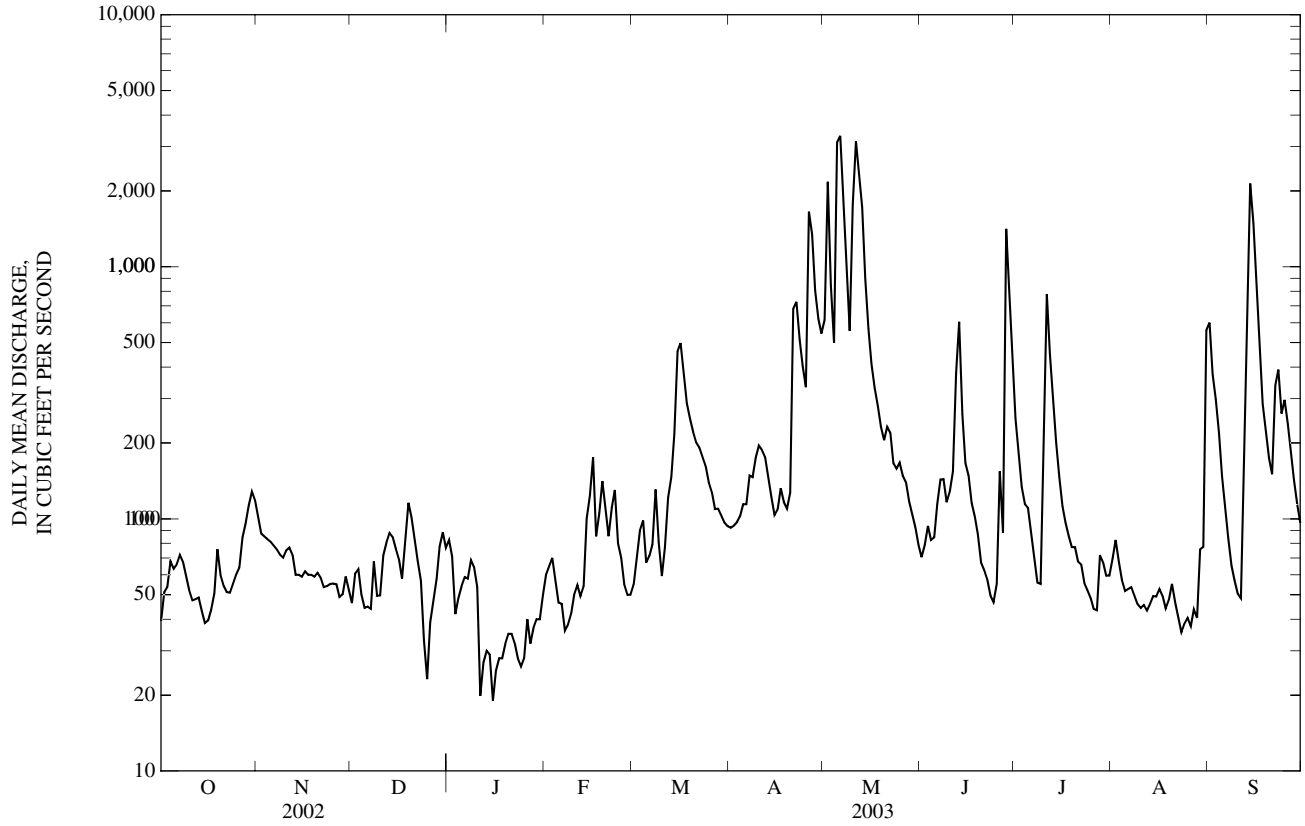
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2003, BY WATER YEAR (WY)

MEAN	726	804	738	713	1,123	1,872	2,052	2,105	2,009	1,415	708	710
MAX	5,695	6,574	5,449	4,516	4,102	5,724	8,981	9,560	14,830	15,980	4,856	5,203
(WY)	(1974)	(1962)	(1983)	(1946)	(1937)	(1973)	(1973)	(1995)	(1947)	(1993)	(1932)	(1993)
MIN	9.59	9.77	13.0	12.9	18.1	37.3	45.9	69.8	25.8	13.4	7.97	13.6
(WY)	(1957)	(1957)	(1957)	(1957)	(1957)	(1957)	(1956)	(2000)	(1934)	(1934)	(1936)	(1953)

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1929 - 2003	
ANNUAL MEAN	942		206		1,246	
HIGHEST ANNUAL MEAN					4,320	1993
LOWEST ANNUAL MEAN					159	2000
HIGHEST DAILY MEAN	35,600	May 13	3,310	May 6	35,600	May 13, 2002
LOWEST DAILY MEAN	23	Dec 25	19	Jan 15	4.6	Aug 7, 1934
ANNUAL SEVEN-DAY MINIMUM	43	Sep 25	25	Jan 11	4.8	Aug 4, 1934
MAXIMUM PEAK FLOW	---		5,110	May 5	37,100	May 13, 2002
MAXIMUM PEAK STAGE	---		9.80	May 5	23.01	May 13, 2002
INSTANTANEOUS LOW FLOW	---		5.0	Jan 15	4.6	Aug 7, 1934
ANNUAL RUNOFF (INCHES)	6.84		1.50		9.05	
10 PERCENT EXCEEDS	1,960		448		3,070	
50 PERCENT EXCEEDS	136		78		350	
90 PERCENT EXCEEDS	52		43		40	

e Estimated



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 January 1978 to September 1986 and an Ambient Water-Quality Monitoring Network station November 1992 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
26...	1220	Environmental	58	13.7	103	8.3	384	3.0	180	52.5	11.7	3.41
26...	1221	Replicate	--	--	--	--	--	--	180	52.0	11.7	3.38
JAN												
10...	1300	Environmental	55	15.9	120	8.3	372	3.0	--	--	--	--
MAR												
18...	1410	Environmental	274	10.4	107	8.2	337	15.0	--	--	--	--
MAY												
01...	1215	Environmental	530	7.3	81	8.0	350	19.0	150	45.3	9.35	5.38
01...	1215	Blank	--	--	--	--	--	--	--	0.02	<0.008	<0.16
JUL												
30...	1350	Environmental	58	8.8	123	8.6	409	31.5	--	--	--	--
SEP												
11...	0900	Environmental	46	7.2	84	8.3	411	23.0	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
26...	12.5	150	149	177	2	9.27	0.20	39.7	232	<10	0.26	<0.04	<0.06
26...	12.7	--	--	--	--	9.12	0.20	39.4	239	<10	0.25	<0.04	<0.06
JAN													
10...	--	144	143	174	<1	--	--	--	--	<10	0.30	<0.04	<0.06
MAR													
18...	--	95	96	117	<1	--	--	--	--	29	1.0	0.06	0.35
MAY													
01...	9.15	96	93	113	<1	8.87	0.22	56.7	228	600	2.9	0.07	0.73
01...	<0.09	--	--	--	--	<0.20	<0.17	<0.2	<10	<10	E.05	<0.04	<0.06
JUL													
30...	--	152	155	175	7	--	--	--	--	23	0.73	<0.04	<0.06
SEP													
11...	--	155	153	181	3	--	--	--	--	58	0.78	<0.04	<0.06

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
26...	<0.008	<0.02	<0.04	E.03	5k	2k	28k	5	40	0.4	E.02	<0.2	<6
26...	<0.008	<0.02	<0.04	E.02	--	--	--	5	36	0.4	E.03	<0.2	E4n
JAN													
10...	<0.008	<0.02	<0.04	<0.04	7k	8k	6k	--	--	--	--	--	--
MAR													
18...	0.013	<0.02	E.02	0.11	--u	89	56	--	--	--	--	--	--
MAY													
01...	0.016	0.07	0.07	0.91	13,000	E,7500k	2,000	3	9,530	1.0	E.02	0.4	<6
01...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<6
JUL													
30...	<0.008	E.01	E.02	0.11	36k	90	18k	--	--	--	--	--	--
SEP													
11...	<0.008	E.01n	<0.04	0.14	140	640k	170	--	--	--	--	--	--

06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
26...	66	E.07	<1	593	<0.02	<0.5	M	E1
26...	69	E.04	<1	587	<0.02	<0.5	M	E1
JAN								
10...	--	--	--	--	--	--	--	--
MAR								
18...	--	--	--	--	--	--	--	--
MAY								
01...	E9	<0.08	12	7.3	0.04	1.1	2	48
01...	<10	<0.08	<1	<2.0	0.02	<0.5	1	E1
JUL								
30...	--	--	--	--	--	--	--	--
SEP								
11...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
u -- Unable to determine-matrix interference

06905725 MUSSEL FORK NEAR MYSTIC, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 40°09'38", long 92°53'25", in NE ¼ NW ¼ SW ¼ sec.23, T.62 N., R.18 W., Sullivan County, Hydrologic Unit 10280202, approximately 2 mi east of Mystic on the left bank on upstream side of bridge on County Highway H.

DRAINAGE AREA.--24.0 mi^2.

PERIOD OF RECORD.--November 1997 to current year.

REMARKS.--August sample collected at alternative sampling site 06906000, Mussel Fork near Musselfork, Mo., due to drought conditions at primary site.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
FEB												
21...	0935	Environmental	0.05	4.4	32	7.6	548	0.5	--	--	--	--
MAR												
13...	0900	Environmental	2.5	11.1	79	7.6	510	0.5	--	--	--	--
19...	1445	Environmental	0.30	10.5	96	8.2	340	9.0	--	--	--	--
APR												
24...	1315	Environmental	0.19	7.4	72	7.8	457	12.0	--	--	--	--
30...	0850	Environmental	1.9	6.9	70	7.9	351	14.0	--	--	--	--
MAY												
07...	1535	Environmental	2.5	7.4	85	7.6	278	20.0	94	28.2	5.84	5.32
JUN												
12...	0900	Environmental	0.72	6.0	70	8.0	427	21.0	--	--	--	--
12...	0901	Replicate	--	--	--	--	--	--	--	--	--	--
JUL												
09...	1535	Environmental	e 0.01	14.1	196	8.8	489	30.5	150	36.9	13.1	6.39
SEP												
17...	0840	Environmental	0.33	5.8	61	7.8	311	18.0	--	--	--	--
17...	0841	Replicate	--	--	--	--	--	--	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
FEB													
21...	--	265	266	324	<1	--	--	--	--	<10	1.5	E.03	0.24
MAR													
13...	--	94	93	114	<1	--	--	--	--	37	1.3	<0.04	<0.06
19...	--	87	84	103	<1	--	--	--	--	14	1.7	<0.04	E.05
APR													
24...	--	89	88	108	<1	--	--	--	--	26	1.1	0.15	0.84
30...	--	88	86	105	<1	--	--	--	--	32	1.4	0.10	0.76
MAY													
07...	11.8	78	80	98	<1	17.4	<0.17	24.6	185	44	1.5	0.12	0.69
JUN													
12...	--	138	140	171	<1	--	--	--	--	16	1.2	E.02	E.04
12...	--	--	--	--	--	--	--	--	--	19	1.1	E.03	E.06
JUL													
09...	39.2	115	115	123	8	55.3	0.30	37.6	292	11	1.4	<0.04	<0.06
SEP													
17...	--	85	85	103	<1	--	--	--	--	15	1.2	0.11	0.44
17...	--	--	--	--	--	--	--	--	--	20d	1.2	0.12	0.46

06905725 MUSSEL FORK NEAR MYSTIC, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
FEB													
21...	E.005	E.01	0.04	0.15	86k	152	510	--	--	--	--	--	--
MAR													
13...	E.007	0.02	0.06	0.20	520	180	1,500	--	--	--	--	--	--
19...	E.004	<0.02	E.03	0.14	74k	190	80k	--	--	--	--	--	--
APR													
24...	0.088	<0.02	E.02	0.10	190k	170	230	--	--	--	--	--	--
30...	0.072	E.02	0.04	0.20	120k	160	130	--	--	--	--	--	--
MAY													
07...	0.032	0.04	0.07	0.23	1,600	380	120	7	1,620	1.7	<0.04	<0.2	<6
JUN													
12...	<0.008	<0.02	E.03	0.09	350	220	1,200	--	--	--	--	--	--
12...	E.005	<0.02	E.03	0.10	--	--	--	--	--	--	--	--	--
JUL													
09...	<0.008	<0.02	<0.04	0.10	<2b	20k	81	8	284	4.3	0.07	<0.2	<7
SEP													
17...	0.058	0.03	0.06	0.14	2,500	1,700	780	--	--	--	--	--	--
17...	0.058	0.03	0.05	0.14	--	--	--	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
FEB								
21...	--	--	--	--	--	--	--	--
MAR								
13...	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--
APR								
24...	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--
MAY								
07...	48	E.06	2	230	<0.02	0.8	M	6
JUN								
12...	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--
JUL								
09...	E7	E.04	M	49.2	<0.02	0.7	M	E2
SEP								
17...	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range

06906000 MUSSEL FORK NEAR MUSSELFORK, MO

LOCATION.--Lat 39°31'26", long 92°56'59", in SW ¼ SW ¼ SE ¼ sec.32, T.55 N., R.18 W., Chariton County, Hydrologic Unit 10280202, on downstream side of pier of bridge on State Highway 5, 4.5 mi southwest of Musselfork, and 1.5 mi upstream from Long Branch.

DRAINAGE AREA.--267 mi^2.

PERIOD OF RECORD.--October 1948 to December 1951, October 1962 to February 1990, December 2002 to current year. Prior to Jan. 1, 1952, nonrecording gage at site 100 ft upstream at same datum; Oct. 1, 1962 to March 1, 1990, at same site and datum. March 1, 1990 to Aug. 26, 1994, stage only station at same site and datum.

GAGE.--Water-stage recorder. Datum of gage is 639.25 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge for the period Dec. 11, 2002 to Sept. 30, 2003, 1,590 ft^3/s, gage height 15.32; minimum 0.00 ft^3/s Aug. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	12	e3.0	e1.5	5.2	188	5.4	2.5	e0.38	108
2	---	---	---	13	e3.0	e1.7	6.9	172	6.5	2.0	e0.38	90
3	---	---	---	12	e2.9	e1.8	8.1	125	8.0	2.1	e0.37	19
4	---	---	---	12	e2.2	e2.2	9.6	71	8.1	3.1	e0.37	6.4
5	---	---	---	14	e2.0	e2.5	10	138	8.3	2.4	e0.37	3.5
6	---	---	---	13	e1.8	e2.5	10	287	14	1.6	e0.39	2.0
7	---	---	---	11	e1.6	e2.5	11	159	18	e1.3	e0.39	1.2
8	---	---	---	11	e1.3	e2.8	16	59	17	e1.0	e0.39	1.3
9	---	---	---	10	e1.3	e3.7	16	34	11	e0.80	e0.50	1.3
10	---	---	---	11	e1.3	e4.2	15	335	17	1.0	e0.43	1.1
11	---	---	10	11	e1.4	e6.0	14	997	13	e0.90	e0.40	1.1
12	---	---	10	11	e1.5	6.6	13	354	8.6	e0.80	e0.39	9.5
13	---	---	10	11	e1.6	8.2	14	101	16	e0.74	e0.38	411
14	---	---	10	11	e1.8	9.9	13	43	61	e0.68	e0.36	1,490
15	---	---	11	9.5	e2.2	9.5	12	26	19	e0.60	e0.36	482
16	---	---	13	8.7	e2.4	8.5	12	17	14	e0.56	e0.37	95
17	---	---	13	e7.6	e2.4	7.5	12	13	9.4	0.53	e0.35	36
18	---	---	13	e7.6	e2.3	11	12	10	6.5	0.54	e0.32	18
19	---	---	13	e7.0	e2.3	11	15	9.2	4.9	0.48	e0.30	13
20	---	---	13	e6.2	e3.4	12	28	9.0	4.3	0.43	e0.42	16
21	---	---	14	e6.0	e3.4	11	97	8.2	3.6	0.47	e0.52	10
22	---	---	14	e5.8	e2.5	9.7	53	6.9	4.3	0.48	e0.38	64
23	---	---	13	e6.0	e1.8	7.3	20	6.0	4.7	0.48	e0.24	56
24	---	---	13	e4.6	e1.6	5.8	18	6.8	5.3	0.46	e0.21	32
25	---	---	12	e4.0	e1.5	4.7	16	10	6.1	0.52	e0.16	15
26	---	---	11	e3.0	e1.4	3.8	15	13	7.0	0.51	e0.14	8.0
27	---	---	12	e2.0	e1.4	3.7	14	11	6.3	0.48	e0.08	5.4
28	---	---	12	e2.0	e1.5	4.8	128	8.1	6.9	e0.45	0.03	4.4
29	---	---	12	e2.0	---	5.0	444	7.1	7.0	e0.42	0.05	3.6
30	---	---	12	e2.4	---	4.8	96	6.3	4.0	e0.40	0.04	3.1
31	---	---	12	e2.8	---	4.8	---	6.0	---	e0.39	7.2	---
MEAN	---	---	---	8.07	2.03	5.84	38.5	104	10.8	0.94	0.54	100
MAX	---	---	---	14	3.4	12	444	997	61	3.1	7.2	1,490
MIN	---	---	---	2.0	1.3	1.5	5.2	6.0	3.6	0.39	0.03	1.1

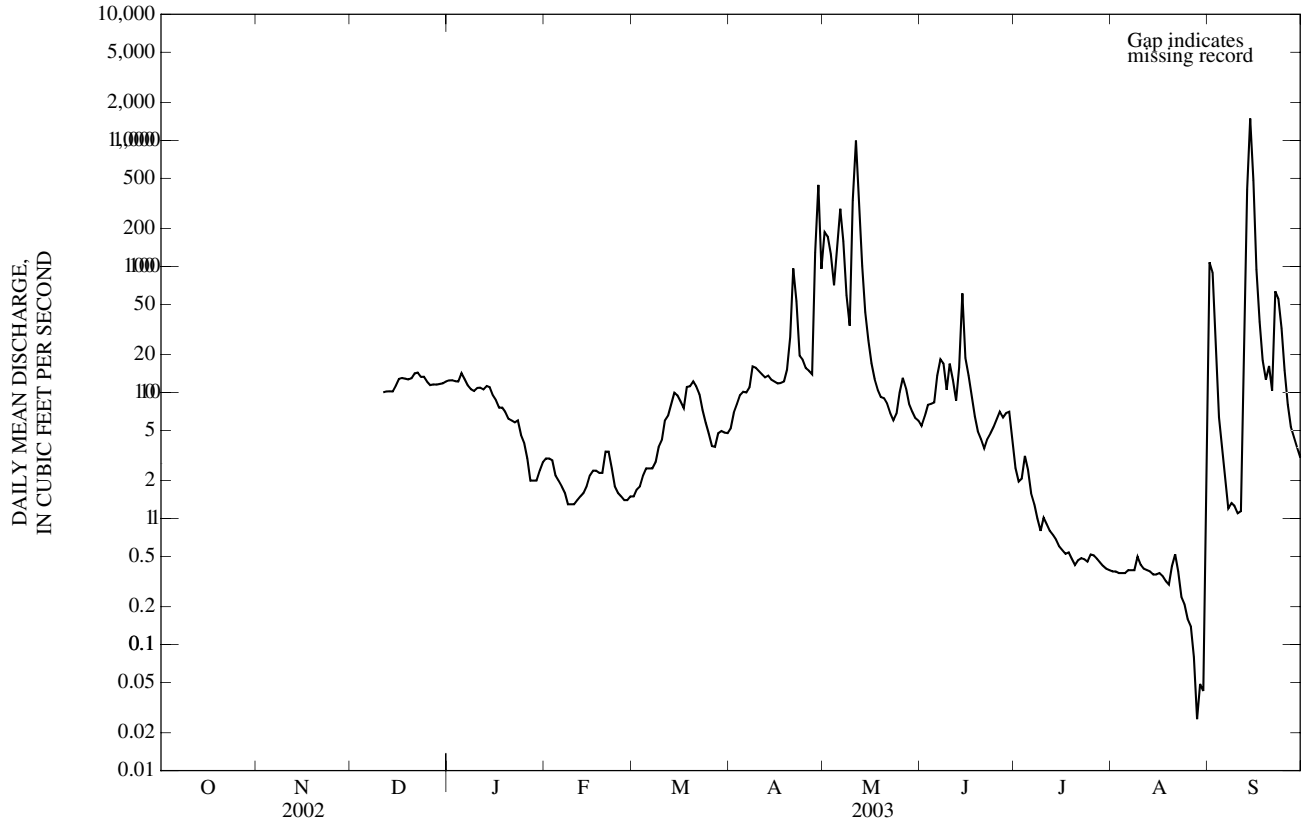
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	163	158	169	139	236	308	450	328	306	237	69.0	155
MAX	1,246	976	1,335	729	1,453	1,370	2,585	1,538	1,225	3,029	303	1,295
(WY)	(1986)	(1986)	(1983)	(1965)	(1982)	(1973)	(1973)	(1973)	(1981)	(1981)	(1987)	(1973)
MIN	0.04	1.05	0.61	0.44	0.89	5.84	18.0	9.77	2.37	0.94	0.54	0.59
(WY)	(1964)	(1977)	(1964)	(1964)	(1964)	(2003)	(1989)	(1980)	(1988)	(2003)	(2003)	(1976)

06906000 MUSSEL FORK NEAR MUSSELFORK, MO—Continued

SUMMARY STATISTICS	FOR PERIOD OF RECORD	
ANNUAL MEAN	234	
HIGHEST ANNUAL MEAN	719	1973
LOWEST ANNUAL MEAN	22.9	1989
HIGHEST DAILY MEAN	18,300	Apr 22, 1973
LOWEST DAILY MEAN	0.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	0.00	At Times
MAXIMUM PEAK FLOW	23,100	Apr 22, 1973
MAXIMUM PEAK STAGE	22.11	Apr 22, 1973
INSTANTANEOUS LOW FLOW	0.00	Several Years
10 PERCENT EXCEEDS	501	
50 PERCENT EXCEEDS	28	
90 PERCENT EXCEEDS	2.4	

e Estimated



06906000 MUSSEL FORK NEAR MUSSELFORK, MO—Continued
(Ambient Water-Quality Monitoring Network)

PERIOD OF RECORD.--November 1997 to current year.

REMARKS.--This is an alternative sampling site for primary site 06905725, Mussel Fork near Mystic, Mo., when the primary site is dry due to drought conditions.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)
AUG												
27...	1215	Environmental	0.06	5.4	69	7.9	425	28.0	202	204	249	<1

Date	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)
AUG											
27...	42	0.92	<0.04	<0.06	<0.008	<0.02	<0.04	0.12	210	E5k	110

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range

06906150 LONG BRANCH CREEK AT ATLANTA, MO

LOCATION.--Lat 39°53'51", long 92°29'34", in SE ¼ NW ¼ NW ¼ sec.20, T.59N., R.14W., Macon County, Hydrologic Unit 10280203, at right upstream end of bridge on Marion Street, 0.65 mi east of Highway RA, and 0.3 mi west of Atlanta.

DRAINAGE AREA.--23.0 mi^2.

PERIOD OF RECORD.--July 1995 to current year. Published as "near Atlanta" 1995 to 2000.

GAGE.--Water-stage recorder. Datum of gage is 814.75 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.02	0.02	0.00	e0.02	0.33	0.19	225	0.28	0.32	0.02	22
2	0.00	0.02	0.02	0.01	e0.04	e0.30	0.16	60	0.34	1.5	0.02	16
3	0.00	0.02	0.02	0.01	e0.10	e0.31	0.16	9.4	0.39	0.51	0.02	2.8
4	0.00	0.01	0.01	0.01	e0.04	0.27	0.57	38	0.35	0.34	0.01	0.94
5	0.00	0.02	0.01	0.01	e0.04	0.23	0.41	319	0.34	0.28	0.01	0.52
6	0.03	0.02	0.01	0.01	e0.03	0.19	0.50	62	0.79	0.23	0.01	0.35
7	0.02	0.02	0.01	0.01	e0.02	0.42	0.87	9.8	1.8	0.17	0.01	0.28
8	0.01	0.02	0.01	0.01	e0.00	0.52	0.71	4.2	1.1	0.12	0.00	0.22
9	0.01	0.02	0.01	0.28	e0.02	0.60	0.84	2.9	0.56	0.10	0.00	0.16
10	0.01	0.02	e0.01	0.09	e0.04	0.62	0.63	67	2.4	0.14	0.00	0.12
11	0.00	0.02	e0.01	0.04	e0.04	0.64	0.48	208	12	0.08	0.00	0.11
12	0.00	0.02	0.01	0.02	e0.10	1.0	0.42	20	6.1	0.07	0.00	0.27
13	0.00	0.02	0.01	0.02	e0.15	7.0	0.37	6.1	3.9	0.06	0.00	61
14	0.00	0.02	0.01	0.01	e0.40	4.8	0.34	3.3	2.2	0.05	0.00	267
15	0.00	0.02	0.01	0.01	e0.60	2.5	0.34	1.9	0.83	0.04	0.00	32
16	0.00	0.02	0.01	0.00	e0.55	1.1	2.1	1.2	0.48	0.03	0.00	2.6
17	0.00	0.02	0.01	0.00	e0.50	0.91	2.8	0.89	0.37	0.03	0.00	0.70
18	0.00	0.02	0.01	0.00	e0.55	0.72	0.61	0.69	0.37	3.7	0.00	0.30
19	0.00	0.02	0.01	0.00	e0.75	0.79	0.50	0.63	0.44	1.0	0.00	39
20	0.00	0.02	0.01	e0.00	e1.0	0.67	0.96	0.59	0.33	0.53	0.00	15
21	0.00	0.02	0.01	0.00	2.2	0.55	8.2	0.52	0.27	0.35	0.00	9.2
22	0.00	0.03	0.01	e0.00	10	1.1	4.0	0.48	0.24	0.25	0.00	123
23	0.00	0.03	0.01	e0.00	9.8	1.2	1.4	0.50	0.19	0.17	0.00	8.3
24	0.01	0.02	0.01	e0.00	5.1	0.85	1.5	0.55	0.14	0.10	0.00	1.3
25	0.01	0.02	0.01	e0.00	1.3	0.69	21	0.57	0.28	0.07	0.00	0.51
26	0.01	0.02	0.01	e0.00	0.96	0.50	42	0.47	1.1	0.05	0.00	0.47
27	0.01	0.02	0.01	e0.00	0.64	0.42	8.0	0.44	0.44	0.04	0.00	0.34
28	0.01	0.02	0.01	e0.00	e0.41	0.41	6.3	0.44	0.44	0.05	0.00	0.25
29	0.02	0.02	0.00	e0.01	---	0.35	15	0.38	0.42	0.05	0.00	0.15
30	0.02	0.02	0.01	e0.01	---	0.28	8.4	0.34	0.34	0.04	0.00	0.11
31	0.01	---	0.00	e0.02	---	0.24	---	0.33	---	0.03	0.43	---
MEAN	0.01	0.02	0.01	0.02	1.26	0.98	4.33	33.7	1.31	0.34	0.02	20.2
MAX	0.03	0.03	0.02	0.28	10	7.0	42	319	12	3.7	0.43	267
MIN	0.00	0.01	0.00	0.00	0.00	0.19	0.16	0.33	0.14	0.03	0.00	0.11
IN.	0.00	0.00	0.00	0.00	0.06	0.05	0.21	1.69	0.06	0.02	0.00	0.98

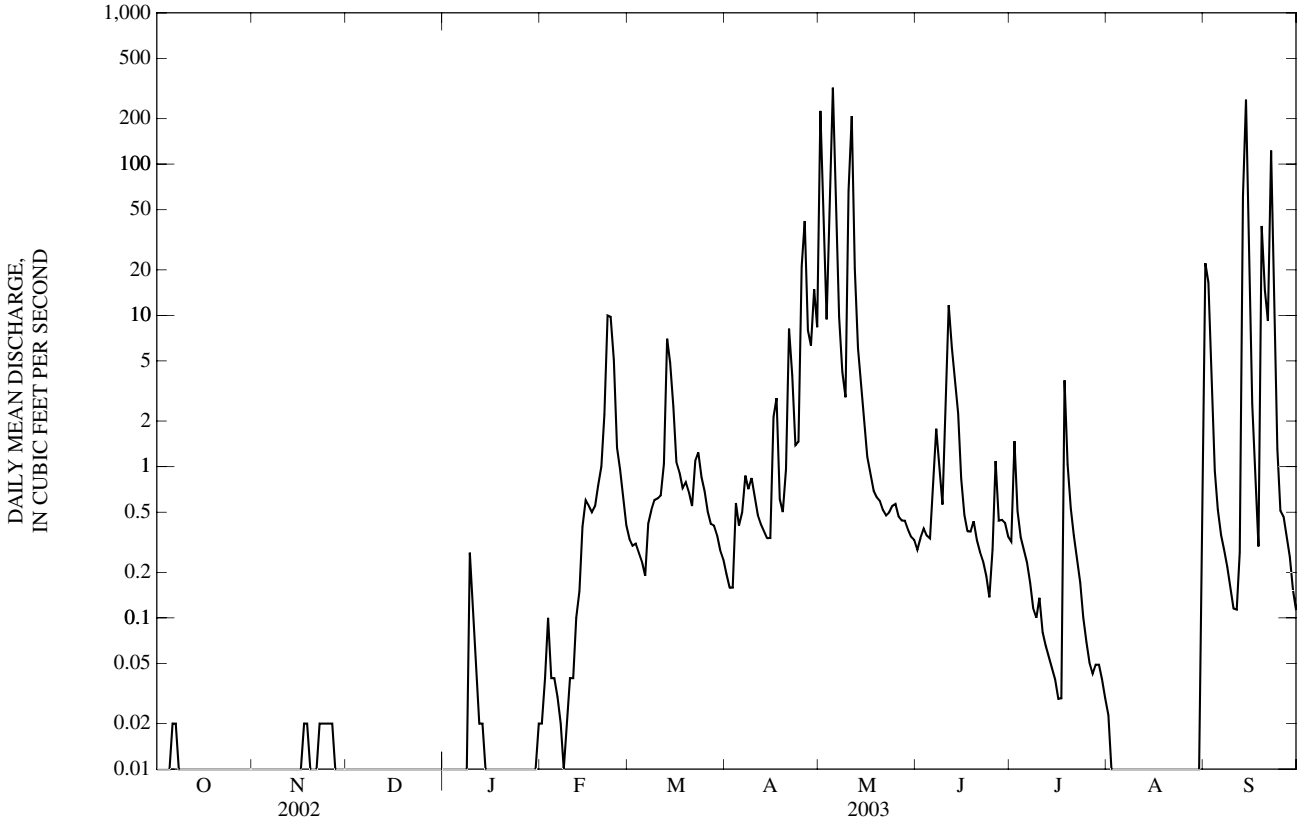
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2003, BY WATER YEAR (WY)

MEAN	12.2	9.71	4.97	16.6	30.0	22.8	38.1	60.8	22.7	9.97	5.34	3.73
MAX	87.7	68.9	26.5	61.7	84.1	81.8	86.7	191	71.0	60.9	25.0	20.2
(WY)	(1999)	(1999)	(1999)	(1999)	(1997)	(1998)	(1999)	(2002)	(1998)	(1998)	(1995)	(2003)
MIN	0.01	0.02	0.01	0.02	1.26	0.98	0.63	0.54	0.97	0.25	0.02	0.02
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2000)	(2000)	(2002)	(1999)	(2003)	(2002)

06906150 LONG BRANCH CREEK AT ATLANTA, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1995 - 2003	
ANNUAL MEAN	24.6		5.20		19.5	
HIGHEST ANNUAL MEAN					37.0	1999
LOWEST ANNUAL MEAN					1.88	2000
HIGHEST DAILY MEAN	2,060	May 12	319	May 5	2,060	May 12, 2002
LOWEST DAILY MEAN	0.00	Several Days	0.00	Many Days	0.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	0.00	Sep 8,27,Oct 11	0.00	Oct 11	0.00	At Times
MAXIMUM PEAK FLOW	---		432	May 5	3,360	May 12, 2002
MAXIMUM PEAK STAGE	---		8.93	May 5	16.44	May 12, 2002
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Several Years
ANNUAL RUNOFF (INCHES)	14.51		3.07		11.52	
10 PERCENT EXCEEDS	15		4.1		22	
50 PERCENT EXCEEDS	0.11		0.12		0.62	
90 PERCENT EXCEEDS	0.00		0.00		0.01	

e Estimated



06906190 LONG BRANCH RESERVOIR NEAR MACON, MO

LOCATION.--Lat 39°45'05", long 92°30'20", in 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 of U.S. Highways 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 the U.S. Army Corps of Engineers.

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 70,500 ac-ft, May 13, 2002, elevation, 802.58 ft; minimum, 14,300 ac-ft, Dec. 5, 1980, elevation, 780.21 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 27,700 ac-ft, May 13-16, elevation, 788.15 ft; minimum, 22,200 ac-ft, Apr. 16, elevation, 785.32 ft.

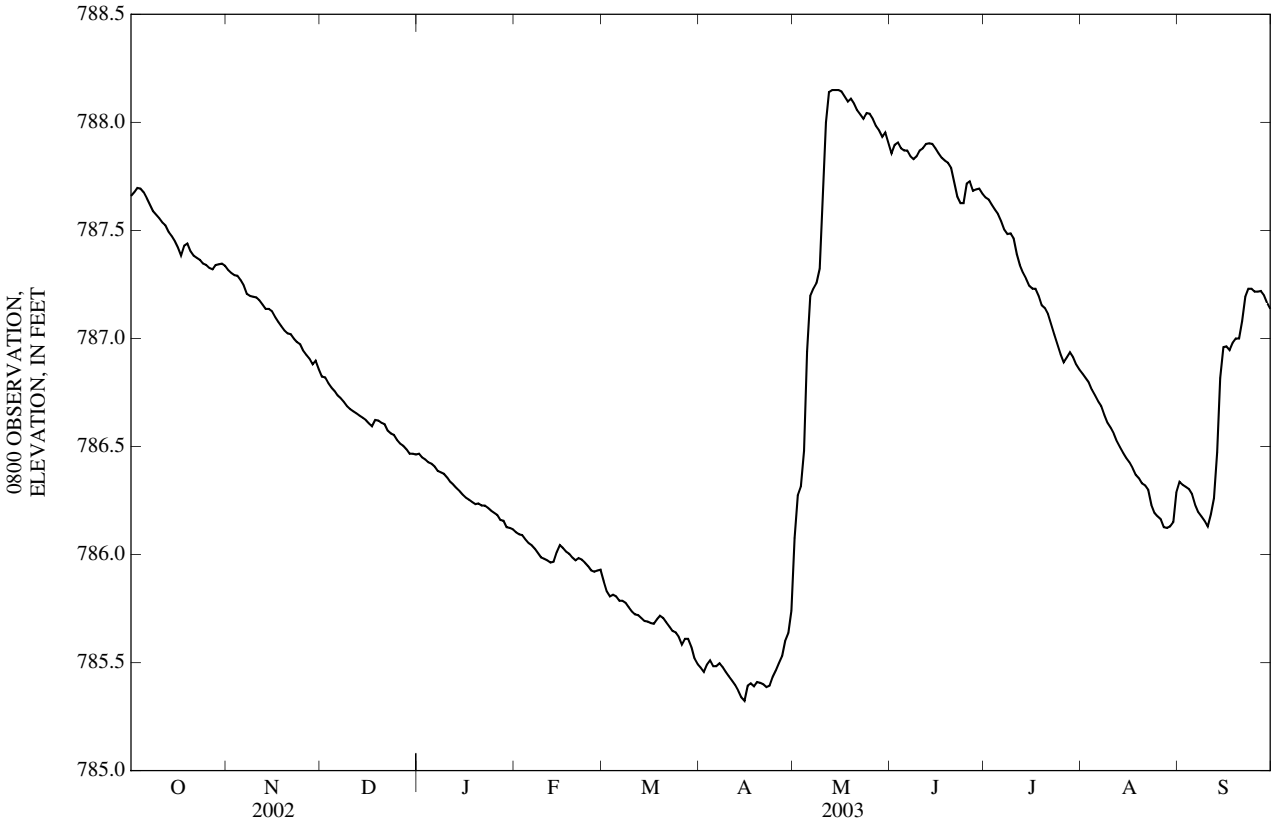
ELEVATION, IN FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
OBSERVATION AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	787.68	787.33	786.83	786.46	786.11	785.93	785.49	785.79	787.87	787.66	786.85	786.35
2	787.65	787.31	786.82	786.47	786.10	785.85	785.47	786.22	787.85	787.65	786.83	786.33
3	787.69	787.30	786.82	786.44	786.09	785.82	785.45	786.30	787.92	787.64	786.81	786.32
4	787.70	787.29	786.78	786.44	786.09	785.80	785.51	786.32	787.90	787.61	786.79	786.31
5	787.69	787.29	786.77	786.42	786.06	785.82	785.51	786.56	787.87	787.59	786.75	786.30
6	787.67	787.26	786.75	786.42	786.05	785.80	785.47	787.13	787.87	787.57	786.73	786.27
7	787.64	787.24	786.73	786.40	786.04	785.78	785.49	787.23	787.87	787.53	786.70	786.21
8	787.61	787.19	786.72	786.38	786.02	785.79	785.50	787.23	787.83	787.49	786.68	786.19
9	787.58	787.20	786.70	786.38	786.00	785.77	785.47	787.27	787.83	787.48	786.63	786.17
10	787.57	787.19	786.68	786.37	785.98	785.75	785.45	787.35	787.85	787.49	786.60	786.15
11	787.55	787.19	786.67	786.35	785.98	785.73	785.43	787.76	787.88	787.45	786.58	786.12
12	787.53	787.17	786.66	786.33	785.97	785.72	785.41	788.12	787.88	787.36	786.55	786.22
13	787.52	787.15	786.65	786.32	785.96	785.72	785.39	788.15	787.91	787.33	786.51	786.28
14	787.48	787.13	786.64	786.30	785.97	785.70	785.36	788.15	787.90	787.29	786.49	786.57
15	787.47	787.14	786.63	786.29	786.03	785.69	785.33	788.15	787.90	787.27	786.46	786.94
16	787.44	787.12	786.62	786.27	786.05	785.69	785.32	788.15	787.87	787.23	786.44	786.97
17	787.41	787.09	786.60	786.26	786.02	785.68	785.43	788.14	787.85	787.23	786.42	786.96
18	787.37	787.07	786.59	786.25	786.01	785.68	785.39	788.11	787.83	787.23	786.39	786.94
19	787.46	787.05	786.64	786.24	786.00	785.71	785.39	788.09	787.82	787.18	786.36	787.00
20	787.43	787.03	786.61	786.23	785.98	785.72	785.42	788.12	787.81	787.14	786.35	787.00
21	787.39	787.02	786.61	786.24	785.97	785.70	785.40	788.07	787.78	787.14	786.32	787.00
22	787.38	787.02	786.60	786.22	785.99	785.68	785.40	788.05	787.69	787.10	786.32	787.12
23	787.37	786.99	786.56	786.23	785.97	785.66	785.38	788.03	787.64	787.05	786.29	787.23
24	787.36	786.98	786.56	786.21	785.96	785.64	785.40	788.01	787.62	787.00	786.20	787.23
25	787.34	786.97	786.55	786.20	785.94	785.64	785.45	788.06	787.63	786.96	786.19	787.23
26	787.34	786.93	786.52	786.19	785.92	785.61	785.47	788.03	787.76	786.91	786.17	787.21
27	787.32	786.92	786.51	786.18	785.92	785.57	785.51	788.01	787.71	786.88	786.16	787.22
28	787.32	786.90	786.50	786.15	785.93	785.63	785.54	787.97	787.67	786.93	786.11	787.22
29	787.35	786.87	786.48	786.16	---	785.60	785.63	787.96	787.70	786.94	786.13	787.19
30	787.34	786.91	786.46	786.11	---	785.56	785.64	787.92	787.69	786.90	786.13	787.15
31	787.35	---	786.47	786.13	---	785.50	---	787.97	---	786.87	786.16	---
MAX	787.70	787.33	786.83	786.47	786.11	785.93	785.64	788.15	787.92	787.66	786.85	787.23
MIN	787.32	786.87	786.46	786.11	785.92	785.50	785.32	785.79	787.62	786.87	786.11	786.12
(-)	26,100	25,200	24,300	23,700	23,300	22,500	22,700	27,300	26,800	25,100	23,700	25,700
(=)	-700	-900	-900	-600	-400	-800	+200	+4,600	-500	-1,700	-1,400	+2,000

CAL YR 2002... -3,300
WTR YR 2003....-1,100

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

06906190 LONG BRANCH RESERVOIR NEAR MACON, MO—Continued



06906200 EAST FORK LITTLE CHARITON RIVER NEAR MACON, MO

LOCATION.--Lat 39°44'59", long 92°31'03", in 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 National Geodetic Vertical Datum of 1929. Sept. 8, 1971, to Aug. 1, 1985, water-stage recorder at site 400 ft downstream at same datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Complete regulation by Long Branch Reservoir (06906190), 250 ft upstream. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,700 ft^3/s, Apr. 21, 1973; gage height, 20.60 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	6.4	8.0	9.0	8.7	7.2	9.0	14	8.6	7.5	7.2	e8.8
2	5.8	6.3	8.0	9.0	8.8	7.2	9.1	14	8.4	7.6	7.2	e9.0
3	5.8	6.6	8.2	9.0	8.7	7.4	9.1	12	8.2	7.3	7.4	8.7
4	5.7	6.4	8.1	9.0	8.7	7.3	9.3	12	7.6	7.1	7.3	8.7
5	6.0	6.5	8.0	8.9	8.8	e7.3	9.9	12	7.2	7.1	6.6	9.1
6	5.7	6.6	8.4	8.8	8.6	e7.4	10	12	7.0	7.1	7.4	9.1
7	5.4	6.6	8.3	8.8	8.6	e7.4	10	12	6.7	7.1	7.6	8.8
8	5.5	6.9	8.3	8.9	8.4	e7.4	9.9	12	6.6	7.0	7.7	9.0
9	5.4	6.8	8.3	8.8	8.0	e7.3	9.8	12	6.4	7.1	7.8	8.6
10	5.5	6.7	8.4	8.9	8.0	e7.3	9.6	12	6.5	7.0	7.5	8.5
11	5.4	6.5	8.5	8.7	8.1	e7.4	9.8	12	7.1	7.2	7.8	8.6
12	5.5	6.6	8.6	8.6	7.9	e7.5	10	12	6.9	7.0	8.2	8.6
13	5.5	6.7	8.4	8.7	7.7	e7.5	10	12	6.9	7.1	8.3	8.6
14	5.6	6.6	8.3	8.5	7.7	e7.6	11	11	6.7	7.1	7.8	8.7
15	5.6	6.5	8.7	8.3	7.8	e7.6	11	11	6.6	7.0	7.8	9.0
16	5.7	6.4	8.8	8.3	e7.1	e7.5	11	9.3	6.9	7.0	8.0	8.7
17	5.7	6.8	8.9	8.1	e7.0	e7.6	12	8.8	6.9	7.0	8.0	8.9
18	6.0	6.9	8.8	8.8	e6.9	e7.5	11	8.8	6.6	6.8	8.1	8.7
19	5.9	7.0	8.7	8.7	e6.9	e7.6	11	8.5	6.8	6.6	8.1	8.9
20	5.9	6.8	8.8	8.7	e6.7	e7.7	12	8.7	6.8	7.2	8.2	8.7
21	5.7	6.8	8.8	8.7	6.8	e7.5	12	8.6	6.9	7.1	8.0	8.7
22	5.8	7.1	8.7	8.4	7.0	e7.4	12	8.8	6.9	7.2	8.1	8.7
23	5.8	7.1	8.7	7.9	7.0	7.6	12	9.0	7.0	7.3	8.1	8.8
24	6.0	7.2	8.7	8.1	7.4	7.9	12	9.0	7.4	7.0	8.1	8.7
25	6.3	7.0	8.6	8.4	7.3	8.3	12	9.0	7.0	6.5	8.0	8.8
26	6.4	7.1	8.5	8.1	7.1	8.5	12	8.8	7.2	6.6	8.3	8.7
27	6.3	7.1	8.8	8.2	7.0	8.5	12	9.0	7.2	6.8	8.8	8.8
28	6.5	7.3	8.7	8.3	7.0	8.7	14	8.8	7.4	7.0	8.9	8.8
29	6.5	7.5	9.0	8.6	---	8.7	14	8.5	7.4	6.8	8.5	8.8
30	6.5	7.5	9.0	8.6	---	8.7	14	8.2	7.5	6.9	8.3	9.0
31	6.3	---	8.9	8.7	---	8.8	---	8.0	---	7.5	8.6	---
MEAN	5.85	6.81	8.55	8.60	7.70	7.72	11.0	10.4	7.11	7.05	7.93	8.78
MAX	6.5	7.5	9.0	9.0	8.8	8.8	14	14	8.6	7.6	8.9	9.1
MIN	5.4	6.3	8.0	7.9	6.7	7.2	9.0	8.0	6.4	6.5	6.6	8.5
IN.	0.06	0.07	0.09	0.09	0.07	0.08	0.11	0.11	0.07	0.07	0.08	0.09

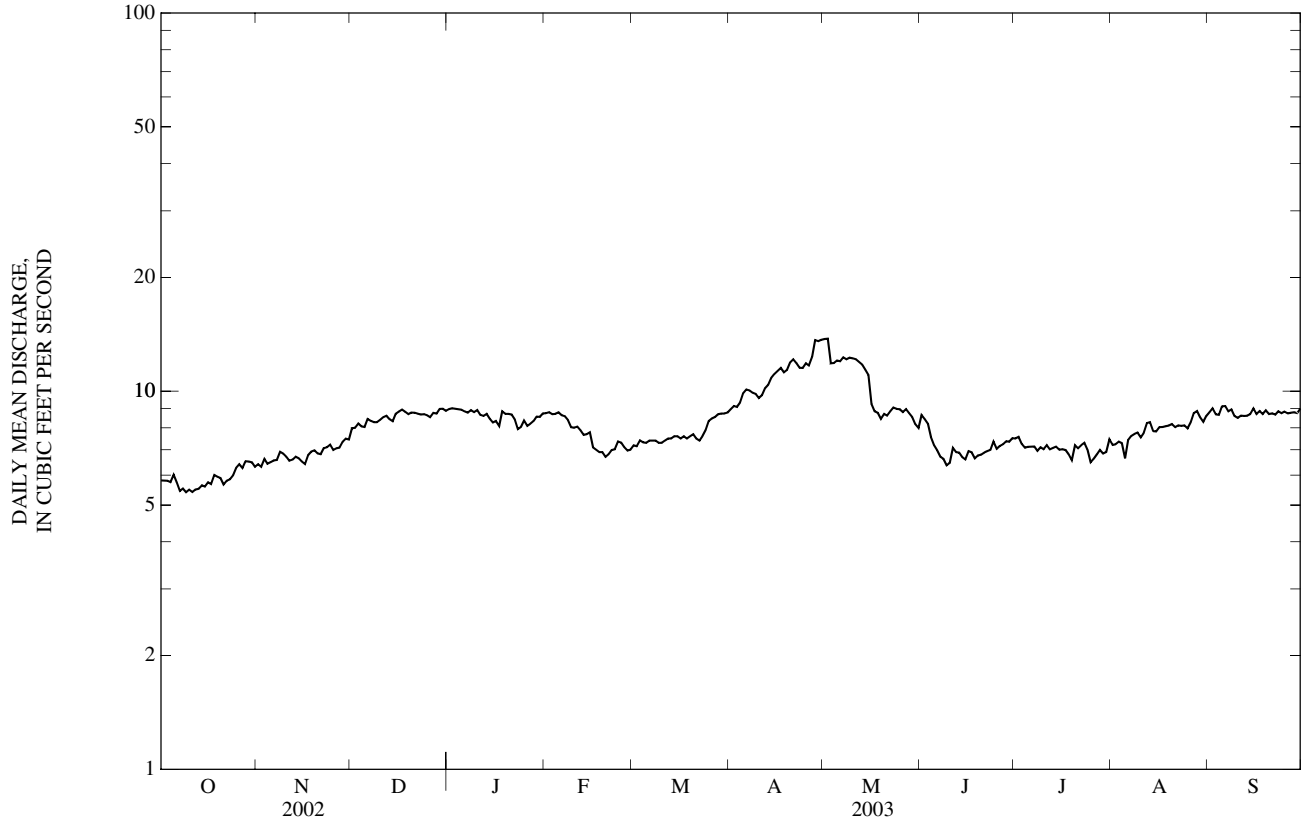
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2003[a], BY WATER YEAR (WY)

MEAN	55.0	62.3	74.9	45.7	55.6	108	125	187	128	117	65.6	48.9
MAX	406	354	304	223	200	502	475	680	369	743	401	341
(WY)	(1987)	(1986)	(1993)	(1993)	(1999)	(1985)	(1983)	(1995)	(1995)	(1993)	(1981)	(1981)
MIN	0.16	0.27	0.000	0.000	0.000	7.30	7.27	7.21	5.45	5.52	2.48	7.06
(WY)	(1979)	(1979)	(1979)	(1979)	(1979)	(1989)	(1989)	(1988)	(1988)	(1989)	(1980)	(1984)

06906200 EAST FORK LITTLE CHARITON RIVER NEAR MACON, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1979 - 2003[a]	
ANNUAL MEAN	88.5		8.12		89.7	
HIGHEST ANNUAL MEAN					242	1993
LOWEST ANNUAL MEAN					7.13	1989
HIGHEST DAILY MEAN	1,270	May 13	14	Apr 28-May 2	1,380	May 18, 1995
LOWEST DAILY MEAN	5.3	Sep 30	5.4	Oct 7,9,11	0.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	5.5	Oct 7	5.5	Oct 7	0.00	Many Years
MAXIMUM PEAK FLOW	---		15	Apr 28	1,560	May 7, 1996
MAXIMUM PEAK STAGE	---		7.63	Apr 28	15.00	May 13, 2002
INSTANTANEOUS LOW FLOW	---		0.68	Aug 5	0.00	Many Years
ANNUAL RUNOFF (INCHES)	10.72		0.99		10.88	
10 PERCENT EXCEEDS	262		9.9		278	
50 PERCENT EXCEEDS	9.8		8.0		41	
90 PERCENT EXCEEDS	6.5		6.5		6.8	

e Estimated
[a] Post-regulation period.



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 at 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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1962 to current year. Occasional low-flow measurements, water years 1942-43, 1945-46.

GAGE.--Water-stage recorder. Datum of gage is 655.86 ft above National Geodetic Vertical Datum of 1929 (levels by the Missouri State Highway and Transportation Commission). Oct. 29, 1962 to July 18, 1972, on former bridge, at same datum; July 18, 1972 to Sept. 23, 1974, at datum 0.63 ft higher.

REMARKS.--Water-discharge records fair except for estimated daily discharges, which are poor. Some regulation by Long Branch Reservoir (station 06906190), 34 mi upstream since 1978. Low flow affected by operation of pumps 7 mi upstream. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft^3/s, Apr. 21, 1973; gage height, 20.78 ft, former datum.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	14	7.3	10	e11	8.3	20	238	17	23	8.4	656
2	13	12	8.5	10	e12	7.9	17	73	23	17	13	129
3	14	14	9.2	9.1	e12	6.6	17	38	41	15	21	47
4	19	14	7.7	12	e12	e8.5	18	37	25	14	11	29
5	19	14	7.8	12	e12	6.5	18	134	19	13	10	21
6	23	14	11	12	e11	7.7	16	65	38	13	9.7	18
7	23	13	12	9.4	e9.0	7.8	23	37	40	12	9.5	16
8	21	12	10	13	7.6	9.6	22	34	26	12	9.8	15
9	19	12	9.4	12	7.8	7.9	19	70	20	12	9.5	14
10	17	12	11	11	8.1	7.2	18	1,670	25	12	9.6	14
11	16	12	11	7.6	7.8	6.7	18	759	32	12	9.4	14
12	13	12	13	9.2	7.9	9.7	17	162	223	11	9.4	43
13	13	11	12	11	7.8	195	17	80	667	11	8.9	415
14	14	13	11	10	12	38	18	53	384	11	9.1	386
15	13	14	11	8.5	76	25	16	42	86	11	9.1	108
16	12	12	12	9.7	44	22	16	33	44	10	9.3	46
17	13	11	12	9.5	44	20	59	31	31	15	9.3	32
18	14	11	18	9.0	12	19	34	27	24	14	9.3	23
19	24	10	18	9.4	13	29	24	25	20	11	9.6	21
20	20	10	13	9.6	16	50	30	28	19	11	11	21
21	16	10	11	9.7	17	37	32	25	19	11	9.4	39
22	15	9.5	11	9.2	15	25	24	22	16	10	8.9	132
23	14	9.6	9.8	e9.0	9.5	22	21	21	15	10	8.7	47
24	14	9.7	10	e8.0	e9.0	21	40	26	14	10	9.0	26
25	14	9.5	9.3	e8.5	e8.0	25	61	46	61	10	8.9	19
26	14	9.2	9.5	e9.0	7.5	21	46	29	182	9.2	9.0	17
27	13	8.7	11	e9.0	7.3	20	31	23	49	8.9	9.8	25
28	15	9.0	11	e9.2	7.6	29	250	21	27	10	9.7	18
29	19	9.4	11	e9.5	---	32	139	18	21	11	21	15
30	20	10	12	e9.5	---	23	48	18	35	9.0	16	14
31	19	---	12	e9.5	---	23	---	18	---	8.4	895	---
MEAN	16.3	11.4	11.0	9.81	15.1	24.9	37.6	126	74.8	11.9	39.1	80.7
MAX	24	14	18	13	76	195	250	1,670	667	23	895	656
MIN	12	8.7	7.3	7.6	7.3	6.5	16	18	14	8.4	8.4	14
IN.	0.09	0.06	0.06	0.05	0.07	0.13	0.19	0.66	0.38	0.06	0.20	0.41

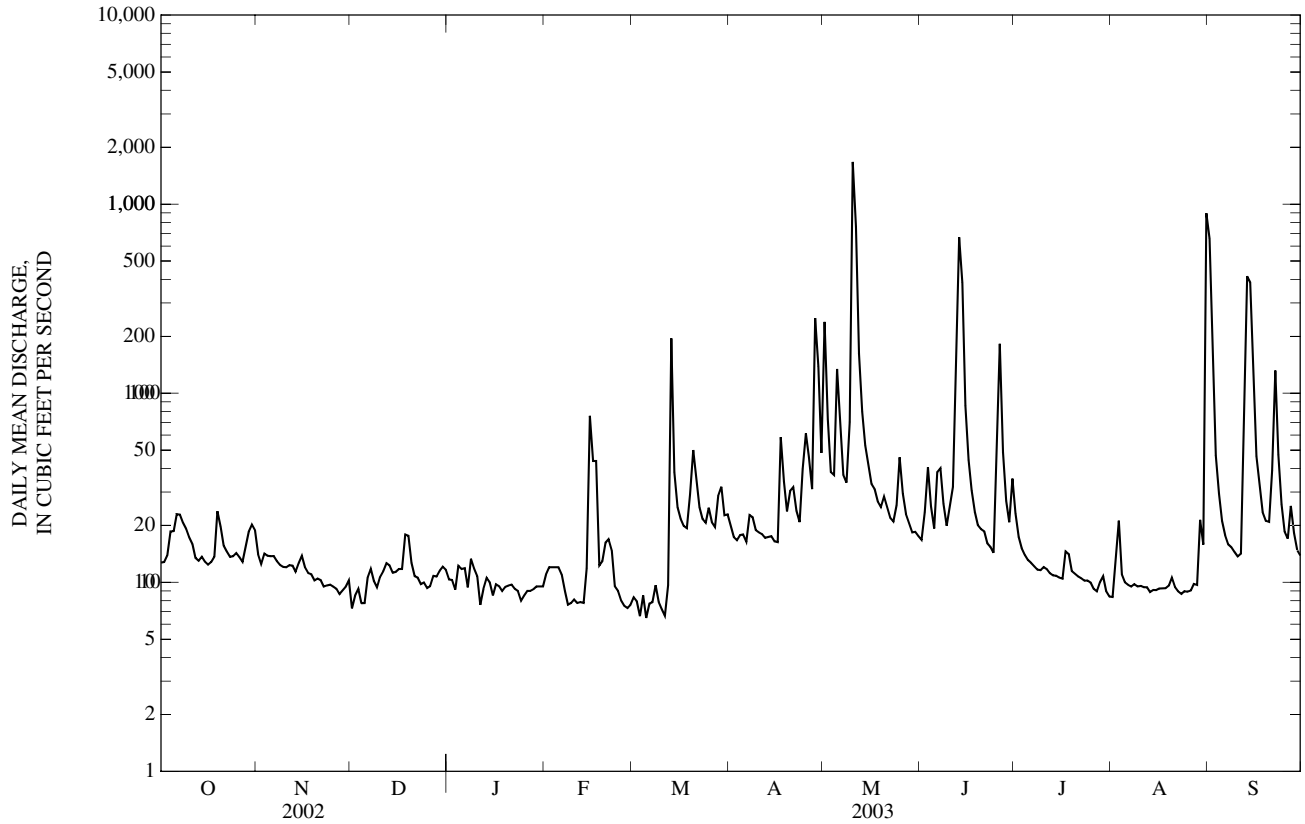
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2003[a], BY WATER YEAR (WY)

MEAN	100	125	134	94.5	166	220	243	354	222	218	103	105
MAX	1,019	756	666	362	732	945	935	1,403	562	1,569	514	774
(WY)	(1987)	(1986)	(1983)	(1993)	(1985)	(1985)	(1983)	(2002)	(1995)	(1993)	(1993)	(1993)
MIN	6.44	2.66	4.95	6.48	7.59	10.6	10.2	12.1	2.56	5.34	3.64	2.70
(WY)	(1981)	(1981)	(1989)	(1989)	(1989)	(1989)	(1989)	(1988)	(1988)	(1989)	(1980)	(1988)

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

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1979 - 2003[a]	
ANNUAL MEAN	182		38.3		174	
HIGHEST ANNUAL MEAN					468	1993
LOWEST ANNUAL MEAN					17.3	1989
HIGHEST DAILY MEAN	5,770	May 9	1,670	May 10	7,760	Oct 3, 1986
LOWEST DAILY MEAN	7.3	Dec 1	6.5	Mar 5	0.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	8.6	Nov 29	7.5	Feb 27	0.40	Oct 9, 1980
MAXIMUM PEAK FLOW	---		2,820	May 10	10,400	Jun 27, 1981
MAXIMUM PEAK STAGE	---		11.95	May 10	19.30	Sep 2, 1982
INSTANTANEOUS LOW FLOW	---		5.1	Mar 3,5	0.00	Many Years
ANNUAL RUNOFF (INCHES)	11.21		2.36		10.73	
10 PERCENT EXCEEDS	407		46		383	
50 PERCENT EXCEEDS	26		14		58	
90 PERCENT EXCEEDS	11		9.0		8.8	

e Estimated
[a] Post-regulation period.



06906300 EAST FORK LITTLE CHARITON RIVER NEAR HUNTSVILLE, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
26...	1610	Environmental	8.9	12.8	98	8.0	766	3.5	330	76.1	32.8	4.42
JAN												
09...	1250	Environmental	12	14.4	107	8.2	854	2.0	--	--	--	--
MAR												
19...	0955	Environmental	23	8.8	88	8.0	1,080	13.0	--	--	--	--
MAY												
01...	1610	Environmental	205	7.5	82	7.7	556	18.0	250	66.4	20.2	4.68
JUL												
31...	0925	Environmental	8.5	6.0	75	8.0	394	25.5	--	--	--	--
SEP												
10...	1355	Environmental	14	9.8	117	8.2	656	24.0	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
26...	38.3	98	97	118	<1	5.85	0.20	291	557	<10	0.35	<0.04	<0.06
JAN													
09...	--	100	99	121	<1	--	--	--	--	<10	0.39	<0.04	E.05
MAR													
19...	--	111	109	133	<1	--	--	--	--	14	0.60	0.05	0.09
MAY													
01...	11.3	85	85	103	<1	4.29	0.25	186	401	804	2.4	0.07	0.44
JUL													
31...	--	78	76	92	<1	--	--	--	--	13	0.48	<0.04	0.07
SEP													
10...	--	94	97	114	<1	--	--	--	--	20	0.64	<0.04	<0.06

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
26...	<0.008	<0.02	<0.04	E.02	33k	55	130	9	158	0.6	E.02	<0.2	E4n
JAN													
09...	<0.008	<0.02	<0.04	<0.04	20k	9k	26k	--	--	--	--	--	--
MAR													
19...	<0.008	<0.02	<0.04	0.04	100ki	160	42	--	--	--	--	--	--
MAY													
01...	0.011	0.02	0.04	0.84	3,800	2,200	8,500	8	9,210	0.8	E.03	0.7	<6
JUL													
31...	<0.008	<0.02	E.03	0.06	57	160	73	--	--	--	--	--	--
SEP													
10...	<0.008	<0.02	<0.04	0.06	64	130	110	--	--	--	--	--	--

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
26...	E6	<0.08	M	154	<0.02	E.4	2	3
JAN								
09...	--	--	--	--	--	--	--	--
MAR								
19...	--	--	--	--	--	--	--	--
MAY								
01...	28	<0.08	11	791	0.04	1.4	1	67
JUL								
31...	--	--	--	--	--	--	--	--
SEP								
10...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
i -- Result may be affected by interference
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

06906500 MISSOURI RIVER AT GLASGOW, MO

LOCATION.--Lat 39°13'20", long 92°51'00", in NE ¼ NE ¼ NE ¼ sec.3, T.51 N., R.17 W., Howard County, Hydrologic Unit 10300102, at bridge on State Highway 240 in Glasgow, 75 ft downstream from Chicago and Alton Railway bridge, 1 mi downstream from Little Chariton River, and at mile 226.8.

DRAINAGE AREA.--497,900 mi^2. The 3,959 mi^2 in Great Divide basin are not included.

PERIOD OF RECORD.--October 2000 to current year. Gage-height records collected at site 1878-99 in reports of the Missouri River Commission. Gage-height records collected from January 1929 to August 1950 in files of the Corps of Engineers, Kansas City District. August 1950 to September 2000 gage-height records collected in files of the U.S.G.S.

GAGE.--Water-stage recorder. Datum of gage 586.49 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair except for discharges above 100,000 ft^3/s, which are poor. 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 July 29, 1993 reached a stage of 39.50 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

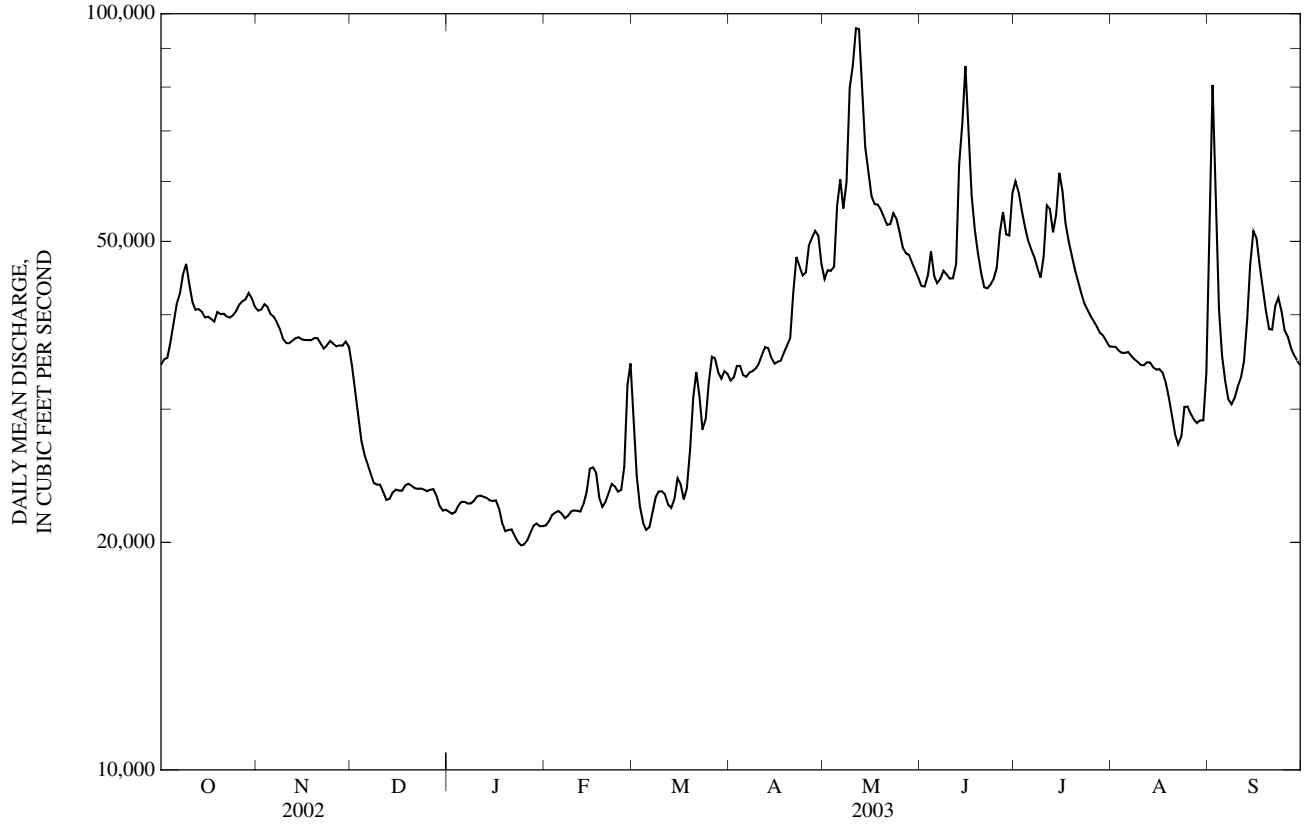
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34,300	40,500	34,200	21,900	21,100	28,900	32,700	44,600	43,600	60,000	36,300	55,300
2	34,900	40,600	31,800	21,800	21,300	24,500	33,100	45,800	43,600	58,100	36,300	80,500
3	35,100	41,300	29,300	21,900	21,800	22,300	34,200	45,700	45,100	55,000	35,800	56,500
4	36,800	41,000	27,200	22,400	21,900	21,200	34,200	46,300	48,500	52,300	35,600	40,700
5	39,100	40,100	26,100	22,600	22,000	20,800	33,300	55,700	45,000	50,200	35,600	35,300
6	41,300	39,800	25,400	22,600	21,800	20,900	33,100	60,400	44,000	48,900	35,700	32,600
7	42,700	39,100	24,700	22,500	21,500	21,900	33,500	55,300	44,600	47,700	35,300	30,900
8	45,200	38,200	24,000	22,500	21,700	22,900	33,700	59,900	45,700	46,100	34,900	30,400
9	46,700	37,100	23,800	22,700	22,000	23,300	34,000	79,800	45,200	44,800	34,700	31,000
10	44,000	36,700	23,800	23,000	22,000	23,400	34,500	85,300	44,600	47,700	34,300	32,100
11	41,600	36,700	23,300	23,100	22,000	23,100	35,400	95,600	44,700	55,800	34,300	33,000
12	40,600	37,000	22,700	23,000	22,000	22,400	36,200	95,400	46,700	55,200	34,600	34,700
13	40,700	37,200	22,800	22,900	22,500	22,200	36,100	77,200	63,200	51,400	34,600	39,400
14	40,400	37,300	23,300	22,700	23,300	22,800	35,100	66,600	71,700	54,200	34,100	46,600
15	39,700	37,100	23,500	22,700	25,000	24,300	34,500	61,600	85,300	61,600	33,800	51,600
16	39,800	37,000	23,400	22,700	25,100	23,900	34,700	57,400	69,700	58,200	33,900	50,600
17	39,500	37,000	23,400	22,100	24,700	22,800	34,800	56,000	57,500	52,800	33,500	46,500
18	39,200	37,000	23,800	21,200	22,900	23,600	35,600	55,900	51,700	50,000	32,500	43,600
19	40,300	37,300	23,900	20,700	22,300	26,500	36,400	55,100	48,300	48,000	31,000	40,500
20	40,100	37,200	23,800	20,800	22,600	31,100	37,200	53,800	45,400	45,800	29,400	38,300
21	40,100	36,600	23,600	20,800	23,200	33,600	42,700	52,600	43,500	44,300	27,800	38,200
22	39,800	36,100	23,500	20,400	23,900	31,200	47,700	52,700	43,300	42,700	27,000	41,100
23	39,600	36,400	23,600	20,000	23,700	28,200	46,300	54,500	43,800	41,400	27,600	42,100
24	39,900	36,900	23,500	19,800	23,300	29,100	45,100	53,500	44,600	40,600	30,200	40,400
25	40,400	36,600	23,400	19,900	23,500	32,500	45,500	51,400	46,100	39,800	30,200	38,100
26	41,300	36,300	23,500	20,100	25,200	35,200	49,400	49,000	51,300	39,200	29,600	37,400
27	41,700	36,400	23,500	20,600	32,300	35,000	50,600	48,200	54,700	38,600	29,100	36,200
28	41,900	36,400	23,000	21,000	34,500	33,600	51,600	48,000	51,100	37,900	28,800	35,400
29	42,700	36,900	22,300	21,200	---	32,900	50,900	46,800	50,900	37,500	29,000	34,800
30	42,000	36,300	22,000	21,000	---	33,700	46,700	45,800	57,900	36,900	29,000	34,300
31	40,900	---	22,100	21,000	---	33,400	---	44,700	---	36,300	33,500	---
MEAN	40,400	37,670	24,460	21,660	23,540	26,810	38,960	58,080	50,710	47,710	32,520	40,940
MAX	46,700	41,300	34,200	23,100	34,500	35,200	51,600	95,600	85,300	61,600	36,300	80,500
MIN	34,300	36,100	22,000	19,800	21,100	20,800	32,700	44,600	43,300	36,300	27,000	30,400
IN.	0.09	0.08	0.06	0.05	0.05	0.06	0.09	0.13	0.11	0.11	0.08	0.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

MEAN	43,980	41,710	27,640	26,010	38,100	51,640	60,890	88,140	87,660	52,520	39,920	44,450
MAX	47,720	44,860	33,050	29,060	58,990	96,960	93,040	106,000	155,200	72,690	49,530	55,750
(WY)	(2002)	(2001)	(2002)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)
MIN	40,400	37,670	24,460	21,660	23,540	26,810	38,960	58,080	50,710	37,180	32,520	36,670
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2003)	(2002)

06906500 MISSOURI RIVER AT GLASGOW, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL MEAN	42,760		37,010		50,230	
HIGHEST ANNUAL MEAN					69,160	2001
LOWEST ANNUAL MEAN					37,010	2003
HIGHEST DAILY MEAN	209,000	May 14	95,600	May 11	261,000	Jun 8, 2001
LOWEST DAILY MEAN	22,000	Dec 30	19,800	Jan 24	18,400	Dec 20, 2000
ANNUAL SEVEN-DAY MINIMUM	22,800	Dec 25	20,200	Jan 21	19,900	Dec 19, 2000
MAXIMUM PEAK FLOW	---		103,000	May 12	272,000	Jun 7, 2001
MAXIMUM PEAK STAGE	---		19.11	May 12	31.66	Jun 7, 2001
INSTANTANEOUS LOW FLOW	---		19,700	Jan 25	18,300	Dec 20, 2000
ANNUAL RUNOFF (INCHES)	1.16		1.01		1.37	
10 PERCENT EXCEEDS	63,100		53,100		89,300	
50 PERCENT EXCEEDS	37,100		36,200		41,600	
90 PERCENT EXCEEDS	25,300		22,200		23,900	



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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharge, which is fair. U.S.G.S satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	9.0	7.2	12	17	21	100	171	31	11	2.6	2,680
2	4.1	8.6	7.2	14	17	21	79	306	37	11	2.6	1,410
3	6.3	8.8	7.2	15	17	21	64	299	74	9.9	2.2	304
4	6.1	8.1	7.3	15	17	21	55	4,040	81	9.3	2.0	140
5	6.9	7.7	7.5	15	16	22	48	3,650	76	8.7	1.9	77
6	7.5	7.8	7.7	15	16	22	48	980	70	8.0	1.9	51
7	8.6	8.0	7.9	15	16	24	350	1,780	65	7.4	1.8	38
8	8.0	7.7	8.0	16	15	23	321	1,020	107	6.9	1.7	31
9	6.7	7.2	8.0	16	15	22	186	912	74	6.4	1.6	25
10	6.3	6.3	8.0	16	15	21	126	1,320	63	6.4	1.5	22
11	6.2	5.8	8.2	16	16	21	95	1,630	929	6.1	1.5	21
12	5.7	5.3	8.2	15	18	23	77	483	479	6.0	1.5	230
13	5.4	5.2	8.4	15	15	159	65	279	181	5.5	1.4	134
14	5.1	5.3	8.2	15	18	266	54	203	94	5.1	1.5	110
15	4.8	6.1	8.2	15	23	222	47	156	59	4.9	1.4	58
16	4.4	6.6	8.2	15	38	127	43	125	43	4.7	1.4	55
17	4.2	6.9	8.2	14	36	90	44	122	35	4.7	1.3	43
18	4.0	7.7	12	14	32	71	44	124	29	4.5	1.1	32
19	4.8	7.8	30	13	29	63	43	113	26	4.3	1.1	28
20	5.4	7.9	32	14	27	94	46	121	23	4.0	1.7	24
21	5.5	7.9	24	14	25	255	50	96	20	3.7	2.3	23
22	6.1	7.5	18	13	24	224	52	76	18	3.4	2.5	45
23	6.7	7.3	16	13	24	141	45	62	17	3.1	2.1	53
24	6.9	7.2	15	13	24	98	1,310	54	16	2.8	1.8	43
25	8.2	7.1	15	13	22	82	3,840	50	15	2.8	1.9	33
26	8.5	6.9	15	14	22	71	1,320	46	18	2.7	1.8	39
27	7.6	6.9	14	13	21	63	516	42	18	2.6	1.8	59
28	6.4	7.0	14	13	21	78	323	39	16	2.4	1.8	32
29	8.9	7.0	13	14	---	e220	330	35	14	2.3	2.4	24
30	10	7.1	13	15	---	191	220	36	13	2.4	3.3	21
31	9.5	---	13	16	---	139	---	34	---	2.6	5.8	---
MEAN	6.40	7.19	12.2	14.4	21.3	94.1	331	594	91.4	5.34	1.97	196
MAX	10	9.0	32	16	38	266	3,840	4,040	929	11	5.8	2,680
MIN	3.7	5.2	7.2	12	15	21	43	34	13	2.3	1.1	21

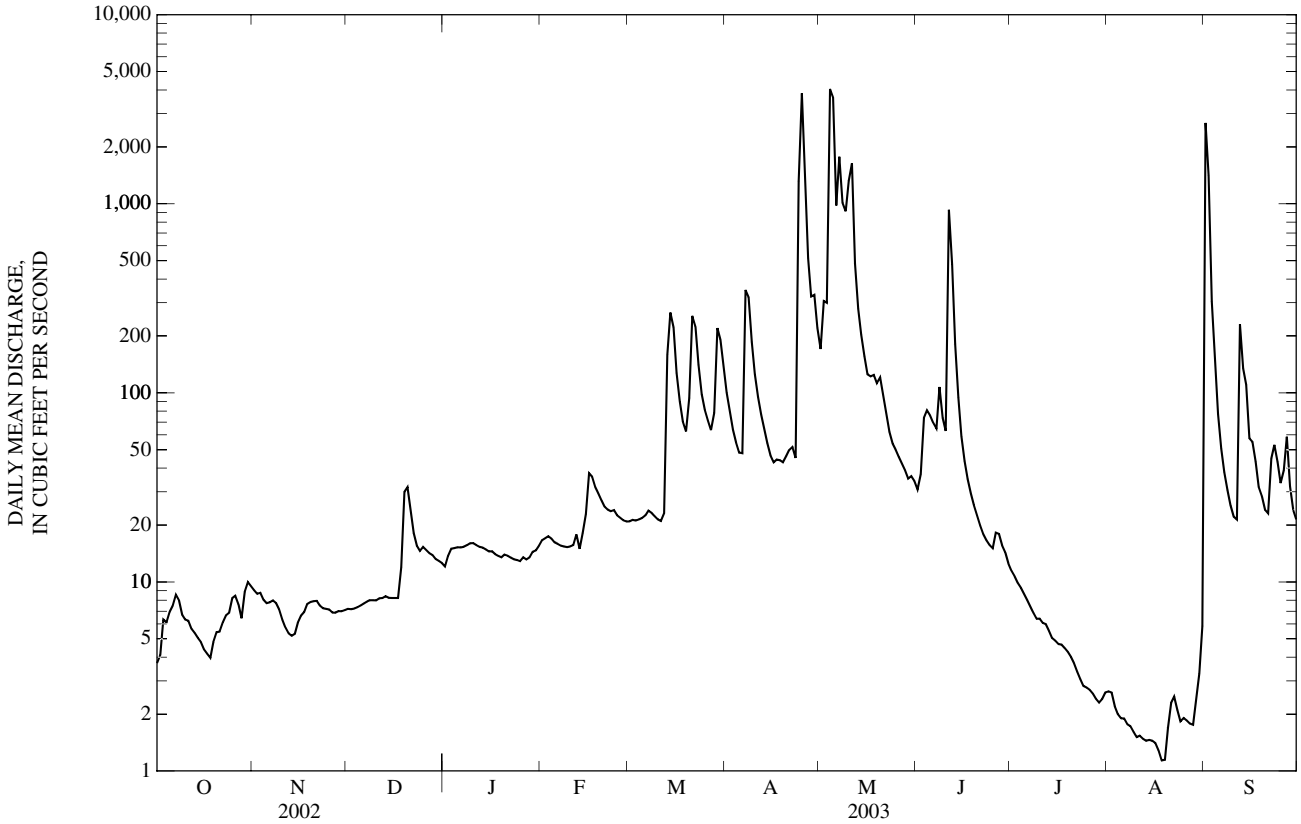
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2003, BY WATER YEAR (WY)

MEAN	183	493	298	312	602	546	888	1,308	634	616	141	287
MAX	2,130	3,347	1,564	956	2,422	2,174	3,809	4,718	3,176	4,077	850	3,689
(WY)	(1999)	(1993)	(1993)	(1999)	(1997)	(1998)	(1994)	(1990)	(1998)	(1993)	(1995)	(1993)
MIN	6.40	7.19	11.1	14.4	21.3	46.4	22.2	38.8	10.5	5.34	1.97	4.03
(WY)	(2003)	(2003)	(1990)	(2003)	(2003)	(1996)	(2000)	(1992)	(1988)	(2003)	(2003)	(1999)

06906800 LAMINE RIVER NEAR OTTERVILLE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1987 - 2003	
ANNUAL MEAN	289		115		525	
HIGHEST ANNUAL MEAN					1,464	1993
LOWEST ANNUAL MEAN					115	2003
HIGHEST DAILY MEAN	20,200	May 9	4,040	May 4	47,000	May 18, 1995
LOWEST DAILY MEAN	3.7	Oct 1	1.1	Aug 18,19	1.1	Aug 18,19, 2003
ANNUAL SEVEN-DAY MINIMUM	4.4	Sep 26	1.3	Aug 13	1.3	Aug 13, 2003
MAXIMUM PEAK FLOW	---		9,490	May 4	84,900	May 18, 1995
MAXIMUM PEAK STAGE	---		14.16	May 4	29.43	May 18, 1995
INSTANTANEOUS LOW FLOW	---		1.1	Aug 18,19	1.1	Aug 18,19, 2003
ANNUAL RUNOFF (INCHES)	7.22		2.87		13.13	
10 PERCENT EXCEEDS	335		175		748	
50 PERCENT EXCEEDS	26		16		67	
90 PERCENT EXCEEDS	5.7		2.8		8.3	

e Estimated



06907300 LAMINE RIVER NEAR PILOT GROVE, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 38°53'32", long 93°02'00", in SE ¼ NW ¼ NW ¼ sec.32, T.48 N., R.19 W., Cooper County, Hydrologic Unit 10300102, approximately 2 mi southeast of County Highway Z on Shackleford Road.

DRAINAGE AREA.--949 mi^2.

PERIOD OF RECORD.--November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
12...	1535	Environmental	18	9.2	83	7.8	448	10.1	160	39.3	15.5	7.12
JAN												
13...	1505	Environmental	27	18.7	136	8.3	405	1.7	--	--	--	--
FEB												
03...	1215	Environmental	33	19.5	148	8.4	614	2.5	--	--	--	--
03...	1216	Replicate	--	--	--	--	--	--	--	--	--	--
MAR												
10...	1525	Environmental	38	15.8	127	8.7	431	5.4	--	--	--	--
APR												
09...	1145	Environmental	302	10.6	94	7.7	375	9.6	--	--	--	--
MAY												
27...	1425	Environmental	82	13.6	160	8.6	384	22.6	160	41.1	14.3	4.66
JUN												
16...	1330	Environmental	113	6.0	76	7.7	256	26.4	--	--	--	--
JUL												
15...	0915	Environmental	16	5.8	78	7.5	375	29.0	160	38.6	14.5	6.65
SEP												
03...	1340	Environmental	1,040	6.1	70	7.1	161	21.3	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
12...	25.5	166	166	202	<1	26.4	0.2	20.2	260	<10	0.73	<0.04	0.87
JAN													
13...	--	193	192	227	4	--	--	--	--	<10	0.50	<0.04	5.55
FEB													
03...	--	188	189	221	5	--	--	--	--	<10	0.62	<0.04	0.33
03...	--	--	--	--	--	--	--	--	--	<10	0.61	<0.04	1.66
MAR													
10...	--	164	166	177	13	--	--	--	--	<10	0.33	<0.04	0.11
APR													
09...	--	147	147	179	<1	--	--	--	--	39	0.55	<0.04	0.08
MAY													
27...	12.3	156	156	167	12	16.5	<0.2	22.5	235	36	0.99	<0.04	<0.06
JUN													
16...	--	100	100	122	<1	--	--	--	--	64	1.0	<0.04	1.25
JUL													
15...	15.2	133	134	164	<1	19.4	0.2	14.4	217	12	0.90	<0.04	<0.06
SEP													
03...	--	52	52	63	<1	--	--	--	--	106	1.3	0.04	1.29

06907300 LAMINE RIVER NEAR PILOT GROVE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
12...	0.009	1.46	1.39	1.51	2k	6k	13k	<2	65	2.5	E.03	<0.2	E6n
JAN													
13...	0.017	2.15	2.08	2.24	7k	23k	4k	--	--	--	--	--	--
FEB													
03...	0.012	1.49	1.54	1.63	5k	6k	7k	--	--	--	--	--	--
03...	0.010	1.52	1.54	1.62	1k	4k	12k	--	--	--	--	--	--
MAR													
10...	0.016	<0.02	0.04	E.02	--e	--e	1k	--	--	--	--	--	--
APR													
09...	<0.008	0.13	0.13	0.22	250	340	180	--	--	--	--	--	--
MAY													
27...	<0.008	0.12	0.15	0.28	21	27	17k	4	377	1.9	E.02n	<0.2	<7
JUN													
16...	0.041	0.19	0.21	0.39	120k	290	104	--	--	--	--	--	--
JUL													
15...	<0.008	0.08	0.12	0.22	14k	25k	33k	2	270	4.1	<0.04	<0.2	<7
SEP													
03...	0.026	0.26d	0.34	0.53	920k	1,050	600	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
12...	44	<0.08	<1	126	<0.02	E.3	1	E2
JAN								
13...	--	--	--	--	--	--	--	--
FEB								
03...	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--
MAR								
10...	--	--	--	--	--	--	--	--
APR								
09...	--	--	--	--	--	--	--	--
MAY								
27...	15	<0.08	Mn	7.3	<0.02	E.4n	1	3
JUN								
16...	--	--	--	--	--	--	--	--
JUL								
15...	E6n	<0.08	<1	6.2	<0.02	E.3n	<1	2
SEP								
03...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

06908000 BLACKWATER RIVER NEAR 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 mi^2.

PERIOD OF RECORD.--June 1922 to September 1933, May 1938 to current year. Published as "at Blue Lick" for periods of record from 1922 to 2000.

REVISED RECORDS.--WSP 1006: 1929. WDR MO-84-1: 1982(M).

GAGE.--Water-stage recorder. Datum of gage is 593.79 ft above National Geodetic Vertical Datum of 1929. Prior to July 25, 1925, nonrecording gage at site 75 ft downstream at datum 0.10 ft lower; July 25 to Sept. 30, 1933, and May 23, 1938 to Dec. 3, 1956, nonrecording gage at site 25 ft downstream at same datum; Dec. 4, 1956, to Oct. 1, 1986, at site 0.5 mi upstream at present datum.

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers satellite telemeter at station. Published as "Blackwater River at Blue Lick" for periods of record from 1922 to 2000.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

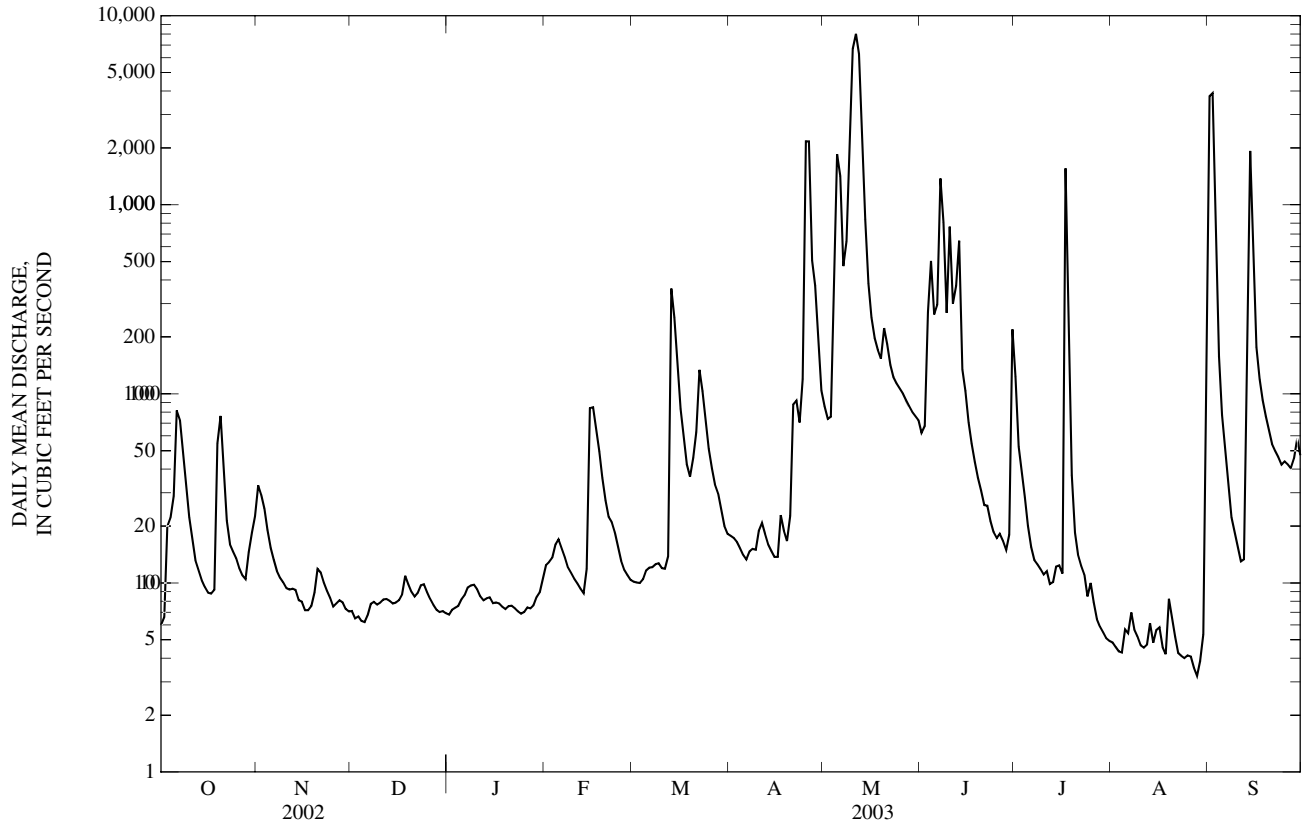
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	33	7.1	6.8	12	10	18	86	62	123	4.8	3,760
2	6.6	29	6.5	7.2	13	10	17	74	67	53	4.6	3,900
3	20	25	6.7	7.4	14	10	16	76	271	38	4.3	1,070
4	22	19	6.3	7.6	16	10	15	445	505	28	4.3	158
5	29	15	6.2	8.2	17	12	14	1,850	263	20	5.7	77
6	82	13	6.7	8.6	15	12	13	1,420	295	16	5.4	49
7	73	12	7.8	9.5	14	12	15	473	1,380	13	7.0	32
8	46	11	7.9	9.7	12	13	15	642	808	13	5.7	22
9	31	10	7.7	9.8	11	13	15	1,970	268	12	5.2	19
10	22	9.4	7.9	9.2	11	12	19	6,690	766	11	4.7	16
11	17	9.2	8.2	8.5	9.9	12	21	8,010	300	12	4.5	13
12	13	9.3	8.2	8.1	9.3	14	18	6,270	372	9.9	4.7	13
13	12	9.2	8.0	8.3	8.8	360	16	2,700	645	10	6.1	272
14	10	8.1	7.8	8.4	12	254	15	839	135	12	4.8	1,930
15	9.5	8.0	7.9	7.8	84	140	14	384	103	12	5.6	517
16	8.9	7.2	8.1	7.9	85	83	14	253	71	11	5.8	177
17	8.8	7.2	8.7	7.8	66	58	23	197	55	1,560	4.6	120
18	9.2	7.5	11	7.5	50	42	19	171	44	235	4.2	93
19	55	8.9	9.8	7.3	36	36	17	154	36	37	8.2	76
20	76	12	9.0	7.5	27	46	23	223	31	18	6.6	64
21	41	11	8.5	7.6	22	63	88	183	26	14	5.2	54
22	21	10	8.8	7.3	21	134	92	142	26	12	4.3	50
23	16	9.1	9.7	7.1	19	103	71	123	21	11	4.1	46
24	15	8.3	9.8	6.9	16	70	120	113	19	8.5	4.0	42
25	13	7.5	8.9	7.0	13	51	2,160	107	17	10	4.1	44
26	12	7.8	8.2	7.4	12	40	2,160	101	18	7.9	4.1	42
27	11	8.1	7.7	7.3	11	33	507	93	17	6.4	3.6	40
28	10	7.9	7.2	7.6	10	30	373	86	15	5.9	3.2	46
29	15	7.3	7.0	8.4	---	24	178	80	18	5.5	3.9	58
30	18	7.1	7.1	8.9	---	20	104	76	219	5.1	5.3	47
31	22	---	6.9	11	---	18	---	72	---	4.9	565	---
MEAN	24.2	11.6	7.98	8.05	23.1	56.3	206	1,100	229	75.3	23.0	428
MAX	82	33	11	11	85	360	2,160	8,010	1,380	1,560	565	3,900
MIN	6.0	7.1	6.2	6.8	8.8	10	13	72	15	4.9	3.2	13
IN.	0.02	0.01	0.01	0.01	0.02	0.06	0.21	1.13	0.23	0.08	0.02	0.43

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

MEAN	556	599	452	457	753	1,025	1,438	1,314	1,277	825	294	612
MAX	9,500	6,100	3,359	2,326	5,206	4,706	8,473	8,090	6,235	8,855	1,835	5,979
(WY)	(1987)	(1929)	(1983)	(1974)	(1985)	(1973)	(1973)	(1995)	(2001)	(1951)	(1998)	(1961)
MIN	0.13	0.32	1.66	1.55	5.54	9.50	29.6	9.93	18.4	1.78	1.61	0.13
(WY)	(1957)	(1957)	(1957)	(1957)	(1954)	(1956)	(1977)	(1932)	(1956)	(1933)	(1930)	(1956)

06908000 BLACKWATER RIVER NEAR BLUE LICK, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	680		184		802	
HIGHEST ANNUAL MEAN					2,540	1993
LOWEST ANNUAL MEAN					95.8	1957
HIGHEST DAILY MEAN	19,300	May 12	8,010	May 11	48,400	Nov 18, 1928
LOWEST DAILY MEAN	4.5	Sep 9,10	3.2	Aug 28	0.00	Jul 17-31, 1980
ANNUAL SEVEN-DAY MINIMUM	4.8	Sep 4	3.9	Aug 23	0.00	Jul 17, 1980
MAXIMUM PEAK FLOW	---		8,550	May 11	54,000	Nov 18, 1928
MAXIMUM PEAK STAGE	---		27.85	May 11	41.53	Oct 3, 1986
INSTANTANEOUS LOW FLOW	---		3.1	Aug 28	0.00	Jul 17-31, 1980
ANNUAL RUNOFF (INCHES)	8.25		2.23		9.73	
10 PERCENT EXCEEDS	919		258		2,390	
50 PERCENT EXCEEDS	30		14		89	
90 PERCENT EXCEEDS	7.3		6.6		5.0	



06909000 MISSOURI RIVER AT BOONVILLE, MO

LOCATION.--Lat 38°58'52", long 92°44'46", sec.26, T.49 N., R.17 W., Cooper County, Hydrologic Unit 10300102, near mid-span of the Highway 40 and 5 Bridge just north of Boonville, 5.4 mi below Lamine River, and at mile 196.6.

DRAINAGE AREA.--500,700 mi^2. The 3,959 mi^2 in Great Divide basin are not included.

PERIOD OF RECORD.--October 1925 to current year. Gage-height records collected at same site 1893-99 are in reports of the Missouri River Commission; since 1900 in reports of the National Weather Service.

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

GAGE.--Water-stage recorder. Datum of gage is 565.42 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1928, nonrecording gage on old Highway 40 bridge, at datum 3.14 ft lower; Oct. 1, 1928, to May 9, 1931, nonrecording gage at site .4 mile upstream at the old Missouri/Kansas/Texas Railroad bridge at present datum; May 10, 1931, to Apr. 12, 1934, water-stage recorder on old Highway 40 bridge at present datum; April 12, 1934 to April 8, 2003, water-stage recorder at site .4 mile upstream at the Missouri/Kansas/Texas Railroad Bridge at present datum; April 8, 2003 to present, water-stage recorder at present site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. 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 21, 1844, reached a stage of 32.7 ft, discharge, about 710,000 ft^3/s, computed by the 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 the U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36,700	42,000	34,700	22,900	22,400	32,200	33,500	e46,700	45,700	63,000	36,900	53,200
2	37,600	41,700	33,000	22,700	22,700	27,600	33,100	46,300	45,400	61,900	36,900	83,100
3	37,800	42,300	31,000	22,500	23,200	24,400	33,800	48,300	46,500	58,800	36,700	67,800
4	38,200	42,600	29,500	22,900	23,400	22,700	34,200	49,800	49,700	55,700	36,300	46,500
5	40,000	41,800	28,200	23,400	23,600	21,400	33,500	61,900	e48,900	53,300	36,200	39,000
6	42,000	41,300	27,300	23,500	23,600	21,100	33,200	68,100	46,000	51,400	36,200	35,800
7	43,400	40,900	26,600	23,500	23,100	22,100	33,300	62,200	47,600	50,100	35,900	33,800
8	44,900	39,900	25,600	23,500	23,100	23,600	33,800	61,600	48,400	48,600	35,500	32,900
9	47,200	38,600	25,100	23,600	23,500	24,300	34,700	83,500	48,200	47,000	35,300	32,900
10	45,900	37,400	25,100	23,700	23,700	24,700	34,900	101,000	48,900	47,600	35,000	33,700
11	43,100	36,700	24,800	24,000	23,800	24,800	35,500	109,000	e49,300	53,700	34,800	34,500
12	41,400	36,800	24,100	24,000	23,700	24,500	36,300	106,000	48,800	57,600	34,900	36,000
13	40,800	37,200	23,700	24,000	24,000	25,000	36,600	86,000	61,800	53,800	35,100	39,300
14	40,600	37,200	24,100	23,700	25,100	25,000	36,000	71,100	73,200	53,600	34,900	46,600
15	40,100	37,000	24,600	23,600	27,400	26,200	35,200	64,600	e84,000	60,100	34,500	51,300
16	39,900	36,700	24,700	23,700	28,400	27,100	35,200	60,300	e77,500	61,300	34,600	51,800
17	40,000	36,800	24,700	23,300	27,700	25,700	35,200	57,800	62,200	55,600	34,400	48,100
18	39,800	37,000	25,000	22,400	26,400	25,200	35,600	57,400	55,500	55,600	33,900	45,400
19	40,800	36,900	25,200	21,400	24,600	27,300	36,500	56,800	51,800	50,400	32,900	e43,000
20	40,900	37,100	25,000	21,200	24,500	31,000	36,900	55,600	49,300	47,400	31,600	e40,900
21	40,900	36,700	24,900	21,400	25,100	34,300	39,100	54,900	47,300	45,400	30,400	39,900
22	40,800	36,100	24,600	21,200	25,800	34,500	45,100	54,100	46,700	43,800	29,400	41,600
23	40,500	36,000	24,600	20,800	26,100	32,300	46,000	55,400	47,100	42,200	29,100	43,300
24	40,800	36,500	24,600	e20,600	25,600	31,300	46,000	55,500	47,600	41,200	30,500	42,600
25	41,300	36,300	24,300	e20,600	25,300	33,000	e47,300	53,900	48,700	40,400	31,600	40,500
26	41,900	36,000	24,300	e21,000	25,900	35,800	e50,000	51,200	52,400	39,800	31,200	39,400
27	42,500	35,900	24,500	21,900	29,500	36,900	e52,000	50,000	57,100	39,200	30,700	e38,500
28	43,000	36,000	24,400	22,100	34,200	35,700	e53,000	49,500	55,600	38,600	30,500	e37,400
29	43,800	36,200	23,700	22,400	---	34,100	e55,000	48,900	53,300	38,200	30,500	e36,300
30	43,900	36,000	23,200	22,400	---	34,200	e50,500	47,700	58,400	37,800	30,500	35,600
31	42,800	---	22,900	22,300	---	34,300	---	46,700	---	37,200	33,200	---
MEAN	41,400	37,990	25,740	22,590	25,190	28,460	39,370	61,990	53,430	49,360	33,550	43,020
MAX	47,200	42,600	34,700	24,000	34,200	36,900	55,000	109,000	84,000	63,000	36,900	83,100
MIN	36,700	35,900	22,900	20,600	22,400	21,100	33,100	46,300	45,400	37,200	29,100	32,900
IN.	0.10	0.08	0.06	0.05	0.05	0.07	0.09	0.14	0.12	0.11	0.08	0.10

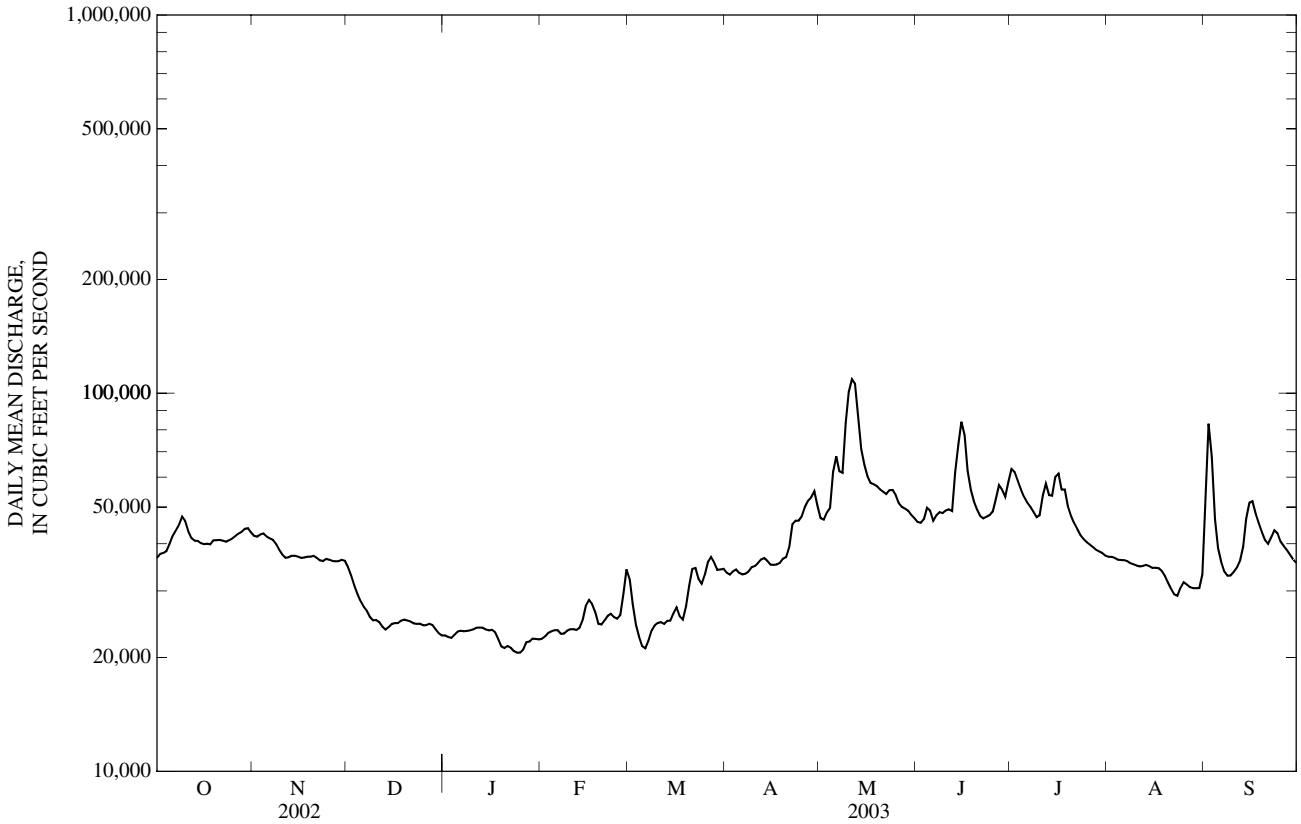
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003[a], BY WATER YEAR (WY)

MEAN	65,280	61,440	44,840	35,730	49,080	70,100	89,800	92,960	94,210	83,710	63,300	65,800
MAX	187,800	139,100	106,200	90,150	106,300	183,900	212,700	234,700	201,100	375,200	213,600	165,900
(WY)	(1974)	(1999)	(1983)	(1973)	(1982)	(1973)	(1973)	(1995)	(1984)	(1993)	(1993)	(1993)
MIN	36,280	24,600	13,840	14,770	17,620	19,460	39,060	40,770	41,990	37,530	33,550	36,730
(WY)	(1965)	(1991)	(1964)	(1963)	(1964)	(1964)	(1989)	(1989)	(1988)	(2002)	(2003)	(1991)

06909000 MISSOURI RIVER AT BOONVILLE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1958 - 2003[a]	
ANNUAL MEAN	44,500		38,560		68,060	
HIGHEST ANNUAL MEAN					140,500	1993
LOWEST ANNUAL MEAN					38,560	2003
HIGHEST DAILY MEAN	228,000	May 14	109,000	May 11	721,000	Jul 30, 1993
LOWEST DAILY MEAN	22,900	Dec 31	20,600	Jan 24,25	5,000	Dec 21, 1963
ANNUAL SEVEN-DAY MINIMUM	23,900	Dec 25	21,000	Jan 20	5,730	Dec 19, 1963
MAXIMUM PEAK FLOW	---		113,000	May 12	755,000	Jul 29, 1993
MAXIMUM PEAK STAGE	---		16.61	May 12	37.10	Jul 29, 1993
INSTANTANEOUS LOW FLOW	---		20,500	Jan 25	5,500	Jan 22,24 1963
ANNUAL RUNOFF (INCHES)	1.21		1.05		1.85	
10 PERCENT EXCEEDS	63,400		55,500		123,000	
50 PERCENT EXCEEDS	37,600		36,500		54,600	
90 PERCENT EXCEEDS	27,500		23,600		28,800	

e Estimated
[a] Post-regulation period.



06909500 MONITEAU CREEK NEAR FAYETTE, MO

LOCATION.--Lat 39°07°16", long 92°34°02", in SE ¼ SE ¼ sec.14, T.50 N., R.15 W., Howard County, Hydrologic Unit , on downstream side of County Road 406 bridge, 1 mi downstream from Hungry Mother Creek, 7.5 mi east of Fayette, and 15 mi upstream from mouth.

DRAINAGE AREA.--75.1 mi^2.

PERIOD OF RECORD.--March 1948 to September 1969, July 13, 2002 to current year. Fragmentary record for the 1961 water year.

GAGE.--Water-stage recorder. Datum of gage is unknown. Prior to Aug. 14, 1957, nonrecording gage at county highway bridge at datum of 607.93 ft above National Geodetic Vertical Datum of 1929. Aug. 14, 1957 to September 1969 water-stage recorder on right upstream side of bridge at same datum; 1970 to 1992 crest-stage partial record station. Re-established July 13, 2002.

REMARKS.--No estimated daily discharges. Records fair. U.S.G.S. satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 22.9 ft, probably in April 1944, from information by local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	1.4	0.06
2	---	---	---	---	---	---	---	---	---	---	0.94	0.04
3	---	---	---	---	---	---	---	---	---	---	0.74	0.02
4	---	---	---	---	---	---	---	---	---	---	0.66	0.02
5	---	---	---	---	---	---	---	---	---	---	0.60	0.01
6	---	---	---	---	---	---	---	---	---	---	0.55	0.00
7	---	---	---	---	---	---	---	---	---	---	0.53	0.00
8	---	---	---	---	---	---	---	---	---	---	0.46	0.00
9	---	---	---	---	---	---	---	---	---	---	0.41	0.00
10	---	---	---	---	---	---	---	---	---	---	0.40	0.00
11	---	---	---	---	---	---	---	---	---	---	0.39	0.00
12	---	---	---	---	---	---	---	---	---	---	0.51	0.00
13	---	---	---	---	---	---	---	---	---	35	0.53	0.00
14	---	---	---	---	---	---	---	---	---	12	0.51	0.00
15	---	---	---	---	---	---	---	---	---	6.6	0.45	0.01
16	---	---	---	---	---	---	---	---	---	4.1	0.39	0.00
17	---	---	---	---	---	---	---	---	---	3.0	0.38	0.01
18	---	---	---	---	---	---	---	---	---	2.2	9.0	0.07
19	---	---	---	---	---	---	---	---	---	1.6	4.4	0.13
20	---	---	---	---	---	---	---	---	---	1.3	25	0.14
21	---	---	---	---	---	---	---	---	---	1.1	2.7	0.07
22	---	---	---	---	---	---	---	---	---	0.98	0.87	0.04
23	---	---	---	---	---	---	---	---	---	1.0	60	0.03
24	---	---	---	---	---	---	---	---	---	1.4	13	0.01
25	---	---	---	---	---	---	---	---	---	1.0	2.7	0.00
26	---	---	---	---	---	---	---	---	---	22	0.67	0.00
27	---	---	---	---	---	---	---	---	---	35	0.28	0.00
28	---	---	---	---	---	---	---	---	---	6.9	0.17	0.00
29	---	---	---	---	---	---	---	---	---	3.4	0.12	0.00
30	---	---	---	---	---	---	---	---	---	2.9	0.09	0.00
31	---	---	---	---	---	---	---	---	---	2.9	0.07	---
MEAN	---	---	---	---	---	---	---	---	---	---	4.16	0.02
MAX	---	---	---	---	---	---	---	---	---	---	60	0.14
MIN	---	---	---	---	---	---	---	---	---	---	0.07	0.00
IN.	---	---	---	---	---	---	---	---	---	---	0.06	0.00

06909500 MONITEAU CREEK NEAR FAYETTE, MO--Continued

LOCATION.--Lat 39°07°16", long 92°34°02", in SE ¼ SE ¼ sec.14, T.50 N., R.15 W., Howard County, Hydrologic Unit , on downstream side of County Road 406 bridge, 1 mi downstream from Hungry Mother Creek, 7.5 mi east of Fayette, and 15 mi upstream from mouth.

DRAINAGE AREA.--75.1 mi^2.

PERIOD OF RECORD.--March 1948 to September 1969, July 13, 2002 to current year. Fragmentary record for the 1961 water year.

GAGE.--Water-stage recorder. Datum of gage is unknown. Prior to Aug. 14, 1957, nonrecording gage at county highway bridge at datum of 607.93 ft above National Geodetic Vertical Datum of 1929. Aug. 14, 1957 to September 1969 water-stage recorder on right upstream side of bridge at same datum; 1970 to 1992 crest-stage partial record station. Re-established July 13, 2002.

REMARKS.--Records fair except for estimated daily discharges, which are poor. U.S.G.S. satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 22.9 ft, probably in April 1944, from information by local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.22	0.26	0.66	e0.55	0.74	11	60	15	9.3	0.12	1,660
2	0.02	0.17	0.26	0.70	e0.65	0.78	7.9	42	21	5.5	0.19	199
3	0.11	0.18	0.24	0.89	e0.70	0.73	6.0	28	38	3.3	0.27	74
4	0.14	0.18	0.25	0.76	e0.60	0.61	5.1	115	e22	2.1	0.21	28
5	0.27	0.19	0.24	0.80	e0.50	0.54	4.0	276	e15	1.5	0.16	11
6	0.17	0.18	0.23	0.81	e0.50	0.58	3.6	90	e8.7	1.2	0.10	4.8
7	0.09	0.16	0.26	0.91	e0.45	0.67	5.5	51	7.7	1.0	0.09	1.6
8	0.03	e0.17	0.29	1.0	e0.40	1.0	4.2	684	4.8	0.87	e0.05	0.71
9	0.02	e0.18	0.30	0.97	e0.50	0.76	3.8	1,290	3.5	0.81	e0.03	0.38
10	0.02	e0.18	0.28	0.88	e0.60	0.58	3.2	1,840	13	1.5	e0.03	0.49
11	0.01	e0.18	0.29	0.89	e0.65	0.60	2.6	773	49	1.2	e0.02	0.20
12	0.01	e0.20	0.35	e0.70	e0.70	1.5	2.2	235	384	0.85	e0.01	22
13	0.01	e0.21	0.37	0.64	e0.75	244	1.9	161	1,360	0.68	e0.01	636
14	0.01	e0.23	0.37	0.67	e2.5	66	1.7	120	184	0.61	e0.00	260
15	0.01	0.24	0.38	e0.50	863	31	1.4	245	91	0.58	e0.00	78
16	0.00	0.22	0.37	e0.45	122	20	1.8	77	51	0.52	e0.00	30
17	0.00	0.23	0.36	e0.30	58	14	10	63	31	0.59	e0.00	17
18	0.00	0.21	4.2	e0.20	34	10	8.1	49	20	0.54	e0.00	11
19	0.51	0.22	6.1	e0.30	22	69	5.1	42	13	0.51	e0.00	103
20	0.50	0.21	1.6	e0.45	14	177	5.5	43	8.5	0.50	e0.00	34
21	0.13	0.21	0.80	e0.50	10	65	5.3	34	6.0	0.44	e0.00	82
22	0.07	0.19	0.70	e0.40	6.7	33	4.4	31	4.7	e0.36	e0.00	704
23	0.03	0.18	0.61	e0.20	4.1	21	3.7	28	3.9	e0.30	e0.00	117
24	0.03	0.19	0.57	e0.15	2.1	15	179	27	3.6	e0.24	e0.00	53
25	0.10	0.20	0.58	e0.20	1.4	12	430	29	3.5	0.36	e0.00	28
26	0.11	0.19	e0.56	e0.40	1.1	9.6	115	25	55	1.5	e0.00	17
27	0.08	0.22	0.56	e0.30	0.82	8.1	50	23	22	0.29	e0.00	46
28	0.07	0.24	0.63	e0.45	0.74	30	664	21	8.4	0.21	e0.00	17
29	0.21	0.28	0.67	e0.55	---	54	363	18	4.5	0.18	e0.00	10
30	0.41	0.28	0.76	e0.60	---	24	114	19	3.3	0.15	e0.00	6.7
31	0.31	---	0.74	e0.55	---	16	---	17	---	0.13	262	---
MEAN	0.11	0.20	0.78	0.57	41.1	29.9	67.4	211	81.8	1.22	8.49	142
MAX	0.51	0.28	6.1	1.0	863	244	664	1,840	1,360	9.3	262	1,660
MIN	0.00	0.16	0.23	0.15	0.40	0.54	1.4	17	3.3	0.13	0.00	0.20
IN.	0.00	0.00	0.01	0.01	0.53	0.43	0.93	3.01	1.13	0.02	0.12	1.95

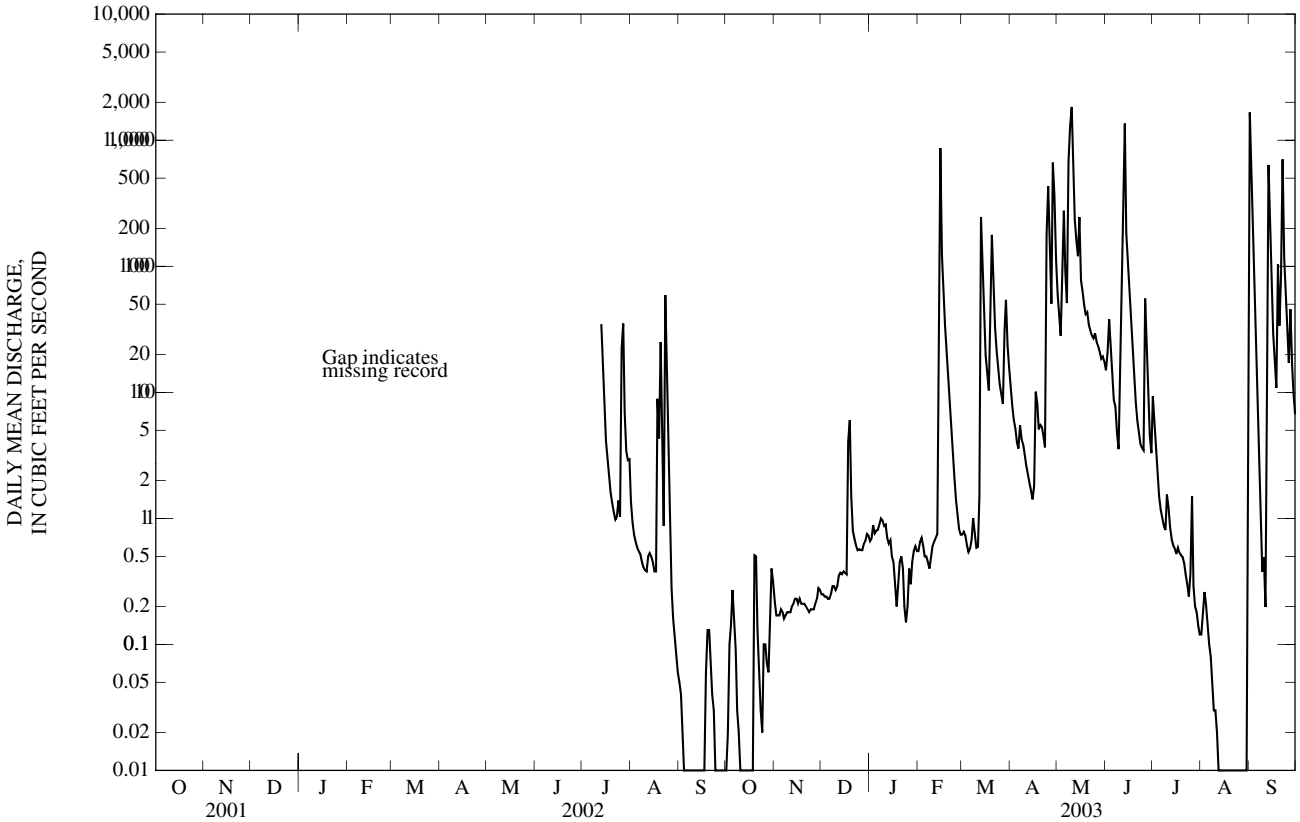
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	20.7	20.0	18.0	30.1	50.9	60.4	63.1	47.6	53.0	47.5	10.0	16.4
MAX	108	179	93.2	163	143	166	172	211	245	317	62.7	142
(WY)	(1950)	(1962)	(1950)	(1949)	(1949)	(1951)	(1969)	(2003)	(1969)	(1969)	(1955)	(2003)
MIN	0.00	0.00	0.00	0.00	0.00	0.06	3.63	1.25	0.24	0.00	0.00	0.00
(WY)	(1953)	(1954)	(1954)	(1964)	(1964)	(1954)	(1963)	(1965)	(1963)	(1954)	(1964)	(1953)

06909500 MONITEAU CREEK NEAR FAYETTE, MO—Continued

SUMMARY STATISTICS	FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	48.5		37.2	
HIGHEST ANNUAL MEAN			103	1969
LOWEST ANNUAL MEAN			5.65	1963
HIGHEST DAILY MEAN	1,840	May 10	5,430	Jul 10, 1969
LOWEST DAILY MEAN	0.00	Many Days	0.00	Aug 19, 1948
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 14	0.00	Aug 19, 1948
MAXIMUM PEAK FLOW	2,760	May 10	11,300	Jul 10, 1969
MAXIMUM PEAK STAGE	20.63	May 10	21.59	Jul 10, 1969
INSTANTANEOUS LOW FLOW	0.00	Many Days	0.00	Oct 1, 1948
ANNUAL RUNOFF (INCHES)	8.14		6.25	
10 PERCENT EXCEEDS	75		62	
50 PERCENT EXCEEDS	0.75		2.9	
90 PERCENT EXCEEDS	0.03		0.00	

e Estimated



06910750 MOREAU RIVER NEAR JEFFERSON CITY, MO

LOCATION.--Lat 38°31'44", long 92°11'31", SE ¼ NW ¼ SE ¼ sec.25, T.44 N., R.11 W., Cole County, Hydrologic Unit 10300102, near right bank on downstream side of right pier of bridge on Tanner Bridge Road, 3 mi south of Jefferson City, 15.8 mi downstream from confluence of North and South Moreau Creeks, and at mile 17.

DRAINAGE AREA.--561 mi^2.

PERIOD OF RECORD.--December 1947 to September 1974, November 13, 2000 to current year. Published as Moureau River near Jefferson City (06910500), 1948 to 1974. Discharge measurements only October 1956 to September 1957.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 546.33 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 17, 1958, nonrecording gage, and Aug. 17, 1958, to May 21, 1969, water-stage recorder at site 10 mi upstream and at datum 16.4 ft higher, drainage area 531 mi^2.

REMARKS.--No estimated daily discharges. Records good. U.S.G.S. satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1905 reached a stage of 38.2 ft, flood of 1929 reached a stage of 32.91 ft, and flood of 1943 reached a stage of 35.1 ft, present site, from information and floodmarks by local residents

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

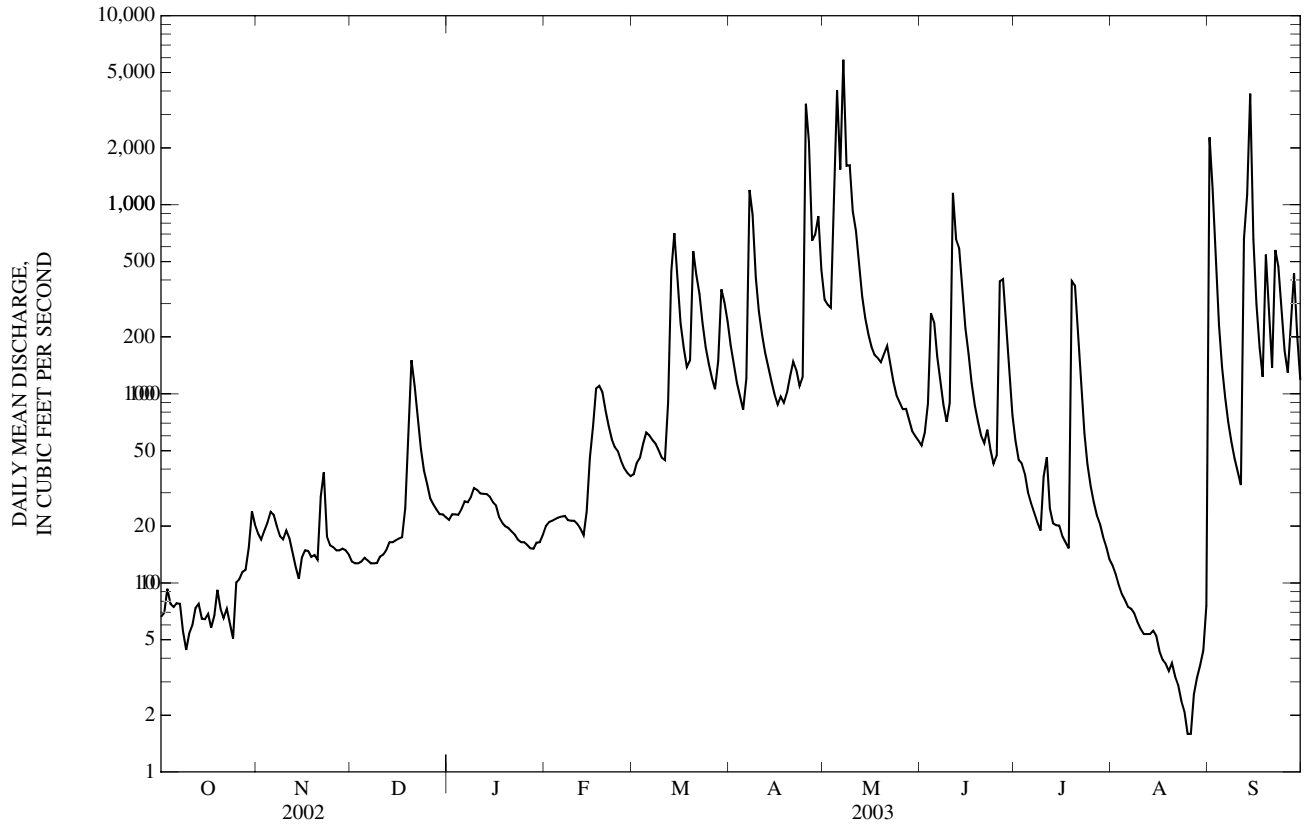
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	18	13	22	20	38	181	315	53	57	12	2,270
2	6.9	17	13	23	21	43	143	296	62	45	11	1,220
3	9.3	19	13	23	21	46	114	285	89	43	9.7	480
4	7.7	21	13	23	22	55	97	1,440	267	38	8.7	231
5	7.5	24	14	25	22	62	82	4,020	238	30	8.1	139
6	7.8	23	13	27	22	60	121	1,540	157	26	7.5	95
7	7.8	20	13	27	23	57	1,200	5,850	114	23	7.3	71
8	5.6	18	13	29	22	54	885	1,610	87	21	6.9	55
9	4.4	17	13	32	21	50	413	1,620	71	19	6.2	46
10	5.4	19	14	31	21	46	274	924	89	36	5.7	39
11	6.0	17	14	30	20	45	206	727	1,160	46	5.4	33
12	7.4	14	15	30	19	90	166	485	656	25	5.4	661
13	7.7	12	16	30	18	445	139	327	590	21	5.4	1,130
14	6.5	11	16	29	24	708	117	252	371	20	5.6	3,870
15	6.4	14	17	27	46	379	100	206	223	20	5.3	653
16	6.9	15	17	26	68	235	88	178	162	18	4.4	299
17	5.8	15	17	22	107	174	97	161	114	16	3.9	175
18	6.7	14	25	21	110	139	90	154	87	15	3.7	123
19	9.2	14	53	20	102	150	101	147	72	395	3.4	545
20	7.3	13	151	20	82	568	124	162	60	373	3.8	264
21	6.5	29	110	19	68	427	148	179	55	207	3.2	138
22	7.3	38	77	18	58	337	133	144	65	107	2.9	577
23	6.0	18	51	17	52	237	110	116	50	62	2.4	471
24	5.1	16	39	16	50	176	123	98	43	42	2.1	287
25	10	15	33	16	44	145	3,420	90	47	33	1.6	169
26	10	15	28	16	40	121	2,160	83	394	27	1.6	129
27	11	15	26	15	38	106	645	83	405	23	2.6	252
28	12	15	24	15	37	149	695	73	200	21	3.2	436
29	15	15	23	16	---	357	870	63	120	18	3.7	202
30	24	14	23	16	---	305	452	60	77	16	4.4	119
31	20	---	22	18	---	241	---	56	---	13	7.6	---
MEAN	8.57	17.5	30.0	22.5	42.8	195	450	701	206	59.9	5.31	506
MAX	24	38	151	32	110	708	3,420	5,850	1,160	395	12	3,870
MIN	4.4	11	13	15	18	38	82	56	43	13	1.6	33
IN.	0.02	0.03	0.06	0.05	0.08	0.40	0.89	1.44	0.41	0.12	0.01	1.01

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

MEAN	310	211	206	340	443	611	560	615	622	311	110	278
MAX	2,076	1,298	1,040	1,591	1,866	3,169	2,256	2,815	2,548	2,237	534	2,987
(WY)	(1970)	(1973)	(1969)	(1949)	(1951)	(1973)	(1973)	(1970)	(1948)	(1951)	(1950)	(1965)
MIN	0.81	1.03	4.29	5.57	7.75	11.9	9.36	29.7	13.2	4.41	1.78	1.35
(WY)	(1954)	(1954)	(1954)	(1964)	(1954)	(1954)	(1956)	(1965)	(1952)	(1959)	(1953)	(1960)

06910750 MOREAU RIVER NEAR JEFFERSON CITY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	426		187		377	
HIGHEST ANNUAL MEAN					881	1973
LOWEST ANNUAL MEAN					50.4	1954
HIGHEST DAILY MEAN	17,200	May 9	5,850	May 7	20,800	Jun 23, 1948
LOWEST DAILY MEAN	4.4	Oct 9	1.6	Aug 25,26	0.10	Sep 30, 1956
ANNUAL SEVEN-DAY MINIMUM	6.1	Oct 8	2.3	Aug 21	0.21	Sep 24, 1956
MAXIMUM PEAK FLOW	---		7,560	May 7	24,400	Oct 14, 1969
MAXIMUM PEAK STAGE	---		18.07	May 7	28.60	Oct 14, 1969
INSTANTANEOUS LOW FLOW	---		1.6	Aug 24-27	0.10	Sep 30, 1956
ANNUAL RUNOFF (INCHES)	10.32		4.53		9.14	
10 PERCENT EXCEEDS	549		408		653	
50 PERCENT EXCEEDS	56		37		66	
90 PERCENT EXCEEDS	9.3		6.9		6.3	



06916675 MIAMI CREEK NEAR BUTLER, MO

LOCATION.--Lat 38°12'41", long 94°22'40", in NW ¼ SW ¼ NE ¼ sec.6, T.39 N., R.31 W., Bates County, Hydrologic Unit 10290102, on right downstream pier on bridge on County Road SW1067, 2.25 mi southwest of junction of Highways 71 and 52.

DRAINAGE AREA.--137 mi^2.

PERIOD OF RECORD.--October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--Records poor. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECON,D, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.34	e0.08	e0.00	e0.29	e0.14	0.57	0.56	169	0.43	0.27	0.25	64
2	0.41	e0.09	e0.00	e0.27	e0.15	0.67	0.58	114	10	0.16	0.08	111
3	1.2	e0.06	e0.00	e0.25	e0.14	0.87	0.50	27	141	0.12	0.16	25
4	3.9	e0.03	e0.00	e0.19	e0.15	0.55	0.44	120	35	0.22	0.29	12
5	4.4	e0.01	e0.00	e0.18	e0.14	0.33	0.36	119	12	0.24	0.38	5.6
6	7.4	e0.01	e0.00	e0.17	e0.13	0.19	0.64	124	283	0.27	0.19	2.7
7	4.7	e0.00	e0.00	e0.17	e0.13	0.16	0.68	80	219	0.40	0.16	1.4
8	2.6	e0.08	e0.00	e0.15	e0.13	0.24	1.1	20	40	0.25	0.19	0.67
9	1.9	e0.18	e0.00	e0.14	e0.12	0.19	1.3	39	17	0.24	0.17	0.51
10	e1.2	e0.04	e0.00	e0.12	e0.11	0.15	0.58	70	10	1.1	0.13	0.30
11	e0.57	e0.02	e0.00	e0.12	e0.17	0.23	0.36	19	7.4	0.82	0.09	0.14
12	e0.24	e0.01	e0.00	e0.11	e0.14	0.59	0.27	9.4	4.6	0.77	0.05	0.29
13	e0.09	e0.00	e0.01	e0.11	e0.14	10	0.17	6.7	344	0.44	0.06	0.62
14	e0.06	e0.00	e0.21	e0.11	5.0	16	0.36	5.4	193	0.45	0.02	0.41
15	e0.02	e0.14	e0.14	e0.12	3.0	12	0.42	3.8	37	0.26	0.09	0.23
16	e0.01	e0.08	e0.12	e0.11	1.0	6.7	0.54	7.8	17	0.23	0.04	0.09
17	e0.01	e0.05	e0.10	e0.11	0.56	4.8	0.81	27	9.4	0.16	0.02	0.03
18	e0.01	e0.03	e0.09	e0.10	0.37	3.5	0.89	19	5.6	0.11	0.01	0.74
19	e0.00	e0.01	e0.08	e0.10	0.38	13	1.0	12	3.7	0.21	0.02	0.64
20	e0.00	e0.01	e0.07	e0.11	0.31	233	7.5	8.4	2.7	0.23	0.02	0.19
21	e0.00	e0.00	e0.07	e0.13	0.28	139	10	6.9	1.8	0.11	0.01	0.20
22	e0.00	e0.00	e0.08	e0.11	0.28	31	4.0	5.3	1.4	0.15	0.01	0.58
23	e0.00	e0.00	e0.06	e0.10	0.29	15	2.1	3.4	1.1	0.16	0.01	15
24	e0.00	e0.00	e0.06	e0.10	0.28	8.9	26	2.3	0.95	0.14	0.01	6.9
25	e0.01	e0.00	e0.10	e0.11	0.21	6.3	29	1.9	0.66	0.11	0.01	2.7
26	e0.00	e0.00	e0.09	e0.11	0.25	4.1	12	1.6	0.54	0.19	0.01	1.6
27	e0.01	e0.00	e0.07	e0.11	0.42	2.9	6.4	1.3	0.54	0.19	0.01	1.3
28	e0.00	e0.00	e0.06	e0.13	0.70	2.4	4.3	1.1	0.40	0.29	0.01	0.72
29	e0.22	e0.00	e0.07	e0.13	---	1.9	2.6	1.0	0.32	0.43	0.22	0.33
30	e0.20	e0.00	e0.13	e0.13	---	1.1	1.8	0.67	0.29	0.31	0.91	0.63
31	e0.12	---	e0.27	e0.14	---	0.53	---	0.43	---	0.34	4.2	---
MEAN	0.96	0.031	0.061	0.14	0.54	16.7	3.91	33.1	46.7	0.30	0.25	8.55
MAX	7.4	0.18	0.27	0.29	5.0	233	29	169	344	1.1	4.2	111
MIN	0.00	0.00	0.00	0.10	0.11	0.15	0.17	0.43	0.29	0.11	0.01	0.03

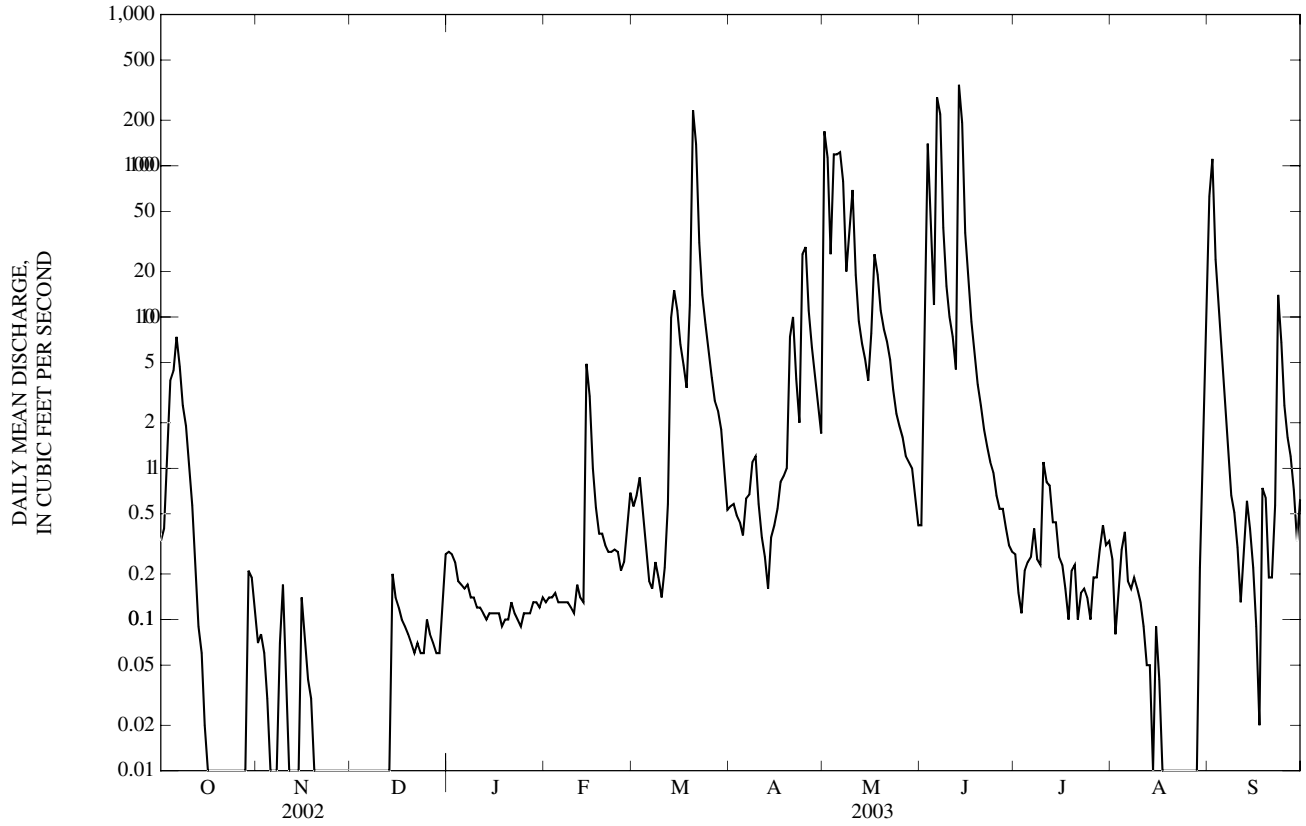
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	44.1	1.02	1.09	8.52	19.3	13.8	48.3	207	32.8	0.44	0.38	4.63
MAX	87.3	2.01	2.13	16.9	38.2	16.7	92.7	380	46.7	0.57	0.50	8.55
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2003)	(2002)	(2002)	(2003)	(2002)	(2002)	(2003)
MIN	0.96	0.03	0.06	0.14	0.54	11.0	3.91	33.1	19.0	0.30	0.25	0.71
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2003)	(2003)	(2002)	(2003)	(2003)	(2002)

06916675 MIAMI CREEK NEAR BUTLER, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL MEAN	47.0		9.28		32.0	
HIGHEST ANNUAL MEAN					54.7	2002
LOWEST ANNUAL MEAN					9.28	2003
HIGHEST DAILY MEAN	2,140	May 9	344	Jun 13	2,140	May 9, 2002
LOWEST DAILY MEAN	0.00	Many Days	0.00	Many Days	0.00	Many Days 2002-2003
ANNUAL SEVEN-DAY MINIMUM	0.00	Nov 21	0.00	Nov 21	0.00	Nov 21, 2002
MAXIMUM PEAK FLOW	---		714	Jun 13	2,180	May 9, 2002
MAXIMUM PEAK STAGE	---		10.55	Jun 13	19.39	May 9, 2002
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Many Days 2002-2003
10 PERCENT EXCEEDS	52		12		35	
50 PERCENT EXCEEDS	1.5		0.26		1.2	
90 PERCENT EXCEEDS	0.01		0.01		0.03	

e Estimated



06917060 LITTLE OSAGE RIVER AT HORTON, MO

LOCATION.--Lat 37°59'38", long 94°22'07", in SW ¼ NE ¼ NW ¼ sec. 17, T.37 N., R.31 W., Vernon County, Hydrologic Unit 10290103, on left bank at the upstream side of the southbound bridge of U.S. Highway 71, 4 mi above Marmaton River, and 1 mi north of Horton.

DRAINAGE AREA.--498 mi^2.

PERIOD OF RECORD.--October 2000 to current year. Nov. 18, 1988 to Sept. 30, 2000, stage only.

GAGE.--Water-stage recorder. Datum of gage is 700.00 ft above sea level.

REMARKS.--Records poor. U.S.G.S. satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of October 1986 reached a stage of 59.4 ft (by U.S. Army Corps of Engineers).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	e0.92	0.80	5.8	26	591	32	1.1	0.00	945
2	0.00	0.00	0.00	e1.2	0.78	6.3	22	814	38	0.26	0.00	1,200
3	0.00	0.02	0.00	e1.4	0.86	6.1	19	511	205	0.15	0.00	1,300
4	0.00	0.04	0.38	e1.7	0.95	6.5	16	271	350	0.09	0.00	1,090
5	0.00	0.05	0.31	e2.3	0.85	6.2	14	218	167	0.05	0.00	460
6	0.00	0.03	0.41	e2.1	0.84	9.9	22	187	628	0.02	0.00	80
7	0.00	0.03	0.62	e1.9	0.88	10	58	353	2,210	0.01	0.00	48
8	0.00	0.02	0.40	e1.7	0.89	8.9	52	483	1,900	0.00	0.66	35
9	0.00	0.02	0.43	e1.6	0.96	7.5	50	304	636	0.00	11	23
10	0.00	0.02	0.43	e1.5	0.77	6.4	34	179	270	0.00	7.0	15
11	0.00	0.01	0.44	e1.4	0.74	5.4	26	130	188	0.00	3.8	11
12	0.00	0.02	0.50	e1.3	0.73	5.0	20	96	146	0.01	2.1	11
13	0.00	0.02	0.60	e1.2	0.70	4.8	16	74	210	0.00	0.82	8.1
14	0.00	0.05	0.70	e1.1	8.1	4.4	13	64	187	0.00	0.16	5.0
15	0.00	0.18	0.70	e1.0	14	4.0	11	62	142	0.00	0.00	3.7
16	0.00	0.19	0.78	e0.98	56	3.7	10	142	96	0.00	0.00	3.1
17	0.00	0.21	0.86	e0.94	64	3.6	10	1,280	69	0.00	0.00	1.8
18	0.00	0.13	e0.90	e0.96	37	3.3	9.3	1,720	52	0.00	0.00	0.86
19	0.00	0.04	e0.92	e0.98	22	11	9.3	1,330	40	0.00	0.00	0.72
20	0.00	0.03	e0.98	e0.94	15	241	10	1,040	31	0.00	0.00	0.53
21	0.00	0.01	e0.97	e0.97	12	934	19	768	23	0.00	0.00	0.33
22	0.00	0.01	e0.92	e0.98	9.6	626	38	432	18	0.00	0.00	0.61
23	0.00	0.02	e0.85	e0.94	8.3	269	44	238	14	0.00	0.00	0.16
24	0.00	0.01	e0.76	e0.87	7.5	157	101	163	9.2	0.00	0.00	0.07
25	0.00	0.00	e0.67	e0.77	6.5	115	424	131	7.0	0.00	0.00	0.09
26	0.00	0.00	e0.60	e0.68	5.9	88	360	112	7.7	0.00	0.00	0.01
27	0.00	0.00	e0.58	e0.62	5.4	70	248	95	5.7	0.00	0.00	0.00
28	0.00	0.00	e0.61	0.60	5.3	58	172	78	4.3	0.00	0.00	0.02
29	0.00	0.00	e0.68	0.68	---	49	120	62	3.6	0.00	0.08	0.00
30	0.00	0.00	e0.75	0.81	---	39	90	50	2.6	0.00	1.0	0.05
31	0.00	---	e0.83	0.79	---	32	---	40	---	0.00	133	---
MEAN	0.00	0.04	0.60	1.16	10.3	90.2	68.8	388	256	0.06	5.15	175
MAX	0.00	0.21	0.98	2.3	64	934	424	1,720	2,210	1.1	133	1,300
MIN	0.00	0.00	0.00	0.60	0.70	3.3	9.3	40	2.6	0.00	0.00	0.00

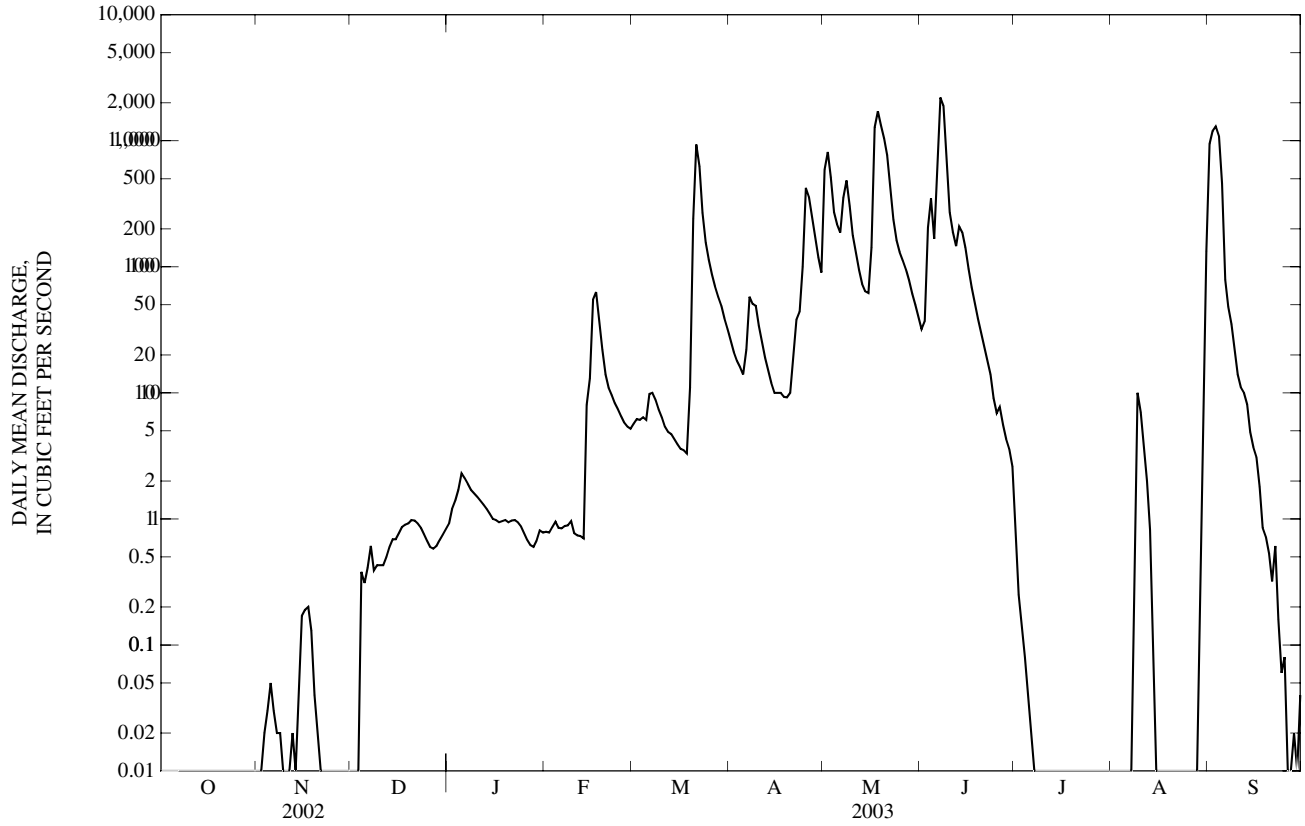
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

MEAN	25.6	5.73	4.81	34.1	229	241	258	697	480	40.2	7.85	60.1
MAX	55.4	11.9	9.30	80.9	561	588	450	1,530	812	106	18.2	175
(WY)	(2002)	(2001)	(2002)	(2001)	(2001)	(2001)	(2001)	(2002)	(2001)	(2001)	(2001)	(2003)
MIN	0.00	0.04	0.60	1.16	10.3	43.8	68.8	174	256	0.06	0.17	0.00
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2003)	(2001)	(2003)	(2003)	(2002)	(2002)

06917060 LITTLE OSAGE RIVER AT HORTON, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL MEAN	197		83.1		173	
HIGHEST ANNUAL MEAN					232	2001
LOWEST ANNUAL MEAN					83.1	2003
HIGHEST DAILY MEAN	6,150	May 10	2,210	Jun 7	6,150	May 10, 2002
LOWEST DAILY MEAN	0.00	Many Days	0.00	Many Days	0.00	Many Days 2002, 2003
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 7,Nov 25	0.00	Oct 1, Nov 25	0.00	Aug 7,Nov 25, 2002
				Jul 13,Aug 15		Jul 13,Aug 15, 2003
MAXIMUM PEAK FLOW	---		2,660	Jun 7	Unknown	Jun 6, 2001
MAXIMUM PEAK STAGE	---		40.68	Jun 7	44.92	May 11, 2002
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Many Days Each Year
10 PERCENT EXCEEDS	454		187		422	
50 PERCENT EXCEEDS	5.8		0.96		9.0	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated



06917680 DRY WOOD CREEK NEAR DEERFIELD, MO

LOCATION.--Lat 37°47'52", long 94°30'54", in SW ¼ SE ¼ sec.24, T.35 N., R.33 W., Vernon County, Hydrologic Unit 10290104, on left downstream pier on State Highway KK bridge, 7.2 mi southwest of Nevada.

DRAINAGE AREA.--358 mi^2.

PERIOD OF RECORD.--October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--Records good except for estimated daily discharges, which are poor. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	7.8	4.6	12	5.3	22	64	60	27	14	2.6	4,790
2	2.2	7.0	4.5	12	5.2	27	57	92	116	12	3.9	6,160
3	3.0	6.1	4.4	11	5.1	46	49	77	509	11	4.3	3,760
4	3.4	5.1	5.2	10	4.9	52	43	59	220	9.5	4.3	657
5	3.2	4.5	5.5	9.5	4.8	45	39	109	107	9.2	6.1	180
6	3.4	4.0	5.7	9.2	4.8	38	39	119	459	8.3	5.5	118
7	3.5	4.2	6.8	10	4.5	31	72	78	1,020	7.6	3.9	89
8	3.1	3.9	7.5	10	4.2	27	110	68	319	6.9	3.2	70
9	2.5	3.9	7.4	9.9	4.0	25	76	59	120	6.2	2.8	59
10	2.2	3.8	7.4	8.8	4.1	24	56	51	87	6.6	e2.7	50
11	2.4	3.4	7.2	7.6	4.0	21	47	44	68	8.1	e2.6	44
12	2.5	2.9	7.3	6.8	4.0	18	41	38	61	11	e2.5	47
13	2.5	3.0	8.1	6.1	4.2	69	36	35	55	10	e2.4	53
14	2.4	3.1	8.4	5.6	7.7	203	31	44	49	11	e2.4	46
15	2.0	3.5	9.0	5.0	51	121	27	48	41	7.6	2.8	42
16	2.1	4.0	9.8	5.0	82	79	24	115	35	6.2	7.8	32
17	2.4	4.5	9.1	4.8	46	62	24	3,600	30	5.4	9.1	27
18	2.4	5.1	16	4.6	30	49	30	3,700	27	4.8	8.6	25
19	2.5	6.0	39	4.7	28	132	34	1,230	24	4.4	7.8	22
20	2.4	5.8	22	4.8	127	921	61	608	22	4.1	7.4	22
21	2.5	5.2	17	4.8	106	1,040	171	590	19	3.7	7.1	36
22	2.7	5.0	10	4.7	62	313	91	275	18	3.4	8.2	316
23	2.8	5.2	7.7	4.8	44	168	59	174	17	3.2	8.5	155
24	3.0	5.3	6.8	4.5	34	123	146	124	16	2.9	7.6	67
25	3.4	5.0	6.1	4.0	25	102	375	121	15	3.0	6.0	40
26	3.7	4.5	5.7	3.7	24	90	180	110	14	2.8	9.5	28
27	3.7	4.3	6.0	3.5	22	86	115	82	34	2.8	8.7	581
28	4.1	4.3	6.0	3.8	21	78	88	63	29	3.0	7.6	220
29	5.1	4.3	6.0	4.2	---	95	72	50	21	2.9	8.5	75
30	5.1	4.4	6.4	4.3	---	98	62	42	16	2.6	10	54
31	5.1	---	7.8	4.9	---	77	---	34	---	e2.4	461	---
MEAN	3.02	4.64	9.05	6.60	27.5	138	77.3	384	120	6.34	20.5	596
MAX	5.1	7.8	39	12	127	1,040	375	3,700	1,020	14	461	6,160
MIN	2.0	2.9	4.4	3.5	4.0	18	24	34	14	2.4	2.4	22
IN.	0.01	0.01	0.03	0.02	0.08	0.44	0.24	1.24	0.37	0.02	0.07	1.86

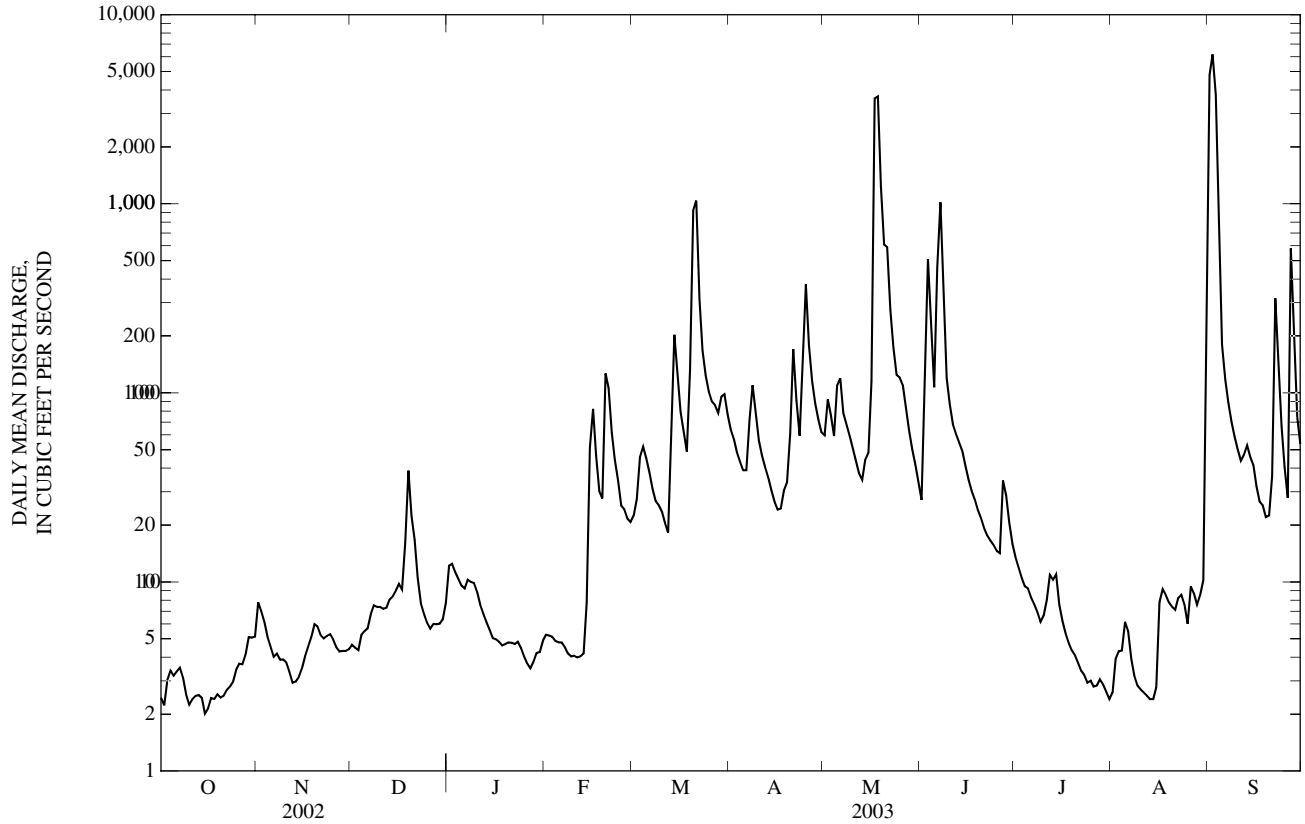
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	37.6	13.7	14.2	45.9	96.1	95.0	195	1,221	214	10.2	12.3	301
MAX	72.1	22.8	19.3	85.2	165	138	313	2,058	308	14.0	20.5	596
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2003)	(2002)	(2002)	(2002)	(2002)	(2003)	(2003)
MIN	3.02	4.64	9.05	6.60	27.5	51.9	77.3	384	120	6.34	4.18	7.31
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)

06917680 DRY WOOD CREEK NEAR DEERFIELD, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL MEAN	254		116		189	
HIGHEST ANNUAL MEAN					262	2002
LOWEST ANNUAL MEAN					116	2003
HIGHEST DAILY MEAN	10,400	May 9	6,160	Sep 2	10,400	May 9, 2002
LOWEST DAILY MEAN	2.0	Sep 2, Oct 15	2.0	Oct 15	2.0	Sep 2, 2002
ANNUAL SEVEN-DAY MINIMUM	2.2	Aug 28	2.3	Oct 10	2.2	Aug 28, 2002
MAXIMUM PEAK FLOW	---		6,390	Sep 2	11,100	May 9, 2002
MAXIMUM PEAK STAGE	---		19.92	Sep 2	22.56	May 9, 2002
INSTANTANEOUS LOW FLOW	---		2.0	Oct 15,16	1.9	Sep 2, 2002
ANNUAL RUNOFF (INCHES)	9.62		4.39		7.17	
10 PERCENT EXCEEDS	276		121		172	
50 PERCENT EXCEEDS	13		10		17	
90 PERCENT EXCEEDS	3.1		3.0		3.7	

e Estimated



06918065 MARMATON RIVER BELOW NEVADA, MO

LOCATION.--Lat 37°55'07", long 94°21'39", in NE ¼ SE ¼ NE ¼ sec.8, T.36 N., R.31 W., Vernon County, Hydrologic Unit 10290104, on right bank at the upstream side of the southbound bridge of U.S. Highway 71, 21 mi above Osage River, and 4.2 mi north of Nevada.

DRAINAGE AREA.--1,090 mi^2.

PERIOD OF RECORD.--October 2000 to current year. Nov. 17, 1988, to Sept. 30, 2000, stage only station.

GAGE.--Water-stage recorder. Datum of gage is 700.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. U.S.G.S. satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of October 1986 reached a stage of 62.2 ft (by U.S. Army Corps of Engineers).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	9.1	11	14	8.7	30	171	620	94	30	7.0	4,090
2	9.0	8.7	11	18	9.3	32	141	2,480	146	25	7.1	4,980
3	14	9.9	11	e26	9.9	40	121	1,820	985	22	6.9	4,870
4	18	10	12	e27	9.8	62	106	739	1,120	21	7.6	3,770
5	15	9.3	12	e24	9.2	80	94	489	539	18	9.8	1,530
6	14	7.6	12	22	9.0	73	101	622	1,140	16	8.8	386
7	15	6.7	12	21	8.9	62	170	501	4,170	15	7.2	219
8	13	8.2	12	21	8.1	53	402	680	3,940	13	4.4	153
9	12	9.4	12	24	7.5	45	404	584	1,820	12	3.1	115
10	11	10	12	24	7.1	39	262	349	675	12	3.1	90
11	9.6	11	13	23	6.8	34	187	266	415	11	6.8	83
12	9.6	9.8	13	21	6.5	31	147	185	314	27	6.4	82
13	8.1	8.6	13	19	6.2	54	122	134	319	29	6.1	77
14	6.9	8.9	14	18	19	412	103	129	433	20	5.9	75
15	6.2	10	14	16	31	607	87	138	253	18	6.1	66
16	7.4	10	15	15	76	283	77	229	162	17	5.7	60
17	8.5	9.4	16	15	127	158	76	3,590	115	14	6.1	49
18	8.1	9.6	38	14	84	117	79	5,160	90	11	6.6	43
19	7.9	10	63	14	59	150	82	e4,810	73	9.7	12	50
20	7.8	12	60	13	55	1,430	107	e3,290	63	9.4	13	42
21	7.7	12	30	13	195	3,360	236	e2,300	52	9.5	9.0	42
22	7.2	13	26	13	190	2,420	282	e1,460	44	8.0	4.5	140
23	6.9	12	20	12	113	1,090	206	946	40	8.3	2.8	534
24	6.9	12	18	11	73	589	286	574	36	7.4	2.2	230
25	7.8	11	16	11	51	425	1,550	431	33	7.0	6.8	120
26	8.3	11	14	11	38	330	1,520	416	32	7.6	10	91
27	8.1	10	14	11	32	284	841	356	31	7.0	10	155
28	8.4	11	14	9.8	31	267	517	257	39	6.9	23	708
29	11	11	13	9.0	---	233	351	189	43	7.6	36	294
30	11	10	13	8.4	---	252	253	146	35	7.6	42	134
31	10	---	13	8.8	---	227	---	116	---	7.6	199	---
MEAN	9.78	10.0	18.3	16.4	45.8	428	303	1,097	575	14.0	15.6	776
MAX	18	13	63	27	195	3,360	1,550	5,160	4,170	30	199	4,980
MIN	6.2	6.7	11	8.4	6.2	30	76	116	31	6.9	2.2	42
IN.	0.01	0.01	0.02	0.02	0.04	0.45	0.31	1.16	0.59	0.01	0.02	0.79

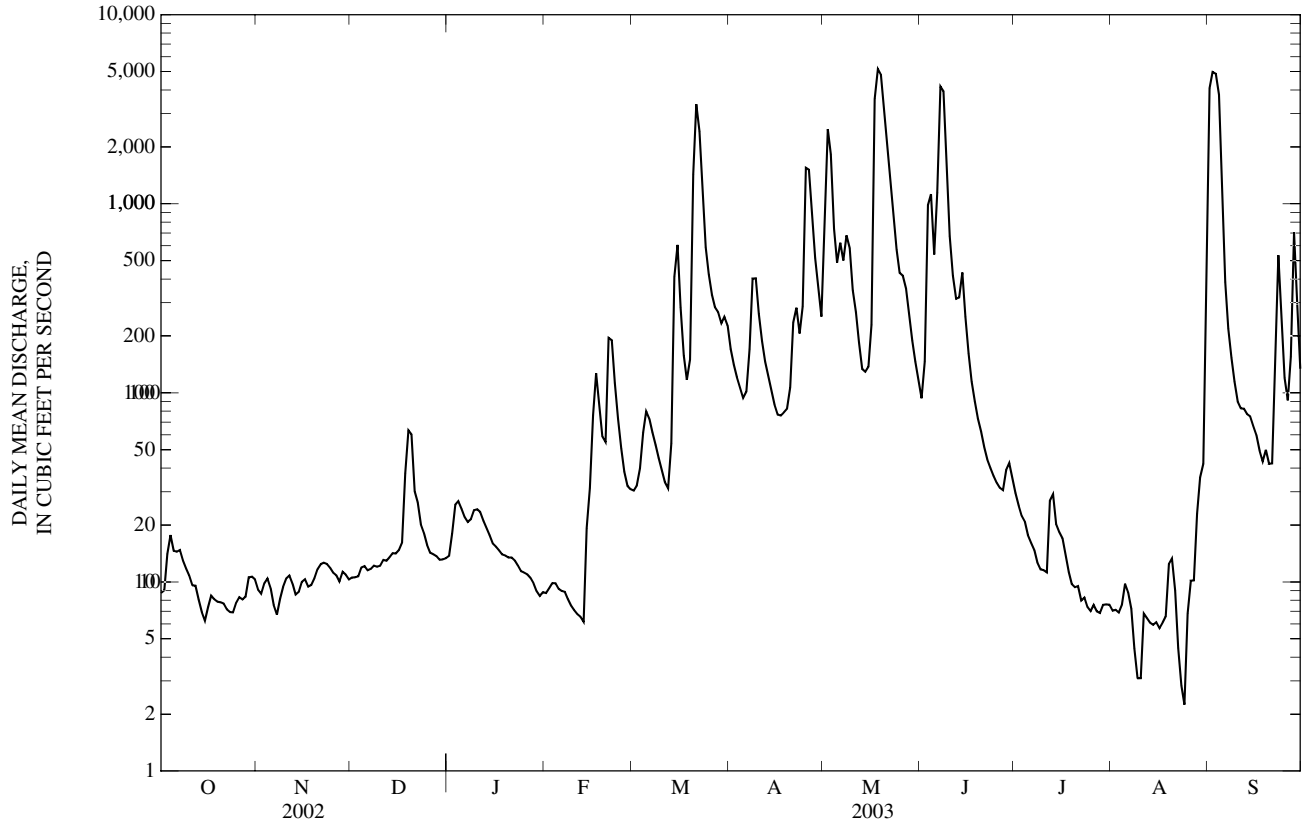
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

MEAN	82.7	32.6	25.3	134	828	571	503	1,898	1,050	116	22.1	271
MAX	181	52.5	30.5	321	1,992	1,157	676	4,279	1,604	287	38.5	776
(WY)	(2002)	(2001)	(2002)	(2001)	(2001)	(2001)	(2002)	(2002)	(2001)	(2001)	(2001)	(2003)
MIN	9.78	10.0	18.3	16.4	45.7	129	303	319	575	14.0	12.1	14.7
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2003)	(2001)	(2003)	(2003)	(2002)	(2002)

06918065 MARMATON RIVER BELOW NEVADA, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL MEAN	559		276		458	
HIGHEST ANNUAL MEAN					577	2002
LOWEST ANNUAL MEAN					276	2003
HIGHEST DAILY MEAN	21,800	May 10	5,160	May 18	21,800	May 10, 2002
LOWEST DAILY MEAN	4.0	Sep 6	2.2	Aug 24	2.2	Aug 24, 2003
ANNUAL SEVEN-DAY MINIMUM	6.9	Sep 1	5.1	Aug 8	5.1	Aug 8, 2003
MAXIMUM PEAK FLOW	---		5,220	May 18	22,400	May 10, 2002
MAXIMUM PEAK STAGE	---		43.55	May 18	52.57	May 10, 2002
INSTANTANEOUS LOW FLOW	---		1.0	Aug 23	0.00	Oct 10, 2000
ANNUAL RUNOFF (INCHES)	6.96		3.44		5.71	
10 PERCENT EXCEEDS	1,240		578		1,160	
50 PERCENT EXCEEDS	28		24		42	
90 PERCENT EXCEEDS	9.2		7.6		10	

e Estimated



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.--May 1981 to current year.

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

REMARKS.--No estimated daily discharges. Water-discharge records poor. Discharge is calculated using fall computations due to backwater from Harry S. Truman Reservoir. U.S. Army Corps of Engineers satellite telemeter at station.

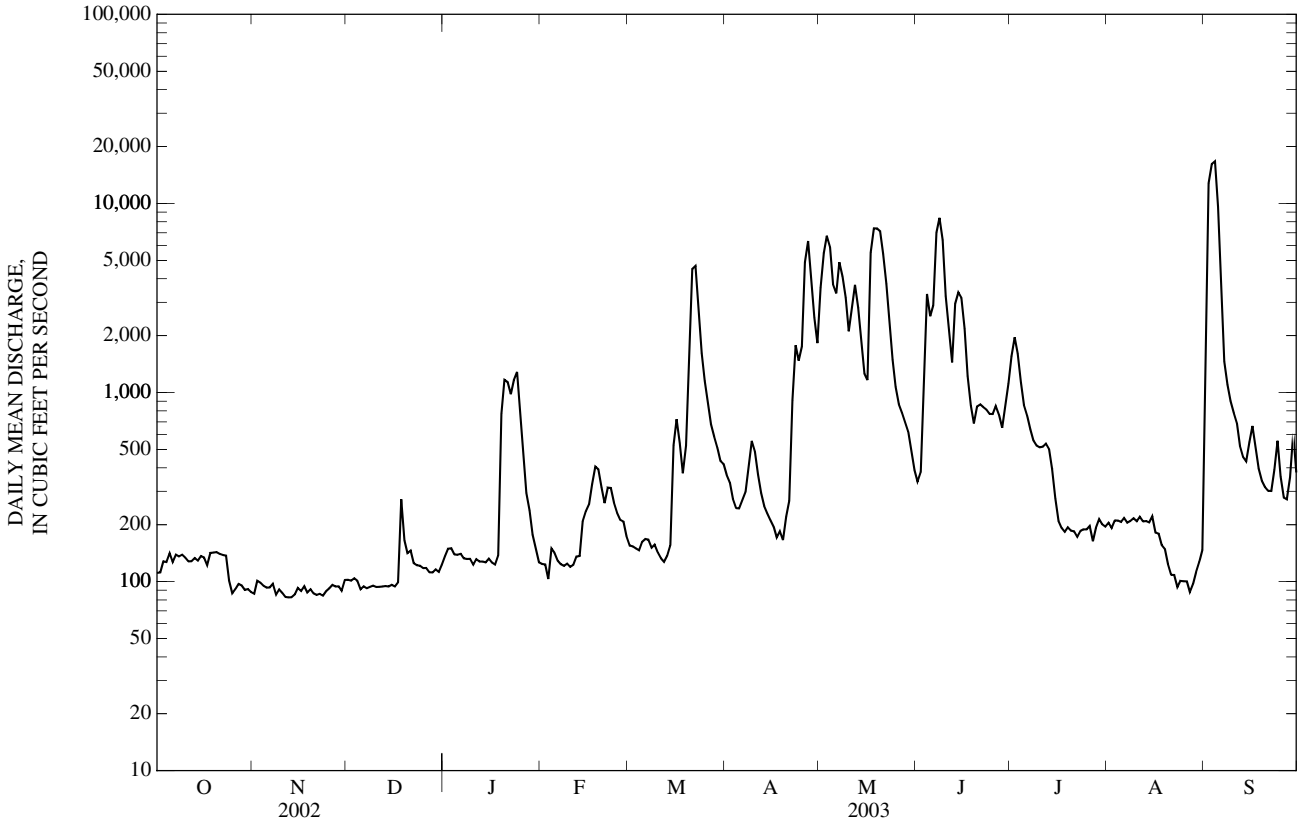
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 133,000 ft^3/s, Oct. 5, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 16,700 ft^3/s, Sept. 4; minimum, 82 ft^3/s, Nov. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	86	102	136	124	155	367	3,590	337	1,550	205	3,580
2	112	101	101	149	123	153	334	5,450	379	1,960	192	12,800
3	128	99	104	150	103	150	274	6,740	1,020	1,600	211	16,100
4	127	95	101	139	150	146	245	5,880	3,320	1,130	210	16,700
5	141	93	91	139	142	162	244	3,730	2,530	858	207	9,610
6	127	93	94	140	129	168	269	3,350	2,890	754	217	3,210
7	139	97	92	133	123	167	298	4,890	7,020	638	205	1,460
8	136	85	94	132	121	151	395	4,110	8,380	558	209	1,100
9	139	91	95	132	124	157	554	3,180	6,400	524	216	903
10	134	87	94	123	120	142	489	2,110	3,240	513	209	784
11	128	83	94	131	123	133	368	2,840	2,200	517	220	688
12	128	82	94	128	136	127	295	3,700	1,440	537	208	522
13	133	83	95	128	137	137	250	2,800	2,950	501	209	456
14	129	85	94	126	208	155	229	1,920	3,390	393	205	433
15	136	92	96	132	235	526	211	1,260	3,170	276	221	546
16	134	89	94	126	257	721	195	1,160	2,180	209	182	665
17	122	95	99	123	327	538	171	5,490	1,220	193	179	516
18	142	88	273	137	405	374	185	7,370	854	184	156	396
19	142	91	165	771	392	525	166	7,370	685	194	149	342
20	143	87	141	1,170	314	1,790	221	7,130	843	186	124	316
21	140	85	146	1,140	260	4,500	267	5,400	864	185	108	302
22	138	86	125	980	314	4,670	911	3,760	837	172	108	301
23	137	84	122	1,160	313	2,800	1,780	2,340	811	185	93	390
24	101	89	121	1,290	261	1,610	1,470	1,490	771	189	101	556
25	87	92	118	837	231	1,150	1,750	1,070	769	189	100	360
26	91	96	118	512	212	865	4,880	869	848	197	100	278
27	97	94	112	294	208	680	6,330	782	763	164	88	273
28	95	94	112	237	174	585	4,130	697	651	192	97	356
29	90	89	116	177	---	510	2,490	620	850	214	112	611
30	91	102	112	149	---	435	1,820	491	1,110	201	127	378
31	88	---	123	126	---	418	---	388	---	195	147	---
MEAN	122	90.4	114	363	206	800	1,053	3,290	2,091	495	165	2,498
MAX	143	102	273	1,290	405	4,670	6,330	7,370	8,380	1,960	221	16,700
MIN	87	82	91	123	103	127	166	388	337	164	88	273

06918070 OSAGE RIVER ABOVE SCHELL CITY, MO—Continued



06918070 OSAGE RIVER ABOVE SCHELL CITY, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1979 to September 1993, November 1994 to current year. Formerly published as Osage River near Schell City (06918080).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1979 to September 1981.
WATER TEMPERATURE: March 1979 to September 1981.
SUSPENDED-SEDIMENT: February 1991 to September 1999.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 1,950 microsiemens per centimeter, Oct. 11, 1980; minimum daily, 114 microsiemens per centimeter, 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 CONCENTRATION: Maximum daily mean, 4,020 mg/L, Feb. 21, 1997; minimum daily mean, 8 mg/L, Aug. 4 and 5, 1993, and Jan. 10-12, 1995.
SUSPENDED-SEDIMENT LOAD: Maximum daily, 160,000 tons, Feb. 21, 1997; minimum daily, 1.7 tons, Nov. 7-13, 1991.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
06...	1250	Environmental	93	8.5	76	8.1	576	9.8	220	64.4	14.9	3.58
MAR												
17...	1400	Environmental	538	6.4	64	7.8	556	13.2	--	--	--	--
APR												
15...	1020	Environmental	211	10.1	113	8.1	583	19.1	--	--	--	--
MAY												
13...	1430	Environmental	2,700	5.5	63	7.4	344	20.2	150	49.5	5.96	4.38
JUN												
17...	1200	Environmental	1,220	5.8	73	7.6	343	25.5	--	--	--	--
JUL												
09...	1015	Environmental	524	4.9	68	7.7	362	30.3	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
06...	31.0	159	159	194	<1	25.9	0.30	99.8	366	13	0.41	<0.04	<0.06
MAR													
17...	--	138	140	171	<1	--	--	--	--	75	0.90	<0.04	0.36
APR													
15...	--	130	129	158	<1	--	--	--	--	78	1.0	<0.04	<0.06
MAY													
13...	9.78	127	126	153	<1	11.4	<0.17	27.2	214	426	1.7	<0.04	0.95
JUN													
17...	--	119	118	144	<1	--	--	--	--	188	1.1	<0.04	0.84
JUL													
09...	--	114	112	137	<1	--	--	--	--	120	0.69	<0.04	0.62

06918070 OSAGE RIVER ABOVE SCHELL CITY, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
06...	<0.008	E.01	E.02	0.05	16k	29	20	M	345	1.0	E.03	<0.2	<6
MAR													
17...	0.008	E.01	E.03	0.13	31	30	40	--	--	--	--	--	--
APR													
15...	<0.008	E.01	E.03	0.15	11k	11k	26k	--	--	--	--	--	--
MAY													
13...	0.049	0.06	0.09	0.47	590	490	1,010	2	5,440	1.5	<0.04	E.2	<6
JUN													
17...	E.006	0.06	0.07	0.30	200	300	290	--	--	--	--	--	--
JUL													
09...	E.007	0.06	0.07	0.20	46k	57k	176	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)	2,6-Di-ethyl-aniline water fltrd 0.7µ GF ug/L (82660)	CIAT, water, fltrd, µg/L (04040)	Aceto-chlor, water, fltrd, µg/L (49260)	Ala-chlor, water, fltrd, µg/L (46342)	alpha-HCH, water, fltrd, µg/L (34253)
NOV													
06...	<10	E.08	1	88.8	<0.02	E.3	1	4	<0.006	E.155	<0.006	<0.004	<0.005
MAR													
17...	--	--	--	--	--	--	--	--	<0.006	E.053	E.006n	E.004n	<0.005
APR													
15...	--	--	--	--	--	--	--	--	<0.006	E.017	<0.006	<0.004	<0.005
MAY													
13...	10	<0.08	10	2.8	E.02	0.7	2	31	<0.006	E.283	0.508	0.055	<0.005
JUN													
17...	--	--	--	--	--	--	--	--	<0.006	E.210	0.143	0.122	<0.005
JUL													
09...	--	--	--	--	--	--	--	--	<0.006	E.258	0.089	0.135	<0.005

Date	Atra-zine, water, fltrd, µg/L (39632)	Azin-phos-methyl, water, fltrd 0.7µ GF µg/L (82686)	Ben-flur-alin, water, fltrd 0.7µ GF µg/L (82673)	Butyl-ate, water, fltrd, µg/L (04028)	Car-baryl, water, fltrd 0.7µ GF µg/L (82680)	Carbo-furan, water, fltrd 0.7µ GF µg/L (82674)	Chlor-pyrifos water, fltrd, µg/L (38933)	cis-Per-methrin water fltrd 0.7µ GF µg/L (82687)	Cyana-zine, water, fltrd, µg/L (04041)	DCPA, water fltrd 0.7µ GF µg/L (82682)	Diazi-non, water, fltrd, µg/L (39572)	Diel-drin, water, fltrd, µg/L (39381)	Disul-foton, water, fltrd 0.7µ GF µg/L (82677)
NOV													
06...	0.786	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
MAR													
17...	0.382	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
APR													
15...	0.126	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
MAY													
13...	6.06	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
JUN													
17...	2.07	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
JUL													
09...	1.91	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02

06918070 OSAGE RIVER ABOVE SCHELL CITY, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	EPTC, water, fltrd 0.7µ GF µg/L (82668)	Ethalflurralin, water, fltrd 0.7µ GF µg/L (82663)	Ethoprop, water, fltrd 0.7µ GF µg/L (82672)	Fonofos water, fltrd, µg/L (04095)	Lindane water, fltrd, µg/L (39341)	Linuron water fltrd 0.7µ GF µg/L (82666)	Malathion, water, fltrd, µg/L (39532)	Methyl parathion, water, fltrd 0.7µ GF µg/L (82667)	Metolachlor, water, fltrd, µg/L (39415)	Metribuzin, water, fltrd, µg/L (82630)	Molinate, water, fltrd 0.7µ GF µg/L (82671)	Napropamide, water, fltrd 0.7µ GF µg/L (82684)	p,p-' DDE, water, fltrd, µg/L (34653)
NOV													
06...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	0.038	<0.006	<0.002	<0.007	<0.003
MAR													
17...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	0.039	<0.006	<0.002	<0.007	<0.003
APR													
15...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	0.021	<0.006	<0.002	<0.007	<0.003
MAY													
13...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	0.756	<0.006	<0.002	<0.007	<0.003
JUN													
17...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	0.321	<0.006	<0.002	<0.007	<0.003
JUL													
09...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	0.408	0.023	<0.002	<0.007	<0.003

Date	Parathion, water, fltrd, µg/L (39542)	Pebulate, water, fltrd 0.7µ GF µg/L (82669)	Pendimethalin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water fltrd 0.7µ GF µg/L (82664)	Prometon, water, fltrd, µg/L (04037)	Pronamide, water, fltrd 0.7µ GF µg/L (82676)	Propachlor, water, fltrd, µg/L (04024)	Propanil, water, fltrd 0.7µ GF µg/L (82679)	Propargite, water, fltrd 0.7µ GF µg/L (82685)	Simazine, water, fltrd, µg/L (04035)	Tebuthiuron water fltrd 0.7µ GF µg/L (82670)	Terbacil, water, fltrd 0.7µ GF µg/L (82665)	Terbufos, water, fltrd 0.7µ GF µg/L (82675)
NOV													
06...	<0.010	<0.004	<0.022	<0.011	0.02	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
MAR													
17...	<0.010	<0.004	<0.022	<0.011	E.01n	<0.004	<0.010	<0.011	<0.02	0.014	<0.02	<0.034	<0.02
APR													
15...	<0.010	<0.004	<0.022	<0.011	E.01n	<0.004	<0.010	<0.011	<0.02	0.022	<0.02	<0.034	<0.02
MAY													
13...	<0.010	<0.004	<0.022	<0.011	0.03	<0.004	<0.010	<0.011	<0.02	0.025	<0.02	<0.034	<0.02
JUN													
17...	<0.010	<0.004	<0.022	<0.011	0.12	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
JUL													
09...	<0.010	<0.004	<0.022	<0.011	E.01n	<0.004	<0.010	<0.011	<0.02	0.008	<0.02	<0.034	<0.02

Date	Thiobencarb water fltrd 0.7µ GF µg/L (82681)	Triallate, water, fltrd 0.7µ GF µg/L (82678)	Trifluralin, water, fltrd 0.7µ GF µg/L (82661)
NOV			
06...	<0.005	<0.002	<0.009
MAR			
17...	<0.005	<0.002	<0.009
APR			
15...	<0.005	<0.002	<0.009
MAY			
13...	<0.005	<0.002	<0.009
JUN			
17...	<0.005	<0.002	0.023
JUL			
09...	<0.005	<0.002	<0.009

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above LT-MDL

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 only, for water years 1965-66.

GAGE.--Water-stage recorder. Datum of gage is 869.78 ft above National Geodetic Vertical Datum of 1929 (levels by the Missouri State Highway and Transportation Commission). Prior to June 1966, crest-stage gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

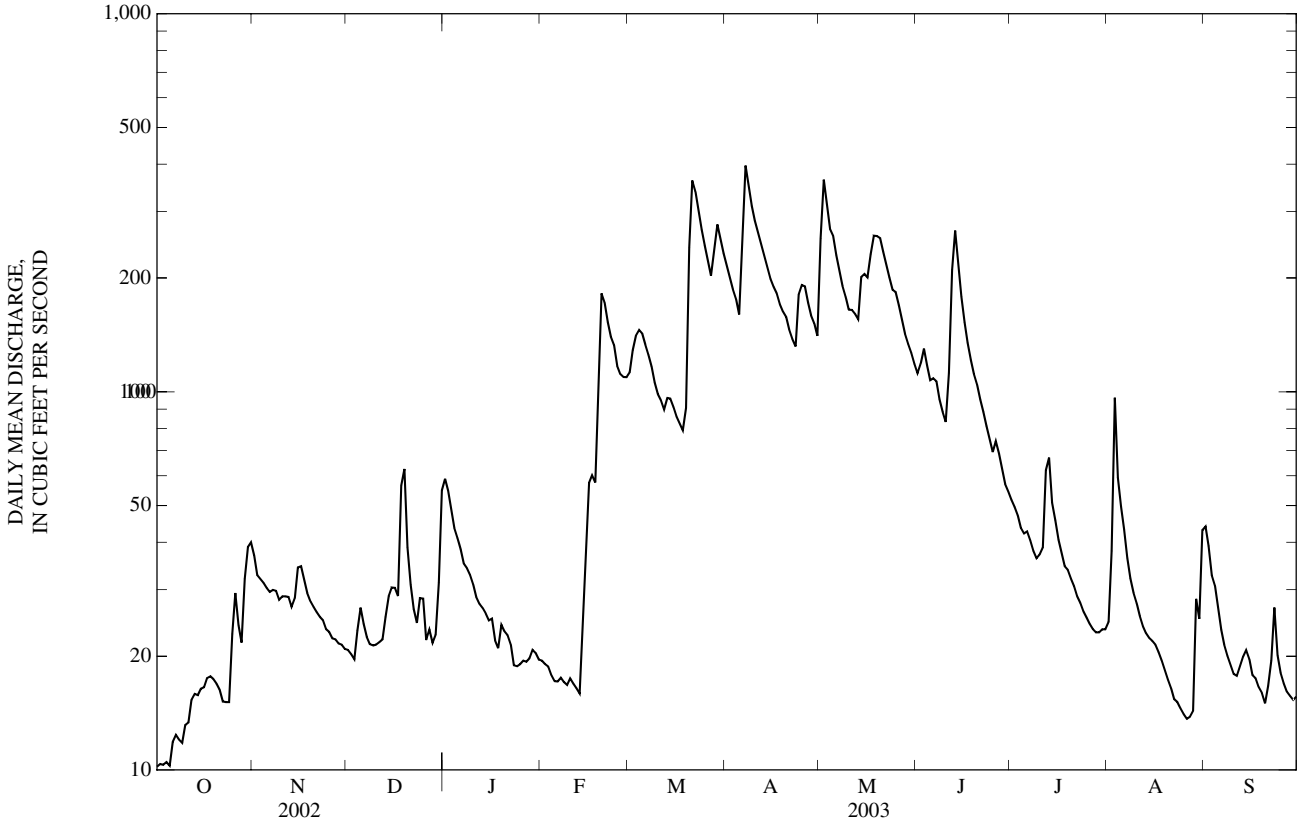
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	37	21	59	19	113	217	255	112	52	25	44
2	10	33	20	55	19	129	200	364	119	50	38	39
3	10	32	20	49	19	141	187	312	130	47	96	33
4	10	31	23	44	18	146	176	270	118	44	59	31
5	10	30	27	41	17	143	160	259	107	42	50	27
6	12	30	24	38	17	133	246	230	109	43	43	24
7	12	30	22	35	18	125	396	210	107	40	36	21
8	12	30	22	34	17	116	349	191	96	38	32	20
9	12	28	21	33	17	106	310	178	88	36	29	19
10	13	29	21	31	17	99	283	165	83	37	28	18
11	13	29	22	29	17	95	263	165	112	39	26	18
12	15	29	22	28	16	90	244	161	210	62	24	19
13	16	27	25	27	16	96	228	156	267	67	23	20
14	16	28	29	26	23	96	213	201	216	51	22	21
15	16	34	30	25	34	91	199	205	178	46	22	20
16	17	35	30	25	57	86	189	201	153	41	21	18
17	18	32	29	22	60	82	182	231	135	37	20	17
18	18	29	56	21	58	79	170	259	121	35	20	17
19	17	28	63	24	91	91	163	258	112	34	18	16
20	17	27	39	23	182	241	158	255	105	32	17	15
21	16	26	31	23	172	362	146	235	95	31	16	17
22	15	25	27	21	153	338	138	217	89	29	15	19
23	15	25	25	19	140	300	132	201	81	28	15	27
24	15	24	28	19	133	268	181	186	75	26	15	20
25	23	23	28	19	117	244	191	184	69	25	14	18
26	29	22	22	19	112	223	190	170	74	24	14	17
27	24	22	24	19	110	203	172	155	69	24	14	16
28	22	22	22	20	109	237	159	142	62	23	14	16
29	32	21	23	21	---	277	152	134	57	23	28	15
30	39	21	31	20	---	254	141	127	54	24	25	16
31	40	---	55	20	---	232	---	118	---	24	43	---
MEAN	17.5	28.0	28.5	28.7	63.5	169	204	206	113	37.2	27.8	21.3
MAX	40	37	63	59	182	362	396	364	267	67	96	44
MIN	10	21	20	19	16	79	132	118	54	23	14	15
IN.	0.08	0.12	0.13	0.13	0.26	0.76	0.89	0.93	0.49	0.17	0.12	0.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)

MEAN	135	282	288	227	285	421	390	387	214	112	60.8	105
MAX	780	1,139	1,058	743	918	1,170	1,427	1,747	820	392	205	1,545
(WY)	(1987)	(1986)	(1993)	(1991)	(1985)	(1975)	(1994)	(2002)	(1995)	(1993)	(1968)	(1993)
MIN	16.6	16.8	19.7	14.0	23.5	29.2	30.1	30.1	39.2	22.1	10.1	6.78
(WY)	(1992)	(1981)	(1977)	(1981)	(1981)	(1996)	(1981)	(1977)	(1972)	(1980)	(1980)	(1980)

06918440 SAC RIVER NEAR DADEVILLE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1966 - 2003	
ANNUAL MEAN	281		78.8		242	
HIGHEST ANNUAL MEAN					560	1993
LOWEST ANNUAL MEAN					50.2	1977
HIGHEST DAILY MEAN	4,840	May 8	396	Apr 7	23,300	Sep 25, 1993
LOWEST DAILY MEAN	9.9	Sep 30	10	Oct 1-5	4.5	Sep 14, 1980
ANNUAL SEVEN-DAY MINIMUM	10	Sep 27	11	Oct 1	5.3	Sep 11, 1980
MAXIMUM PEAK FLOW	---		423	Apr 7	36,100	Sep 25, 1993
MAXIMUM PEAK STAGE	---		6.71	Apr 7	27.56	Sep 25, 1993
INSTANTANEOUS LOW FLOW	---		9.8	Oct 1,5	3.8	Aug 8, 1996
ANNUAL RUNOFF (INCHES)	14.87		4.16		12.81	
10 PERCENT EXCEEDS	584		210		527	
50 PERCENT EXCEEDS	99		33		110	
90 PERCENT EXCEEDS	17		17		24	



06918460 TURNBACK CREEK ABOVE GREENFIELD, MO

LOCATION.--Lat 37°24'09", long 93°48'06", sec.21, 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 (M). WDR MO-93-1: 1987 (M).

GAGE.--Water-stage recorder. Datum of gage is 870.49 ft above National Geodetic Vertical Datum of 1929 (levels by the Missouri State Highway and Transportation Commission).

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

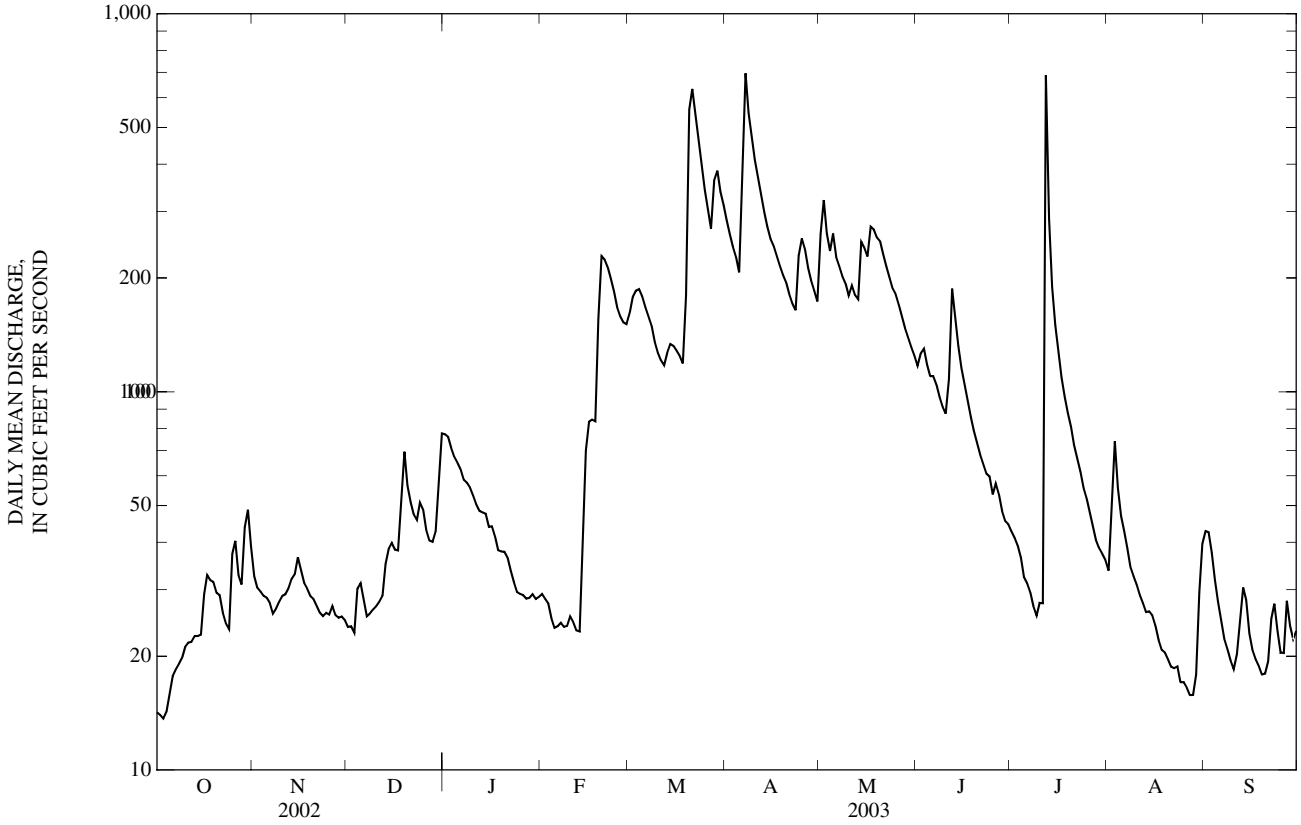
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	33	24	77	29	162	284	262	117	43	34	43
2	14	30	24	76	28	178	261	322	126	41	52	43
3	14	30	23	71	28	185	242	262	130	39	74	38
4	14	29	30	67	25	187	227	236	118	36	56	32
5	16	29	31	65	24	179	207	262	110	32	47	28
6	18	28	28	62	24	168	438	227	110	31	43	25
7	18	26	25	59	25	158	696	215	105	29	39	22
8	19	27	26	57	24	150	546	202	97	27	35	21
9	20	28	27	56	24	136	470	193	91	26	33	20
10	21	29	27	53	25	127	410	180	88	28	31	18
11	22	29	28	50	25	121	367	191	108	28	29	20
12	22	30	29	48	23	118	331	180	187	688	28	25
13	23	32	35	48	23	127	299	176	156	287	26	30
14	23	33	38	48	39	134	274	249	132	190	26	28
15	23	37	40	44	70	132	254	240	116	150	26	23
16	29	34	38	44	83	129	243	228	104	127	24	21
17	33	31	38	41	84	124	229	273	95	109	22	20
18	32	30	52	38	84	119	215	269	86	97	21	19
19	31	29	69	38	156	180	204	256	79	88	20	18
20	29	28	56	38	229	558	195	250	73	81	20	18
21	29	27	51	36	224	632	181	231	68	72	19	19
22	26	26	47	34	213	546	171	215	64	67	19	25
23	24	26	46	31	199	464	164	201	61	62	19	28
24	24	26	51	30	184	395	229	188	60	56	17	23
25	37	26	49	29	167	343	254	181	54	52	17	20
26	40	27	43	29	158	302	239	170	57	48	17	20
27	33	26	40	28	153	270	213	158	53	44	16	28
28	31	25	40	29	151	362	197	147	48	41	16	24
29	44	25	43	29	---	384	185	139	46	39	18	22
30	49	25	58	28	---	338	173	131	45	37	29	23
31	39	---	78	29	---	312	---	124	---	36	40	---
MEAN	26.2	28.7	39.8	45.5	90.0	249	280	212	92.8	88.1	29.5	24.8
MAX	49	37	78	77	229	632	696	322	187	688	74	43
MIN	14	25	23	28	23	118	164	124	45	26	16	18
IN.	0.12	0.13	0.18	0.21	0.37	1.14	1.24	0.97	0.41	0.40	0.13	0.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)

MEAN	147	299	284	237	313	449	429	393	245	154	86.6	127
MAX	921	1,385	982	765	1,020	1,377	1,410	1,797	874	636	354	1,579
(WY)	(1987)	(1986)	(1988)	(1973)	(1985)	(1973)	(1994)	(1990)	(1993)	(1992)	(1982)	(1993)
MIN	23.4	21.7	20.2	19.9	27.5	27.1	39.3	93.9	44.3	24.2	14.4	11.6
(WY)	(1979)	(1981)	(1990)	(1981)	(1981)	(1996)	(1981)	(1981)	(1972)	(1972)	(1980)	(1980)

06918460 TURNBACK CREEK ABOVE GREENFIELD, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1965 - 2003	
ANNUAL MEAN	269		101		263	
HIGHEST ANNUAL MEAN					612	1993
LOWEST ANNUAL MEAN					84.1	1981
HIGHEST DAILY MEAN	8,210	May 8	696	Apr 7	23,700	Sep 25, 1993
LOWEST DAILY MEAN	12	Sep 11	14	Oct 1-4	9.4	Oct 12, 1980
ANNUAL SEVEN-DAY MINIMUM	14	Sep 7	15	Oct 1	10	Oct 8, 1980
MAXIMUM PEAK FLOW	---		1,490	Jul 12	44,000	Oct 1, 1986
MAXIMUM PEAK STAGE	---		10.07	Jul 12	26.34	Sep 25, 1993
INSTANTANEOUS LOW FLOW	---		13	Oct 2-4	9.4	Oct 12, 1980
ANNUAL RUNOFF (INCHES)	14.51		5.42		14.19	
10 PERCENT EXCEEDS	614		245		565	
50 PERCENT EXCEEDS	106		44		126	
90 PERCENT EXCEEDS	23		22		31	



06918600 LITTLE SAC RIVER NEAR WALNUT GROVE, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 37°23'55", long 93°24'36", in SW ¼ NW ¼ SE ¼ sec.24, T.31 N., R.23 W., Greene County, Hydrologic Unit 10290106, approximately 7.5 mi east of Walnut Grove at bridge on Highway BB.

DRAINAGE AREA.--119 mi^2.

PERIOD OF RECORD.--Water years 1974 to 1978, 1984 to 1986, 1988 to 1990, 1994 to 1996, October 1999 to current year. Published as "at Walnut Grove", for periods of record from 1994 to 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
15...	1635	Environmental	8.4	11.4	114	8.4	699	13.6	--	--	--	--
NOV												
04...	1400	Blank	--	--	--	--	--	--	--	E.01n	<0.008	<0.10
04...	1440	Environmental	15	12.1	111	8.2	591	9.6	220	76.8	6.75	5.48
DEC												
09...	1045	Environmental	10	14.6	108	8.0	517	1.7	--	--	--	--
JAN												
22...	1530	Environmental	47	16.4	118	8.0	448	0.9	230	79.2	7.96	5.50
22...	1531	Replicate	--	16.6	120	8.0	448	0.9	240	81.8	8.35	5.45
FEB												
11...	1315	Environmental	6.2	14.5	117	8.2	714	4.7	--	--	--	--
MAR												
18...	0900	Environmental	56	7.9	80	7.9	549	13.7	--	--	--	--
APR												
15...	1420	Environmental	26	10.8	124	8.0	499	19.8	--	--	--	--
15...	1421	Replicate	--	10.8	124	8.0	500	19.8	--	--	--	--
MAY												
14...	0845	Environmental	128	7.3	76	7.9	535	15.7	230	80.1	6.69	3.22
JUN												
17...	1540	Environmental	196	8.9	108	7.8	473	22.2	--	--	--	--
JUL												
08...	1500	Environmental	20	6.5	87	7.5	585	28.1	230	81.4	7.20	4.02
AUG												
21...	1000	Environmental	8.3	4.8	63	7.6	847	26.7	--	--	--	--
SEP												
08...	1530	Environmental	19	8.7	104	8.0	666	22.6	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
15...	--	197	199	234	4	--	--	--	--	<10	0.40	<0.04	1.41
NOV													
04...	<0.09	--	--	--	--	<0.20	<0.20	<0.2	<10	<10	<0.10	<0.04	<0.06
04...	34.8	208	209	255	<1	58.0	0.30	18.9	359	<10	0.24	<0.04	1.66
DEC													
09...	--	194	197	240	<1	--	--	--	--	<10	0.38	<0.04	1.65
JAN													
22...	53.0	192	190	232	<1	76.9	0.27	20.2	371	<10	0.47	<0.04	1.49
22...	52.1	--	--	--	--	77.7	0.27	20.4	372	<10	0.47	<0.04	1.50
FEB													
11...	--	197	198	241	<1	--	--	--	--	<10	0.51	<0.04	1.59
MAR													
18...	--	172	174	212	<1	--	--	--	--	<10	0.40	<0.04	0.75
APR													
15...	--	184	184	224	<1	--	--	--	--	11	0.35	<0.04	0.65
15...	--	--	--	--	--	--	--	--	--	<10	0.38	<0.04	0.70
MAY													
14...	21.2	198	198	242	<1	38.1	<0.17	14.6	321	30	0.51	E.03	1.50
JUN													
17...	--	185	186	226	<1	--	--	--	--	10	0.36	<0.04	1.38
JUL													
08...	27.7	203	204	249	<1	46.3	0.20	15.7	344	23	0.37	<0.04	1.29
AUG													
21...	--	201	204	249	<1	--	--	--	--	13	0.44	<0.04	0.94
SEP													
08...	--	208	208	254	<1	--	--	--	--	<10	0.34	<0.04	1.42

06918600 LITTLE SAC RIVER NEAR WALNUT GROVE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
15...	E.007	0.52	0.55	0.52	1k	85	56	--	--	--	--	--	--
NOV													
04...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<6
04...	<0.008	0.47	0.46	0.45	34	51	39	M	38	0.7	0.10	<0.2	<6
DEC													
09...	<0.008	E.01	E.03	E.03	3k	15k	20	--	--	--	--	--	--
JAN													
22...	0.010	E.01	E.03	0.05	2k	16k	32k	2	38	0.3	0.13	E.1	<6
22...	0.010	E.01	E.03	0.05	4k	3k	27k	2	41	0.3	0.40	<0.2	E4
FEB													
11...	0.021	<0.02	<0.04	E.03	<1b	9k	10k	--	--	--	--	--	--
MAR													
18...	0.010	0.02	E.03	0.05	77	92k	52	--	--	--	--	--	--
APR													
15...	0.008	0.03	0.04	0.07	34	100	22	--	--	--	--	--	--
15...	0.008	0.03	0.04	0.06	24	63k	20k	--	--	--	--	--	--
MAY													
14...	0.010	0.07	0.09	0.13	1,500	1,550	1,960	E1	339	0.4	E.03	<0.2	<6
JUN													
17...	<0.008	0.13	0.15	0.19	160	210	40	--	--	--	--	--	--
JUL													
08...	0.011	0.13	0.16	0.18	50k	105	34	E1	166	0.8	0.08	<0.2	<7
AUG													
21...	0.008	0.26d	0.28	0.30	68	100	96	--	--	--	--	--	--
SEP													
08...	<0.008	0.15	0.18	0.20	--e	--e	64	--	--	--	--	--	--

06918600 LITTLE SAC RIVER NEAR WALNUT GROVE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT								
15...	--	--	--	--	--	--	--	--
NOV								
04...	<10	<0.08	<1	<2.0	<0.02	<0.5	<1	<2
04...	E7	0.18	M	8.5	<0.02	<0.5	14	12
DEC								
09...	--	--	--	--	--	--	--	--
JAN								
22...	12	0.96	1	12.6	<0.02	<0.5	26	24
22...	15	0.95	1	12.4	<0.02	E.3	26	24
FEB								
11...	--	--	--	--	--	--	--	--
MAR								
18...	--	--	--	--	--	--	--	--
APR								
15...	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--
MAY								
14...	<10	E.07	1	11.4	<0.02	<0.5	7	10
JUN								
17...	--	--	--	--	--	--	--	--
JUL								
08...	<8	0.10	<1	22.4	<0.02	<0.5	5	6
AUG								
21...	--	--	--	--	--	--	--	--
SEP								
08...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

06918740 LITTLE SAC RIVER NEAR MORRISVILLE, MO

LOCATION.--Lat 37°28'58", long 93°29'07", in 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 (M).

GAGE.--Water-stage recorder. Elevation of gage is 881 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	30	10	111	18	122	165	882	78	65	12	e200
2	3.7	22	11	92	18	153	144	734	328	60	205	e90
3	3.1	19	10	79	17	158	130	393	466	45	264	55
4	3.8	18	13	71	15	152	119	271	262	38	111	42
5	4.5	18	15	69	15	136	105	225	185	32	78	32
6	3.5	17	15	62	15	130	438	185	173	21	64	28
7	4.9	17	13	57	15	117	664	163	156	15	53	24
8	5.4	15	14	54	15	106	337	138	130	11	45	22
9	4.6	14	14	49	15	92	247	119	104	11	39	20
10	6.0	14	14	44	16	85	199	101	97	13	34	18
11	6.0	15	15	39	16	77	168	120	385	12	30	17
12	6.4	15	18	38	16	72	145	115	744	341	29	e16
13	6.6	13	25	35	16	80	131	101	1,150	130	27	e15
14	6.4	14	23	33	28	94	117	186	648	81	21	e18
15	6.1	19	28	31	70	83	103	189	420	48	19	40
16	7.1	24	30	30	109	78	96	196	313	38	17	27
17	9.1	23	27	26	104	73	91	405	244	28	15	24
18	9.5	19	97	22	98	70	e87	397	195	26	14	20
19	10	16	80	23	191	104	e83	309	163	20	13	18
20	11	16	53	23	275	560	e80	356	141	18	10	16
21	11	15	41	22	204	443	e77	264	120	16	10	16
22	11	14	34	20	170	306	e95	204	103	15	9.9	17
23	10	13	30	17	159	231	e115	164	90	14	11	19
24	9.8	13	33	17	145	191	153	137	80	13	9.2	19
25	15	13	35	17	125	167	248	210	70	12	8.8	15
26	19	12	27	17	116	150	208	202	75	12	7.2	14
27	25	12	26	16	110	133	150	146	77	12	6.2	16
28	16	12	26	17	106	189	122	119	60	12	8.4	12
29	22	11	28	18	---	294	111	110	50	19	20	11
30	41	11	50	18	---	224	92	108	45	19	e55	12
31	38	---	114	18	---	185	---	99	---	15	e100	---
MEAN	10.9	16.1	31.3	38.2	79.2	163	167	237	238	39.1	43.4	29.8
MAX	41	30	114	111	275	560	664	882	1,150	341	264	200
MIN	3.0	11	10	16	15	70	77	99	45	11	6.2	11
IN.	0.05	0.08	0.15	0.19	0.35	0.79	0.79	1.15	1.12	0.19	0.21	0.14

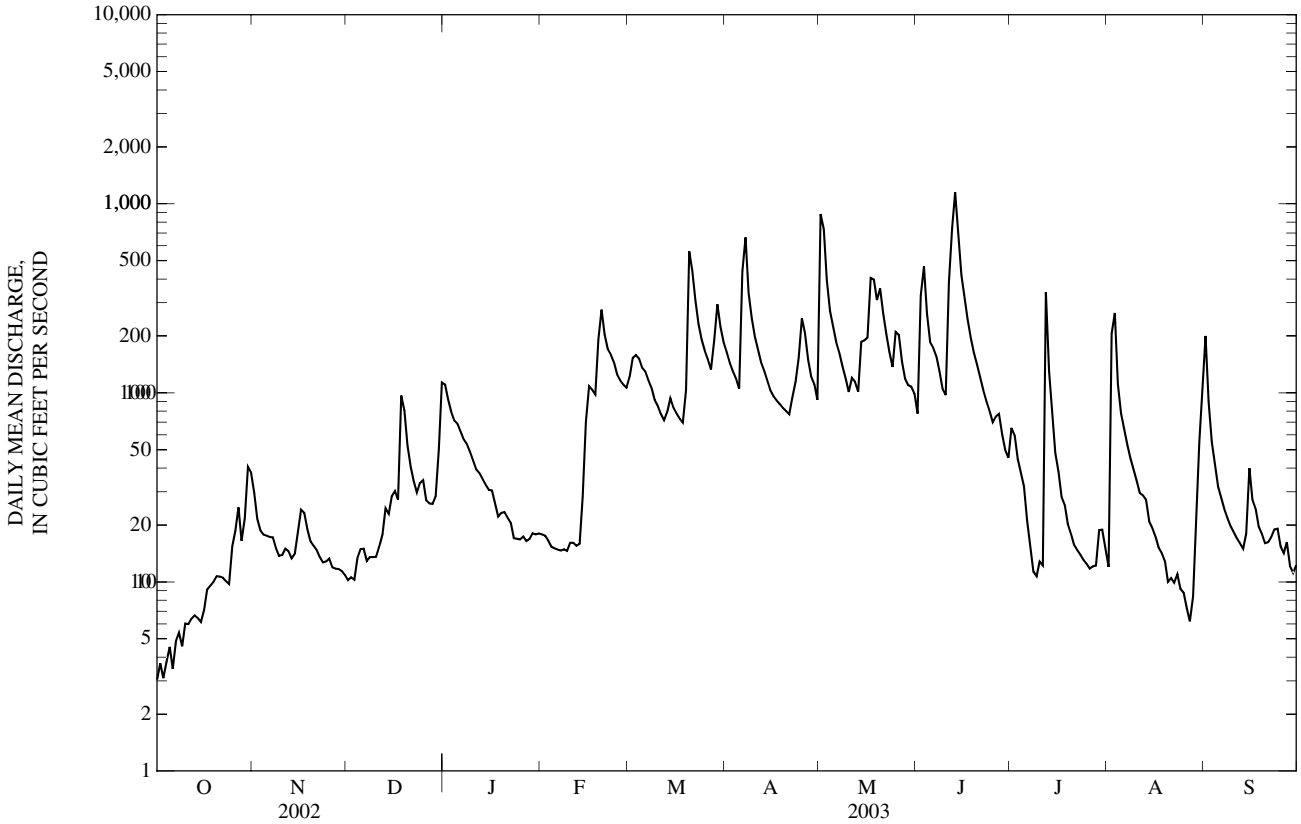
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2003, BY WATER YEAR (WY)

MEAN	121	298	272	220	282	442	398	346	201	84.3	36.3	118
MAX	809	1,256	1,045	752	1,139	1,290	1,409	1,359	968	387	145	1,691
(WY)	(1987)	(1986)	(1988)	(1991)	(1985)	(1973)	(1994)	(1990)	(1995)	(2000)	(1988)	(1993)
MIN	10.2	10.5	10.7	9.05	29.4	29.2	32.7	23.7	20.7	11.6	4.90	3.15
(WY)	(1996)	(2000)	(1990)	(1981)	(1996)	(1996)	(1981)	(2000)	(1972)	(1980)	(1980)	(1980)

06918740 LITTLE SAC RIVER NEAR MORRISVILLE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1969 - 2003	
ANNUAL MEAN	207		91.0		234	
HIGHEST ANNUAL MEAN					516	1973
LOWEST ANNUAL MEAN					58.6	1977
HIGHEST DAILY MEAN	6,890	May 8	1,150	Jun 13	18,600	Sep 25, 1993
LOWEST DAILY MEAN	3.0	Oct 1	3.0	Oct 1	0.60	Sep 15, 1980
ANNUAL SEVEN-DAY MINIMUM	3.7	Sep 30	3.8	Oct 1	1.6	Aug 27, 1980
MAXIMUM PEAK FLOW	---		1,840	May 1	29,100	Sep 25, 1993
MAXIMUM PEAK STAGE	---		6.83	May 1	23.33	Sep 25, 1993
INSTANTANEOUS LOW FLOW	---		2.8	Oct 1,3	0.30	Sep 15, 1980
ANNUAL RUNOFF (INCHES)	11.87		5.21		13.43	
10 PERCENT EXCEEDS	417		206		509	
50 PERCENT EXCEEDS	49		34		80	
90 PERCENT EXCEEDS	10		11		12	

e Estimated



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 National Geodetic Vertical Datum of 1929 (levels by the U.S. Army Corps of Engineers).

REMARKS.--Lake is formed by a rock shell earthfill type dam. Spillway is equipped with 4 tainter 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, power, and recreational purposes. U.S. Army Corps of Engineers satellite telemeter at station.

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, 948,000 ac-ft, June 16, elevation, 869.90 ft; minimum, 754,000 ac-ft, Sept. 29, elevation, 861.87 ft.

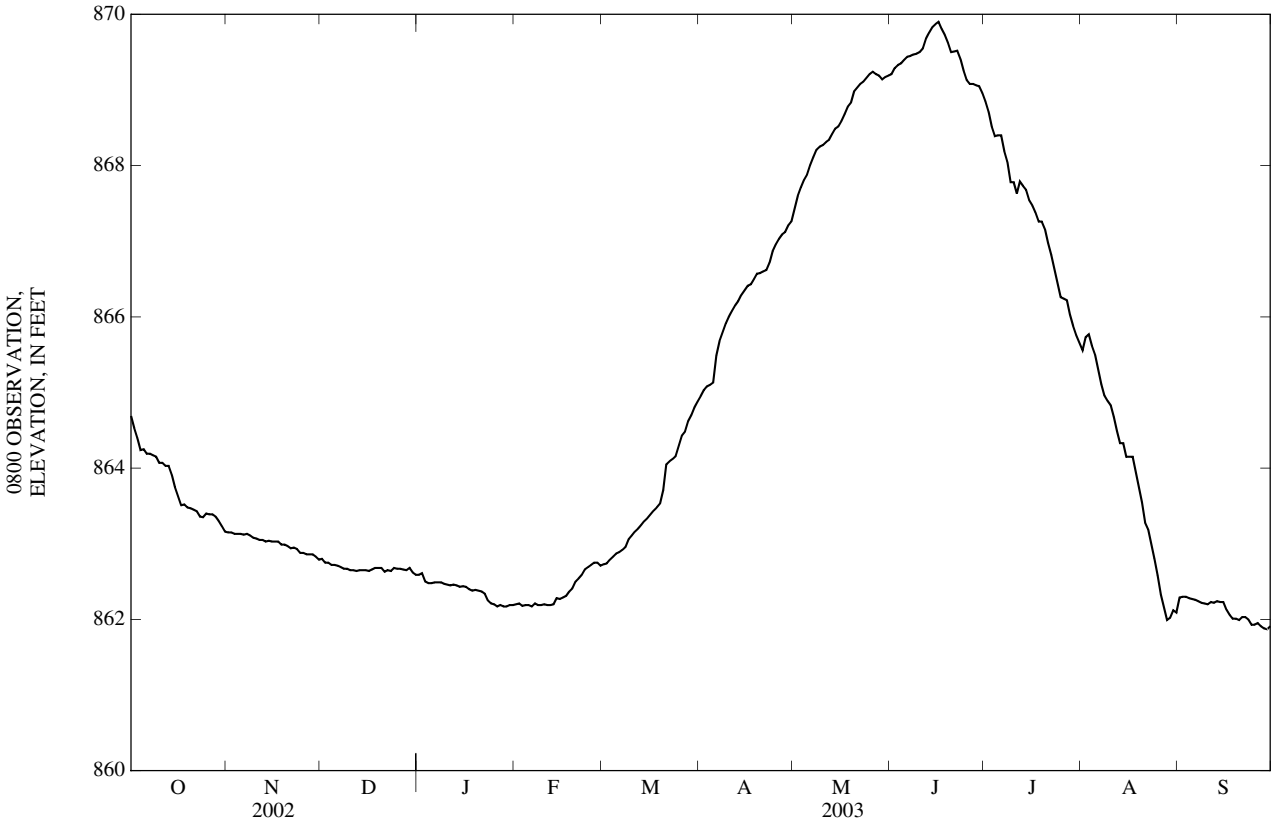
ELEVATION, IN FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
OBSERVATION AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	864.69	863.15	862.80	862.59	862.20	862.73	864.95	867.43	869.21	868.85	865.56	862.29
2	864.53	863.15	862.75	862.61	862.21	862.74	865.03	867.60	869.29	868.71	865.73	862.30
3	864.40	863.13	862.75	862.50	862.18	862.79	865.08	867.71	869.33	868.52	865.77	862.30
4	864.24	863.13	862.72	862.48	862.19	862.83	865.10	867.81	869.35	868.39	865.62	862.28
5	864.25	863.13	862.72	862.48	862.19	862.87	865.13	867.88	869.40	868.40	865.50	862.27
6	864.19	863.12	862.71	862.49	862.17	862.89	865.49	868.01	869.44	868.40	865.31	862.26
7	864.19	863.13	862.69	862.49	862.21	862.92	865.68	868.11	869.45	868.19	865.11	862.24
8	864.17	863.11	862.67	862.49	862.19	862.96	865.79	868.21	869.47	868.05	864.96	862.22
9	864.15	863.08	862.67	862.47	862.19	863.06	865.91	868.25	869.48	867.78	864.89	862.21
10	864.07	863.07	862.65	862.46	862.20	863.11	866.00	868.27	869.50	867.78	864.83	862.20
11	864.07	863.05	862.65	862.45	862.19	863.16	866.08	868.31	869.55	867.63	864.68	862.23
12	864.03	863.05	862.64	862.46	862.19	863.20	866.15	868.34	869.68	867.79	864.49	862.22
13	864.03	863.03	862.65	862.45	862.20	863.25	866.21	868.42	869.76	867.73	864.33	862.24
14	863.91	863.04	862.65	862.43	862.28	863.30	866.29	868.49	869.83	867.68	864.33	862.23
15	863.75	863.03	862.65	862.44	862.27	863.34	866.35	868.52	869.87	867.54	864.15	862.23
16	863.63	863.03	862.64	862.43	862.29	863.39	866.41	868.59	869.90	867.47	864.15	862.13
17	863.51	863.03	862.66	862.40	862.31	863.44	866.43	868.68	869.81	867.38	864.15	862.06
18	863.52	862.99	862.68	862.38	862.37	863.48	866.50	868.78	869.73	867.26	863.95	862.01
19	863.48	862.99	862.68	862.39	862.41	863.53	866.57	868.83	869.63	867.26	863.74	862.01
20	863.47	862.97	862.68	862.38	862.50	863.71	866.58	868.98	869.50	867.16	863.55	861.99
21	863.45	862.94	862.63	862.37	862.54	864.05	866.60	869.03	869.51	866.98	863.28	862.03
22	863.43	862.95	862.65	862.34	862.59	864.09	866.62	869.08	869.52	866.82	863.19	862.03
23	863.36	862.93	862.64	862.25	862.66	864.12	866.72	869.11	869.41	866.63	862.99	862.00
24	863.35	862.88	862.68	862.21	862.69	864.16	866.87	869.16	869.26	866.45	862.80	861.93
25	863.40	862.88	862.67	862.20	862.72	864.29	866.96	869.21	869.13	866.26	862.58	861.93
26	863.39	862.86	862.67	862.17	862.75	864.43	867.03	869.24	869.08	866.24	862.33	861.95
27	863.39	862.86	862.66	862.19	862.75	864.48	867.09	869.21	869.08	866.22	862.17	861.91
28	863.36	862.86	862.65	862.17	862.71	864.62	867.12	869.19	869.06	866.03	861.99	861.88
29	863.30	862.83	862.68	862.17	---	864.70	867.21	869.14	869.05	865.88	862.02	861.87
30	863.23	862.79	862.62	862.19	---	864.80	867.26	869.17	868.96	865.76	862.12	861.91
31	863.16	---	862.59	862.19	---	864.88	---	869.19	---	865.66	862.09	---
MAX	864.69	863.15	862.80	862.61	862.75	864.88	867.26	869.24	869.90	868.85	865.77	862.30
MIN	863.16	862.79	862.59	862.17	862.17	862.73	864.95	867.43	868.96	865.66	861.99	861.87
(-)	783,000	775,000	770,000	761,000	773,000	824,000	881,000	930,000	924,000	842,000	759,000	755,000
(=)	-39,000	-8,000	-5,000	-9,000	+12,000	+51,000	+57,000	+49,000	-6,000	-82,000	-83,000	-4,000

CAL YR 2002.... -68,000
WTR YR 2003....-67,000

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

06918990 STOCKTON LAKE NEAR STOCKTON, MO—Continued



06919020 SAC RIVER AT HIGHWAY J BELOW STOCKTON, MO

LOCATION.--Lat 37°44'07", long 93°46'47", in NW 1/4 sec.4, T.34 N., R.26 W., Cedar County, Hydrologic Unit 10290106, on right bank on downstream side of bridge on State Highway J, 4.5 mi downstream from Bear Creek, 6.3 mi downstream from Stockton Lake, 3.0 mi north of Stockton, and at mile 44.9.

DRAINAGE AREA.--1,292 mi^2.

PERIOD OF RECORD.--October 1973 to current year. Occasional discharge measurements in 1973 water year.

GAGE.--Water-stage recorder. Datum of gage is 750.19 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Considerable regulation by Stockton Lake (06918990), 6.3 mi upstream. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

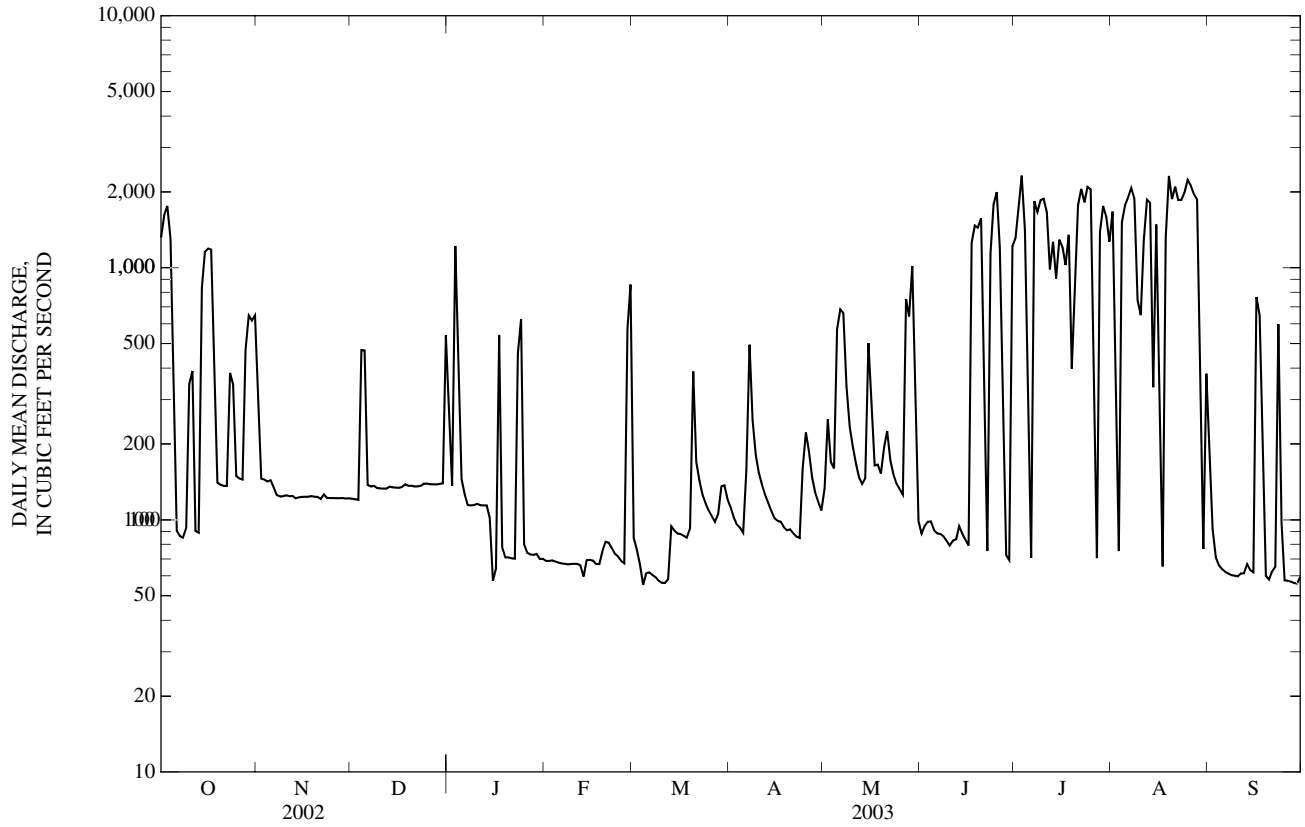
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,320	296	121	282	69	85	112	133	88	1,310	1,670	194
2	1,620	146	121	137	69	76	102	250	95	1,770	356	92
3	1,760	145	120	1,220	69	66	96	170	98	2,320	75	71
4	1,300	142	472	385	68	55	93	160	99	1,410	1,510	66
5	318	144	470	145	68	61	89	569	91	534	1,770	64
6	91	135	137	126	67	62	158	684	88	71	1,900	62
7	86	125	136	115	67	60	495	662	88	1,840	2,070	61
8	85	124	136	114	67	59	249	338	86	1,670	1,890	60
9	93	124	134	115	67	57	180	234	82	1,850	746	60
10	346	125	133	116	67	56	154	196	79	1,880	649	60
11	389	124	133	114	67	56	138	167	83	1,660	1,290	61
12	90	124	133	114	66	58	126	148	84	985	1,860	61
13	89	122	135	114	60	94	117	139	95	1,270	1,810	67
14	835	123	135	102	69	91	109	146	88	907	336	63
15	1,160	123	134	57	69	88	102	503	83	1,290	1,480	62
16	1,190	124	134	64	69	88	99	287	79	1,210	346	765
17	1,180	124	135	542	67	87	98	164	1,260	1,030	65	648
18	423	124	138	78	67	85	93	166	1,470	1,350	1,320	189
19	140	123	136	71	75	92	91	153	1,440	398	2,320	60
20	138	123	137	71	82	387	92	194	1,570	859	1,870	58
21	137	121	136	70	81	170	89	225	330	1,770	2,100	62
22	136	126	136	70	77	143	86	172	75	2,050	1,860	65
23	383	122	137	458	73	126	85	152	1,140	1,820	1,860	597
24	345	122	139	627	72	116	160	139	1,780	2,090	1,990	97
25	149	122	139	80	69	109	222	132	2,000	2,050	2,230	58
26	146	122	138	74	67	103	187	126	1,200	367	2,120	57
27	144	122	138	73	574	98	148	750	222	70	1,960	57
28	474	122	138	73	857	106	129	642	73	1,390	1,860	56
29	647	122	139	73	---	136	118	1,020	69	1,760	358	56
30	617	122	140	70	---	137	109	310	1,220	1,600	77	59
31	648	---	539	70	---	120	---	99	---	1,270	380	---
MEAN	532	132	169	188	116	101	138	298	508	1,350	1,359	133
MAX	1,760	296	539	1,220	857	387	495	1,020	2,000	2,320	2,320	765
MIN	85	121	120	57	60	55	85	99	69	70	65	56
IN.	0.47	0.11	0.15	0.17	0.09	0.09	0.12	0.27	0.44	1.20	1.21	0.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2003, BY WATER YEAR (WY)

MEAN	622	802	1,134	1,129	1,108	1,402	1,686	1,611	1,583	1,199	969	768
MAX	4,922	4,697	3,983	4,464	2,763	4,230	4,613	3,403	4,863	4,726	2,488	1,949
(WY)	(1994)	(1994)	(1986)	(1993)	(1988)	(1975)	(1974)	(1994)	(1990)	(1995)	(1992)	(1993)
MIN	51.1	60.1	61.9	66.7	98.8	64.8	60.5	110	186	121	71.6	80.4
(WY)	(1974)	(1981)	(1981)	(1981)	(1981)	(1977)	(1981)	(2001)	(1991)	(1977)	(1991)	(1991)

06919020 SAC RIVER AT HIGHWAY J BELOW STOCKTON, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1974 - 2003	
ANNUAL MEAN	1,089		423		1,168	
HIGHEST ANNUAL MEAN					2,450	1994
LOWEST ANNUAL MEAN					256	1977
HIGHEST DAILY MEAN	6,670	May 13	2,320	Jul 3,Aug 19	12,800	Sep 25, 1993
LOWEST DAILY MEAN	82	Sep 27-29	55	Mar 4	25	Mar 25, 1977
ANNUAL SEVEN-DAY MINIMUM	83	Sep 23	58	Mar 6	33	Oct 20, 1973
MAXIMUM PEAK FLOW	---		6,100	Aug 27	14,800	Oct 1, 1986
MAXIMUM PEAK STAGE	---		17.61	Aug 27	24.91	Feb 23, 1985
INSTANTANEOUS LOW FLOW	---		50	Mar 3,4	24	Mar 25, 1977
ANNUAL RUNOFF (INCHES)	11.44		4.45		12.28	
10 PERCENT EXCEEDS	2,930		1,530		3,170	
50 PERCENT EXCEEDS	470		133		531	
90 PERCENT EXCEEDS	121		67		69	



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.

PERIOD OF RECORD.--April 1923 to September 1926, October 1948 to current year.

REVISED RECORDS.--WSP 1146: 1923-26, drainage area. WSP 1176: 1924(M).

GAGE.--Water-stage recorder. Datum of gage is 739.46 ft above National Geodetic Vertical Datum of 1929. Apr. 22, 1923, to Sept. 30, 1926 and Oct. 1, 1948, to May 10, 1950, nonrecording gage at site 50 ft downstream at same datum; May 11, 1950, to Dec. 17, 1952, nonrecording gage, at present site and datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	0.35	0.29	3.4	3.9	31	152	160	56	11	1.7	45
2	3.5	0.36	0.30	3.5	4.1	31	128	270	57	11	1.5	1,010
3	3.5	0.38	0.28	3.4	3.9	37	110	204	69	9.5	24	315
4	4.0	0.38	0.31	3.4	3.3	52	97	171	81	8.6	61	154
5	3.6	0.41	0.40	3.7	3.0	54	85	1,230	83	7.8	34	94
6	3.6	0.40	0.46	4.1	2.9	51	86	850	72	7.2	21	64
7	3.0	0.37	0.55	4.0	2.9	44	1,100	1,610	63	6.5	15	47
8	2.5	0.35	0.66	4.1	2.9	39	923	897	54	5.8	12	36
9	2.0	0.34	0.68	4.2	2.9	33	387	502	49	5.2	8.7	30
10	1.7	0.31	0.64	6.4	2.8	29	258	328	41	8.1	7.1	25
11	1.4	0.31	0.65	5.9	2.7	27	198	244	39	6.8	6.3	21
12	1.2	0.29	0.76	5.6	2.7	26	161	190	38	5.8	5.2	19
13	1.0	0.30	0.86	5.4	2.6	30	134	153	149	290	4.1	29
14	0.83	0.37	0.84	5.0	5.4	37	114	230	108	225	3.5	41
15	0.75	0.50	0.81	4.7	7.3	48	98	392	78	92	2.9	52
16	0.67	0.47	0.73	e4.5	15	54	86	277	60	50	2.4	39
17	0.70	0.45	0.75	e4.3	21	55	80	704	49	31	2.1	29
18	0.57	0.42	1.3	e4.1	31	54	75	928	39	22	1.7	23
19	0.49	0.38	1.8	e4.0	31	56	69	480	32	16	1.5	20
20	0.40	0.38	1.8	3.9	87	167	69	508	27	13	1.2	16
21	0.32	0.38	1.8	3.7	131	687	67	625	23	9.7	0.94	16
22	0.27	0.38	2.1	e3.6	103	484	70	395	20	7.8	0.79	92
23	0.24	0.41	2.2	e3.6	78	267	71	248	18	6.6	0.61	39
24	0.22	0.42	2.9	e3.5	63	190	415	182	16	5.7	0.49	31
25	0.31	0.38	3.6	e3.5	58	153	1,090	152	14	4.8	0.42	19
26	0.29	0.37	3.9	e3.4	50	130	653	159	14	3.9	0.32	14
27	0.26	0.31	4.0	e3.4	36	114	384	136	13	3.4	0.38	12
28	0.27	0.31	3.6	3.4	32	112	257	110	12	3.0	0.36	10
29	0.42	0.31	3.5	3.3	---	160	192	91	12	2.7	0.68	9.6
30	0.42	0.31	3.8	3.3	---	236	153	77	11	2.4	1.2	10
31	0.41	---	3.6	3.8	---	190	---	66	---	2.1	2.3	---
MEAN	1.37	0.37	1.61	4.07	28.2	119	259	405	46.6	28.5	7.27	78.7
MAX	4.0	0.50	4.0	6.4	131	687	1,100	1,610	149	290	61	1,010
MIN	0.22	0.29	0.28	3.3	2.6	26	67	66	11	2.1	0.32	9.6
IN.	0.00	0.00	0.00	0.01	0.07	0.33	0.69	1.11	0.12	0.08	0.02	0.21

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

MEAN	190	332	280	256	400	556	537	533	366	227	77.6	170
MAX	3,055	1,923	1,490	1,063	2,307	2,275	2,766	2,969	1,753	2,229	641	2,033
(WY)	(1987)	(1993)	(1993)	(1949)	(1985)	(1973)	(1994)	(1961)	(1981)	(1958)	(1950)	(1993)
MIN	0.00	0.00	0.06	0.12	0.14	0.23	4.09	39.1	4.52	0.03	0.00	0.00
(WY)	(1954)	(1954)	(1954)	(1954)	(1954)	(1954)	(1956)	(1988)	(1991)	(1954)	(1954)	(1953)

06919500 CEDAR CREEK NEAR PLEASANT VIEW, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	272		81.9		326	
HIGHEST ANNUAL MEAN					807	1993
LOWEST ANNUAL MEAN					16.0	1954
HIGHEST DAILY MEAN	10,600	May 9	1,610	May 7	26,200	Jul 17, 1958
LOWEST DAILY MEAN	0.22	Oct 24	0.22	Oct 24	0.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	0.27	Oct 22	0.27	Oct 22	0.00	Many Years
MAXIMUM PEAK FLOW	---		1,940	May 7	37,000	Jul 17, 1958
MAXIMUM PEAK STAGE	---		9.73	May 7	27.36	Apr 12, 1994
INSTANTANEOUS LOW FLOW	---		0.22	Oct 23,24	0.00	Many Years
ANNUAL RUNOFF (INCHES)	8.80		2.65		10.55	
10 PERCENT EXCEEDS	444		200		662	
50 PERCENT EXCEEDS	26		9.5		70	
90 PERCENT EXCEEDS	0.39		0.38		1.2	

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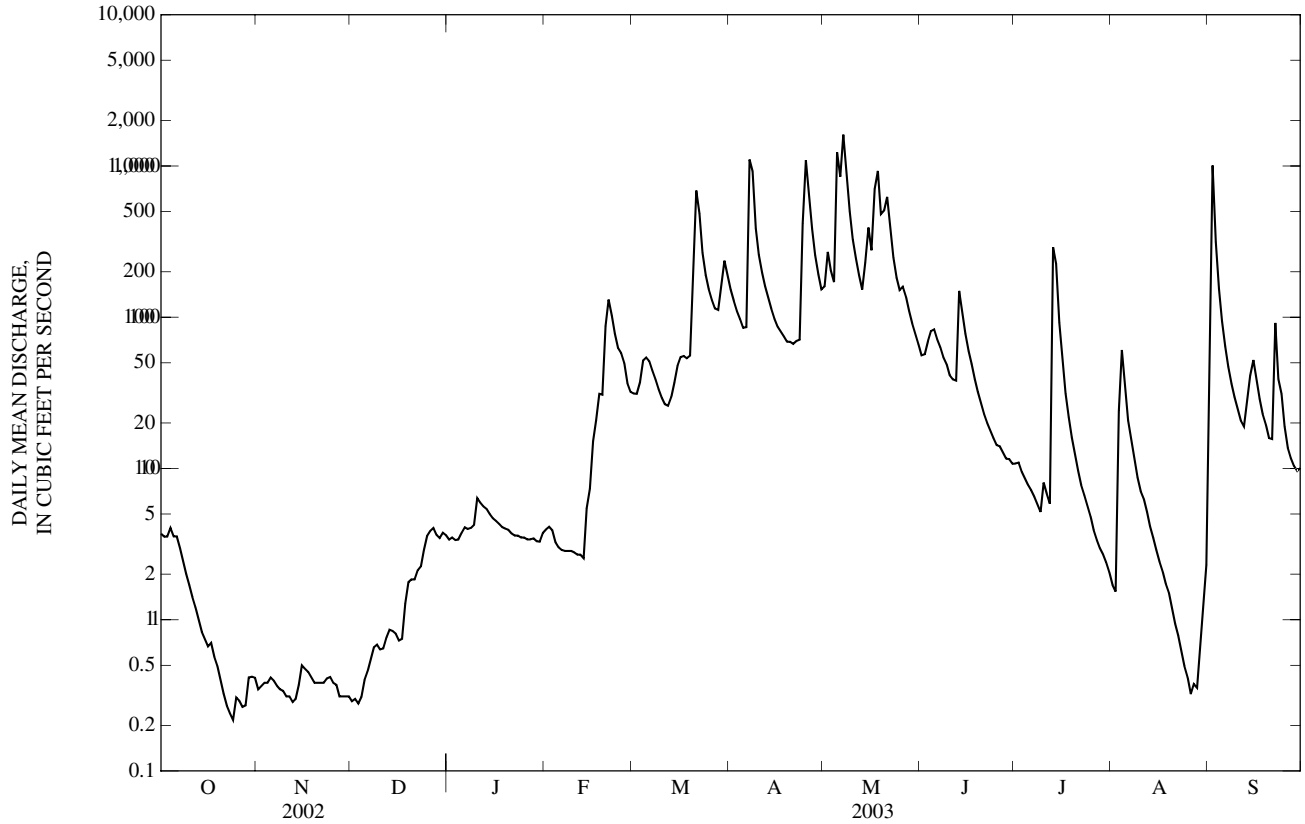

06919900 SAC RIVER NEAR CAPLINGER MILLS, MO

LOCATION.--Lat 37°52'12", long 93°48'11", in NW ¼ NE ¼ SW ¼ sec.21, T.36 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Some regulation from Stockton Lake (06918990). U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,220	757	110	748	81	318	322	414	188	1,310	1,440	515
2	1,510	162	115	140	80	168	295	642	187	1,590	1,470	1,090
3	1,910	151	109	621	80	159	259	546	193	2,550	154	541
4	1,680	143	118	1,140	78	166	241	451	210	1,430	538	293
5	1,190	142	993	162	77	167	222	2,350	205	1,630	1,900	205
6	135	142	139	147	77	161	275	1,690	188	129	1,870	160
7	114	139	125	126	75	152	1,670	3,000	172	727	2,130	133
8	108	134	125	124	75	143	1,590	1,780	153	1,820	2,310	118
9	105	129	124	122	76	135	784	1,020	149	1,880	1,410	108
10	97	126	124	122	76	126	558	735	135	1,940	714	101
11	654	117	124	123	76	123	459	558	124	1,780	946	97
12	134	111	124	120	75	122	387	440	131	1,430	1,700	95
13	113	111	128	120	74	134	328	383	294	1,240	2,100	111
14	519	115	125	121	95	149	294	405	221	1,540	1,410	114
15	1,330	120	124	100	96	166	270	638	178	1,040	511	120
16	1,380	115	124	84	99	180	258	1,050	156	1,540	1,440	144
17	1,670	121	126	586	105	180	240	890	322	1,120	143	841
18	848	119	133	e300	111	184	235	1,340	1,600	e1,350	180	652
19	164	119	125	100	113	212	233	823	1,620	e1,300	2,290	124
20	140	115	123	91	138	510	238	809	1,470	188	2,030	103
21	134	118	123	87	226	961	229	961	1,360	1,380	2,120	101
22	127	114	124	81	195	797	222	721	139	2,130	2,230	154
23	130	113	124	e400	173	507	205	487	302	1,810	1,740	312
24	661	110	130	e600	150	385	720	387	1,580	2,170	2,070	458
25	164	109	128	260	131	328	1,610	332	2,160	2,080	2,270	117
26	150	109	128	92	123	289	1,130	316	1,630	1,520	2,340	100
27	144	110	128	88	526	256	745	374	966	131	1,950	91
28	145	111	128	85	916	266	542	992	124	407	2,140	85
29	746	110	128	84	---	319	426	838	111	1,730	1,460	80
30	728	112	129	82	---	441	365	1,170	400	1,690	151	71
31	753	---	129	83	---	379	---	227	---	1,470	149	---
MEAN	610	143	153	230	150	277	512	864	556	1,421	1,461	241
MAX	1,910	757	993	1,140	916	961	1,670	3,000	2,160	2,550	2,340	1,090
MIN	97	109	109	81	74	122	205	227	111	129	143	71
IN.	0.39	0.09	0.10	0.15	0.09	0.18	0.32	0.55	0.34	0.91	0.93	0.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2003, BY WATER YEAR (WY)

MEAN	1,183	1,372	1,601	1,411	1,691	2,139	2,390	2,452	2,097	1,440	1,066	970
MAX	11,070	5,392	5,838	5,487	5,202	5,630	6,805	5,782	7,046	5,283	2,850	5,283
(WY)	(1987)	(1994)	(1986)	(1993)	(1985)	(1985)	(1994)	(1995)	(1995)	(1995)	(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)	(2001)	(1991)	(1988)	(1991)	(1991)

06919900 SAC RIVER NEAR CAPLINGER MILLS, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1975 - 2003	
ANNUAL MEAN	1,568		557		1,650	
HIGHEST ANNUAL MEAN					3,267	1994
LOWEST ANNUAL MEAN					399	1977
HIGHEST DAILY MEAN	17,400	May 8	3,000	May 7	51,200	Oct 2, 1986
LOWEST DAILY MEAN	84	Sep 27	71	Sep 30	34	Aug 25, 1999
ANNUAL SEVEN-DAY MINIMUM	91	Sep 23	75	Feb 7	47	Oct 7, 1980
MAXIMUM PEAK FLOW	---		4,960	Aug 26	61,500	Apr 12, 1994
MAXIMUM PEAK STAGE	---		12.61	Aug 26	30.95	Apr 12, 1994
INSTANTANEOUS LOW FLOW	---		67	Sep 30	33	Aug 24, 1999
ANNUAL RUNOFF (INCHES)	11.76		4.18		12.39	
10 PERCENT EXCEEDS	5,080		1,650		4,040	
50 PERCENT EXCEEDS	753		193		913	
90 PERCENT EXCEEDS	120		101		95	

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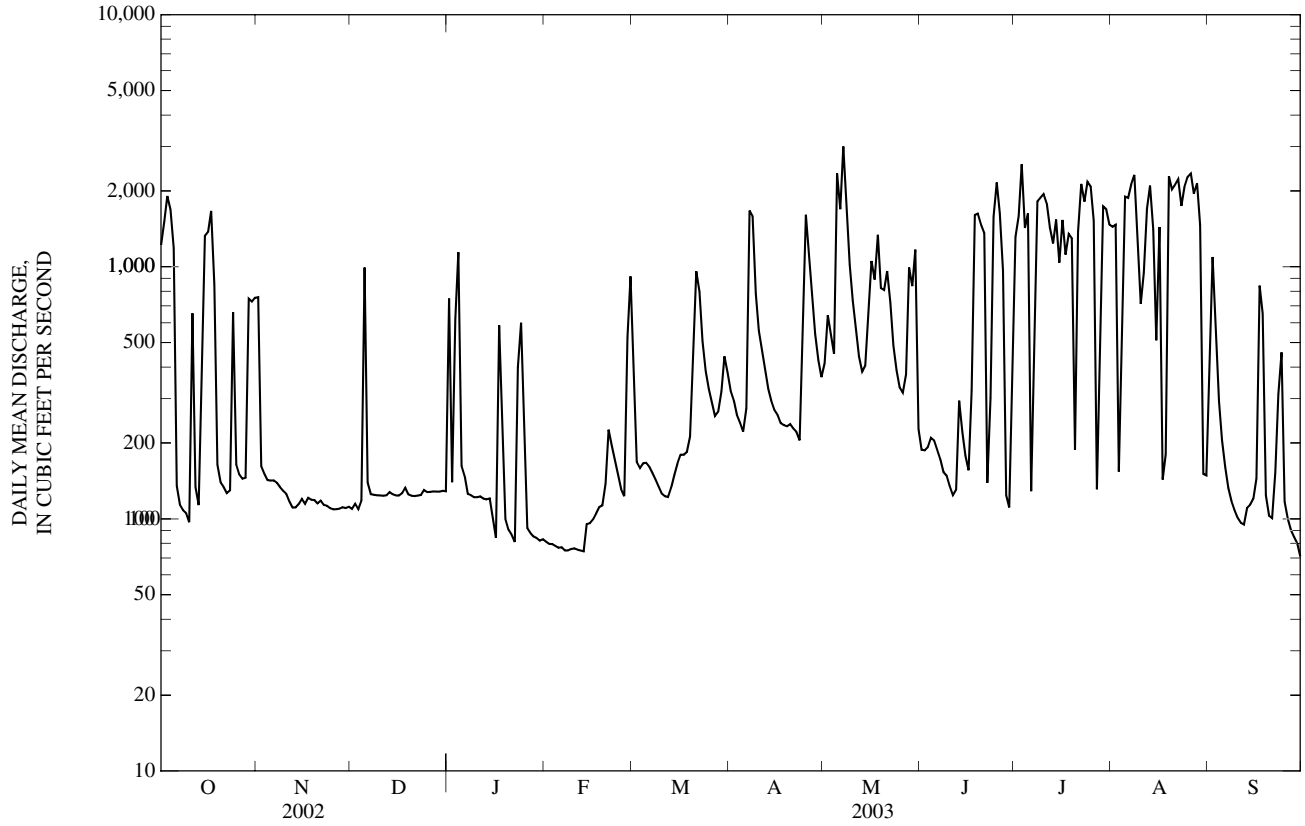


06921070 POMME DE TERRE RIVER NEAR POLK, MO

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 and crest-stage gage. Datum of gage is 872.61 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Water-discharge records fair. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

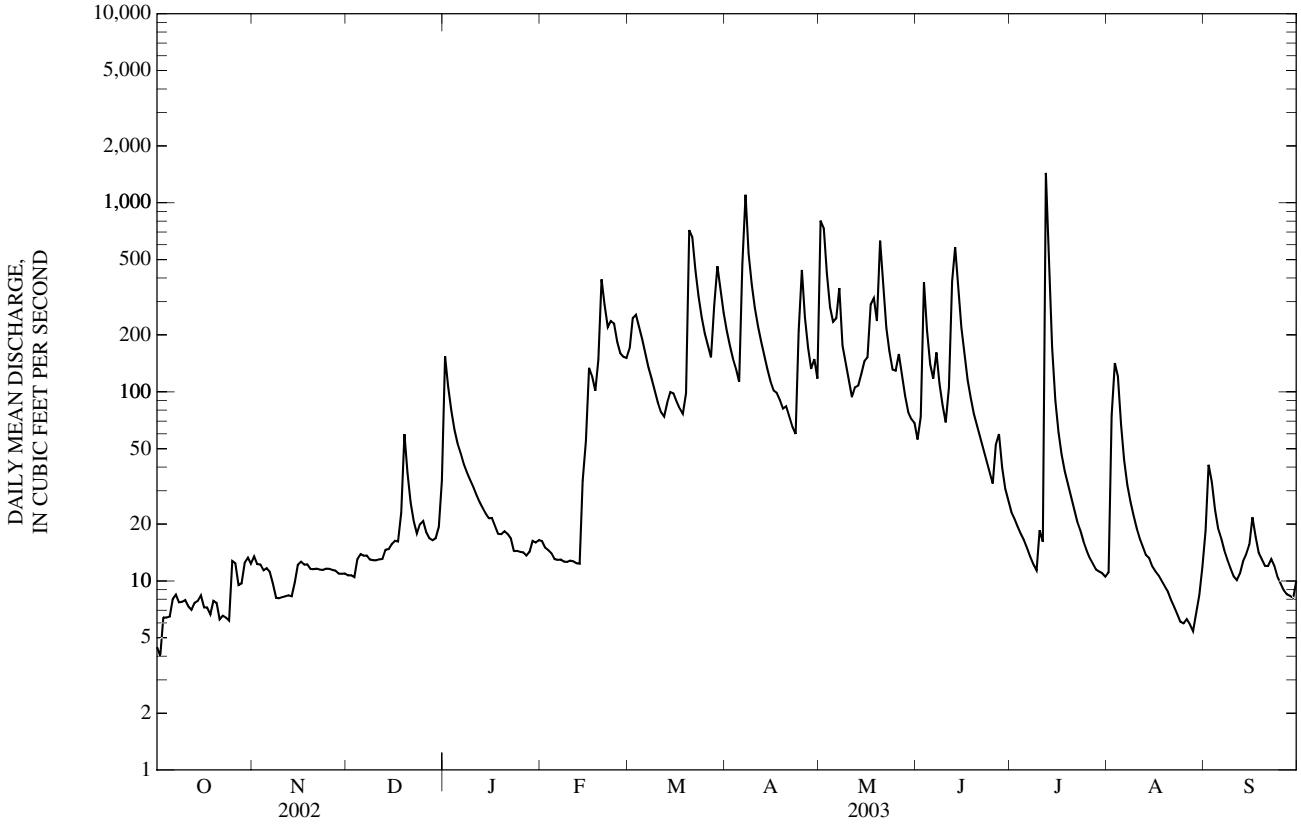
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	13	11	154	16	170	212	805	56	23	11	18
2	4.0	12	11	107	15	246	176	733	74	21	75	41
3	6.4	12	10	80	15	256	150	426	380	19	142	33
4	6.4	11	13	63	14	219	132	281	212	18	121	24
5	6.5	12	14	53	13	190	113	235	140	16	67	19
6	8.0	11	14	47	13	159	474	245	118	15	44	17
7	8.5	9.7	14	42	13	135	1,100	354	161	13	32	15
8	7.7	8.1	13	38	13	117	539	176	110	12	26	13
9	7.8	8.1	13	34	13	101	368	139	84	11	22	12
10	7.9	8.2	13	32	13	88	278	114	69	19	19	11
11	7.3	8.3	13	29	13	78	222	94	105	16	17	10
12	7.0	8.4	13	26	12	74	185	106	384	1,440	15	11
13	7.7	8.3	15	24	12	88	156	108	583	442	14	13
14	7.9	9.8	15	23	34	100	132	124	359	172	13	14
15	8.4	12	16	21	55	98	114	145	218	91	12	16
16	7.2	13	16	22	134	89	102	152	154	61	11	22
17	7.2	12	16	19	121	81	99	289	115	47	11	17
18	6.7	12	23	18	101	76	91	313	92	38	10	14
19	7.9	12	60	18	148	98	82	237	76	32	9.3	13
20	7.7	12	37	18	393	716	84	631	65	27	8.8	12
21	6.3	12	26	18	288	661	74	353	56	24	7.9	12
22	6.5	11	21	17	220	437	65	217	49	21	7.3	13
23	6.4	11	18	14	237	321	60	164	42	18	6.7	12
24	6.2	12	20	14	230	247	210	131	37	16	6.1	11
25	13	12	21	14	184	204	442	129	33	14	6.0	9.7
26	12	11	18	14	160	176	248	158	52	13	6.3	8.9
27	9.5	11	17	14	153	152	171	123	60	12	5.9	8.5
28	9.7	11	16	14	151	286	132	95	40	12	5.4	8.3
29	13	11	17	16	---	462	149	78	31	11	6.7	8.1
30	13	11	19	16	---	355	118	72	27	11	8.4	10
31	12	---	34	16	---	262	---	69	---	11	12	---
MEAN	8.07	10.9	18.6	33.4	99.4	217	216	235	133	87.0	24.5	14.9
MAX	13	13	60	154	393	716	1,100	805	583	1,440	142	41
MIN	4.0	8.1	10	14	12	74	60	69	27	11	5.4	8.1
IN.	0.03	0.04	0.08	0.14	0.38	0.91	0.87	0.98	0.54	0.36	0.10	0.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2003, BY WATER YEAR (WY)

MEAN	150	343	319	262	339	518	507	411	222	92.3	40.1	149
MAX	1,094	1,408	1,488	822	1,496	1,673	1,978	1,658	1,252	450	154	2,348
(WY)	(1987)	(1986)	(1983)	(1991)	(1985)	(1973)	(1994)	(2002)	(1995)	(2000)	(1985)	(1993)
MIN	8.07	9.94	8.94	10.8	42.5	43.4	26.8	23.5	15.9	4.16	2.72	1.70
(WY)	(2003)	(1990)	(1990)	(1977)	(1981)	(1996)	(1981)	(2000)	(1988)	(1980)	(1980)	(1980)

06921070 POMME DE TERRE RIVER NEAR POLK, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1969 - 2003	
ANNUAL MEAN	258		91.4		279	
HIGHEST ANNUAL MEAN					554	1993
LOWEST ANNUAL MEAN					85.6	2000
HIGHEST DAILY MEAN	11,900	May 8	1,440	Jul 12	24,300	Sep 25, 1993
LOWEST DAILY MEAN	4.0	Oct 2	4.0	Oct 2	0.30	Aug 10, 1980
ANNUAL SEVEN-DAY MINIMUM	5.4	Sep 26	6.2	Aug 23	0.34	Aug 9, 1980
MAXIMUM PEAK FLOW	---		3,640	Jul 12	34,300	Sep 24, 1993
MAXIMUM PEAK STAGE	---		8.99	Jul 12	27.10	Sep 24, 1993
INSTANTANEOUS LOW FLOW	---		3.7	Oct 2	0.30	Aug 10, 1980
ANNUAL RUNOFF (INCHES)	12.69		4.50		13.72	
10 PERCENT EXCEEDS	414		240		560	
50 PERCENT EXCEEDS	39		21		84	
90 PERCENT EXCEEDS	7.3		8.3		10	



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.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
04...	1210	Environmental	11	9.4	82	7.8	371	8.2	190	36.7	24.3	2.75
JAN												
23...	0930	Environmental	17	14.1	98	8.0	355	0.5	--	--	--	--
MAR												
18...	1040	Environmental	76	9.7	100	8.0	413	14.5	--	--	--	--
MAY												
14...	1115	Environmental	125	6.9	75	7.6	419	17.5	210	44.3	24.2	3.28
JUL												
09...	1405	Environmental	11	5.2	71	7.8	429	29.6	--	--	--	--
SEP												
08...	1345	Environmental	13	6.6	78	7.7	386	22.0	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
04...	3.53	192	195	238	<1	5.71	<0.20	7.2	213	<10	0.21	<0.04	<0.06
JAN													
23...	--	211	211	257	<1	--	--	--	--	<10	0.14	<0.04	0.09
MAR													
18...	--	178	179	218	<1	--	--	--	--	<10	0.36	<0.04	0.09
MAY													
14...	6.11	193	193	235	<1	13.6	<0.17	9.6	221	18	0.42	E.03	0.41
JUL													
09...	--	200	200	245	<1	--	--	--	--	19	0.54	<0.04	0.17
SEP													
08...	--	181	182	222	<1	--	--	--	--	<10	0.37	<0.04	0.07

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
04...	<0.008	0.02	E.03	E.03	72	105	98k	M	47	0.6	<0.04	<0.2	<6
JAN													
23...	<0.008	<0.02	<0.04	<0.04	3k	10k	11k	--	--	--	--	--	--
MAR													
18...	E.005	<0.02	<0.04	<0.04	21	28	29	--	--	--	--	--	--
MAY													
14...	0.018	0.03	0.05	0.07	170	195k	174	E1	153	0.7	<0.04	<0.2	<6
JUL													
09...	E.007	0.09	0.11	0.13	18k	48	22k	--	--	--	--	--	--
SEP													
08...	<0.008	0.05	0.06	0.09	--e	--e	59	--	--	--	--	--	--

06921070 POMME DE TERRE RIVER NEAR POLK, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
04...	<10	<0.08	<1	12.8	<0.02	<0.5	1	<2
JAN								
23...	--	--	--	--	--	--	--	--
MAR								
18...	--	--	--	--	--	--	--	--
MAY								
14...	E8	<0.08	<1	18.4	<0.02	E.4	3	E2
JUL								
09...	--	--	--	--	--	--	--	--
SEP								
08...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

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 National Geodetic Vertical Datum of 1929. Prior to Sept. 25, 1957, nonrecording gage at site 30 ft downstream at same datum.

REMARKS.--Records fair except for estimated daily discharges and discharges below 5 ft^3/s, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	2.5	1.7	11	3.6	49	74	234	23	5.1	0.46	2.1
2	0.00	1.5	1.7	11	3.5	62	62	169	40	3.9	24	2.7
3	0.00	1.5	1.6	9.8	3.6	55	55	94	78	3.2	15	2.1
4	0.00	1.3	2.4	8.9	3.1	49	50	82	42	2.4	3.8	1.3
5	0.00	1.6	2.7	7.9	2.4	46	42	167	31	1.8	1.7	0.80
6	0.00	1.6	2.6	7.2	2.7	40	597	191	35	1.4	0.96	0.55
7	0.00	1.4	2.9	6.4	2.6	36	494	698	69	1.0	0.65	0.41
8	0.00	1.1	2.8	5.8	2.6	34	194	206	34	0.92	0.66	0.41
9	0.00	0.81	2.7	6.0	3.2	30	131	140	23	1.0	0.53	0.33
10	0.00	1.2	2.9	5.2	3.4	26	98	104	19	2.4	0.38	0.28
11	0.00	1.1	2.9	4.4	3.3	25	80	81	57	2.6	0.32	0.38
12	0.00	0.85	3.3	3.8	3.1	25	68	63	114	812	0.26	0.91
13	0.00	0.70	3.8	4.1	4.2	65	58	57	302	70	0.19	0.77
14	0.00	0.89	3.8	3.5	37	70	51	76	135	13	0.13	1.6
15	0.00	2.0	3.3	4.0	76	55	45	60	62	6.9	0.11	1.0
16	0.00	5.4	3.4	5.0	55	49	41	107	41	4.6	0.06	0.79
17	0.00	6.6	2.8	4.5	42	44	44	190	30	3.1	0.05	1.1
18	0.00	4.8	7.0	3.4	35	41	38	148	22	2.6	0.04	1.0
19	0.00	3.5	24	3.0	83	105	36	100	18	2.0	0.05	0.81
20	0.00	2.7	14	3.5	90	675	40	483	15	1.4	0.04	0.60
21	0.00	2.6	11	3.5	62	321	36	227	12	1.2	0.03	0.64
22	0.00	2.3	8.3	3.4	53	176	31	142	8.4	0.68	0.00	1.2
23	0.00	2.3	7.1	3.1	51	121	28	95	5.6	0.42	0.00	0.96
24	0.00	2.3	7.4	2.9	46	92	203	79	3.3	0.32	0.00	0.79
25	0.00	2.1	7.3	2.7	37	77	280	83	2.0	0.40	0.00	1.2
26	1.2	2.0	5.9	2.5	e34	70	120	69	362	0.34	0.00	1.2
27	3.5	1.9	5.3	2.3	e32	61	77	51	33	0.30	0.00	1.3
28	2.5	1.7	5.5	2.2	e30	240	61	42	12	0.37	0.00	0.88
29	3.1	1.9	6.0	2.7	---	205	52	36	8.0	0.61	0.11	0.59
30	11	2.0	7.4	3.0	---	118	46	34	6.0	0.45	0.18	0.99
31	6.2	---	9.4	3.7	---	89	---	29	---	0.40	0.35	---
MEAN	0.89	2.14	5.58	4.85	28.7	102	108	140	54.7	30.5	1.61	0.99
MAX	11	6.6	24	11	90	675	597	698	362	812	24	2.7
MIN	0.00	0.70	1.6	2.2	2.4	25	28	29	2.0	0.30	0.00	0.28
IN.	0.01	0.02	0.06	0.05	0.27	1.05	1.07	1.44	0.55	0.31	0.02	0.01

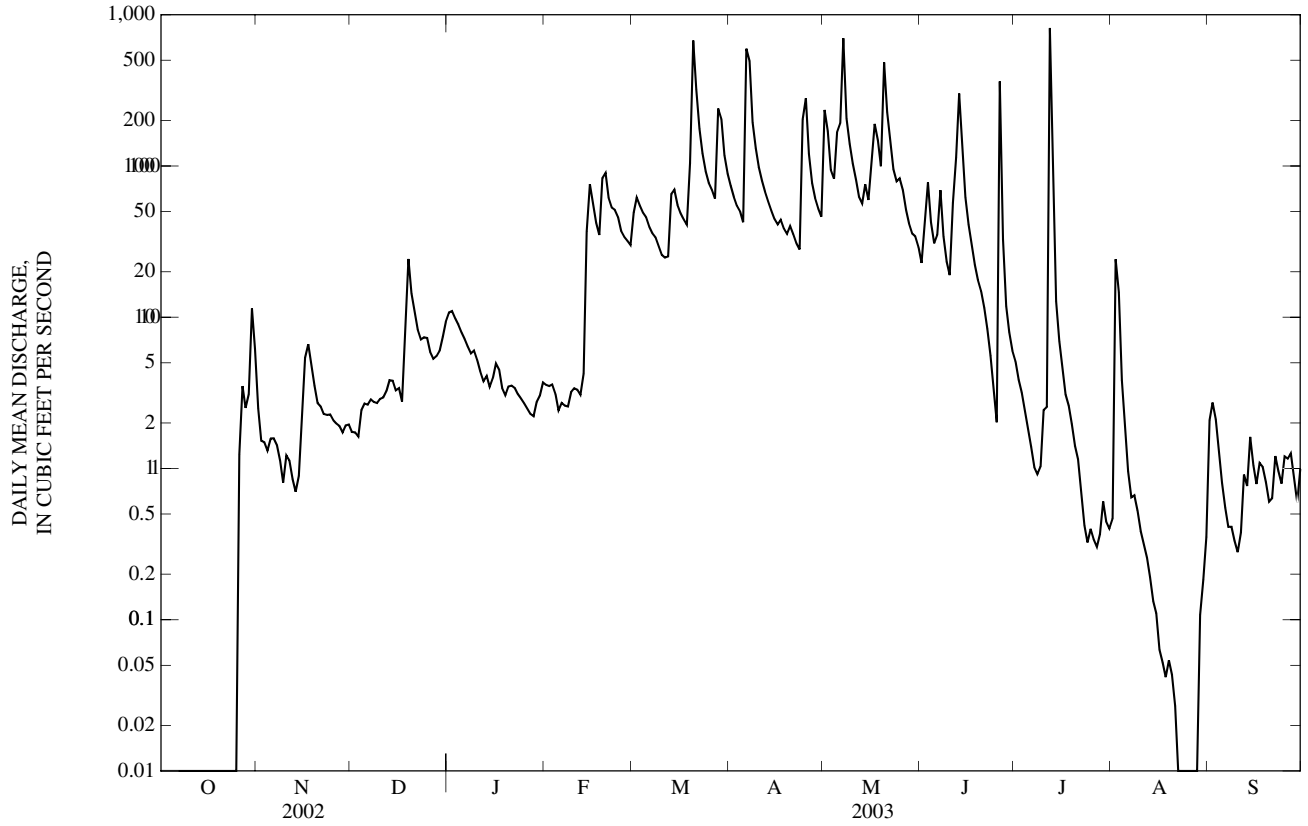
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2003, BY WATER YEAR (WY)

MEAN	78.9	104	113	95.4	128	189	178	172	80.6	36.9	13.8	52.3
MAX	812	566	526	358	764	855	903	854	421	534	100	1,134
(WY)	(1987)	(1986)	(1983)	(1973)	(1985)	(1973)	(1994)	(2002)	(1985)	(1958)	(1958)	(1993)
MIN	0.00	0.04	0.38	0.75	1.49	15.9	4.86	6.04	0.73	0.08	0.00	0.00
(WY)	(1977)	(1964)	(1964)	(1964)	(1964)	(1996)	(1981)	(2000)	(1988)	(1980)	(1980)	(1960)

06921200 LINDLEY CREEK NEAR POLK, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1957 - 2003	
ANNUAL MEAN	123		40.0		103	
HIGHEST ANNUAL MEAN					247	1993
LOWEST ANNUAL MEAN					18.8	2000
HIGHEST DAILY MEAN	5,960	May 13	812	Jul 12	12,000	Oct 1, 1986
LOWEST DAILY MEAN	0.00	Several Days	0.00	Many Days	0.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	0.00	Sep 23	0.00	Oct 1, Aug 22	0.00	Many Years
MAXIMUM PEAK FLOW	---		3,500	Jul 12	31,900	Oct 1, 1986
MAXIMUM PEAK STAGE	---		11.73	Jul 12	23.60	May 5, 1961
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Many Years
ANNUAL RUNOFF (INCHES)	14.95		4.85		12.51	
10 PERCENT EXCEEDS	169		96		183	
50 PERCENT EXCEEDS	17		3.8		25	
90 PERCENT EXCEEDS	0.02		0.05		0.44	

e Estimated



06921325 POMME DE TERRE LAKE NEAR HERMITAGE, MO

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

DRAINAGE AREA.--611 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 National Geodetic Vertical Datum of 1929 (levels by the 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. U.S. Army Corps of Engineers satellite telemeter at station.

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, 272,000 ac-ft, May 7, elevation 843.17 ft; minimum, 222,000 ac-ft, Feb. 12, 13, elevation, 837.04 ft.

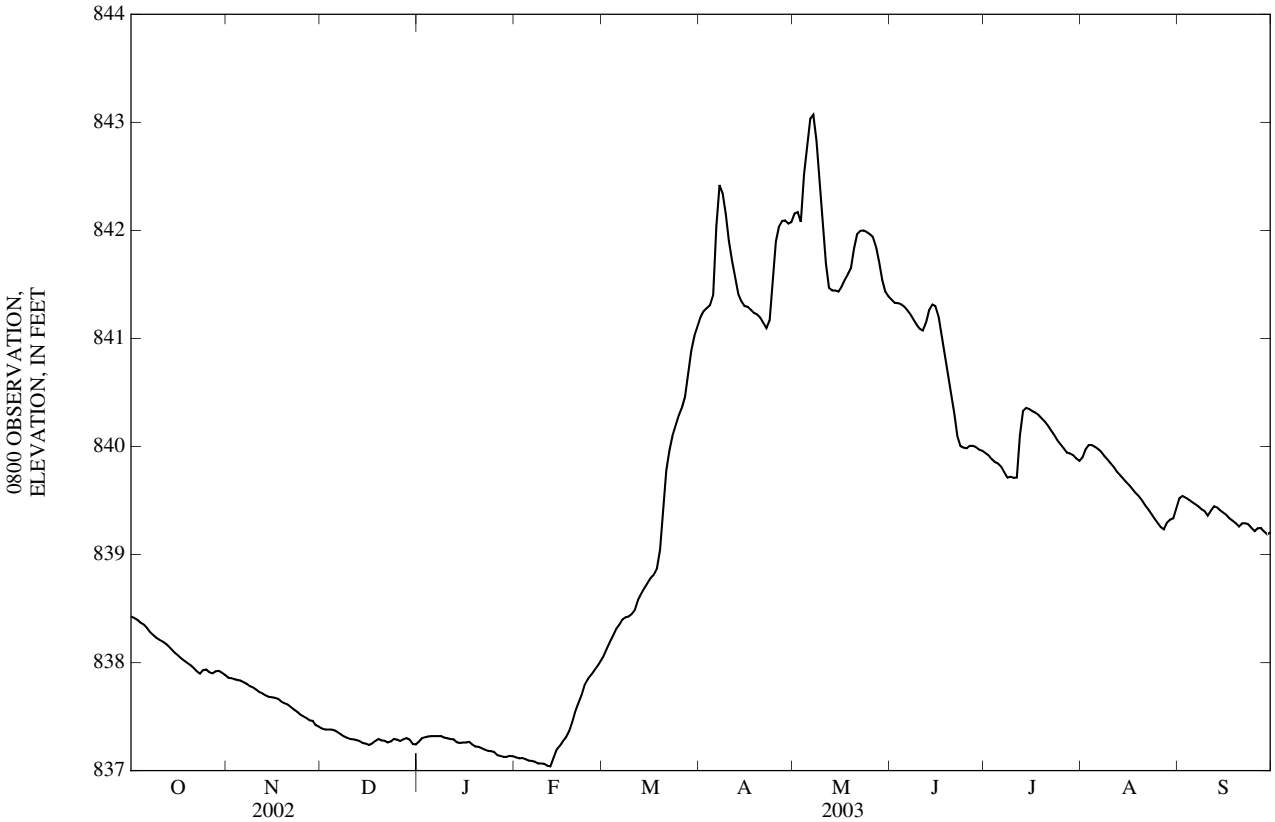
ELEVATION, IN FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
OBSERVATION AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	838.44	837.88	837.41	837.25	837.13	838.03	841.14	842.09	841.38	839.96	839.86	839.47
2	838.42	837.85	837.38	837.28	837.12	838.08	841.23	842.19	841.35	839.93	839.92	839.55
3	838.41	837.86	837.38	837.31	837.11	838.15	841.27	842.16	841.32	839.91	840.00	839.54
4	838.39	837.84	837.38	837.31	837.12	838.21	841.29	842.04	841.33	839.87	840.02	839.52
5	838.36	837.84	837.38	837.32	837.10	838.27	841.32	842.76	841.31	839.85	840.01	839.50
6	838.35	837.83	837.37	837.32	837.09	838.33	841.44	842.76	841.29	839.84	839.99	839.48
7	838.31	837.81	837.35	837.32	837.09	838.36	842.34	843.17	841.25	839.80	839.97	839.46
8	838.27	837.80	837.33	837.32	837.08	838.42	842.46	843.02	841.21	839.74	839.94	839.44
9	838.25	837.77	837.31	837.32	837.06	838.42	842.29	842.73	841.16	839.70	839.90	839.41
10	838.22	837.77	837.30	837.30	837.07	838.43	842.08	842.35	841.11	839.73	839.87	839.40
11	838.21	837.74	837.29	837.30	837.06	838.46	841.82	841.97	841.08	839.70	839.83	839.34
12	838.19	837.72	837.29	837.29	837.04	838.50	841.67	841.55	841.07	839.72	839.80	839.44
13	838.17	837.71	837.28	837.29	837.04	838.62	841.52	841.43	841.19	840.29	839.75	839.45
14	838.14	837.69	837.27	837.25	837.16	838.65	841.36	841.45	841.30	840.35	839.73	839.43
15	838.11	837.68	837.25	837.26	837.21	838.71	841.34	841.44	841.32	840.36	839.69	839.40
16	838.08	837.68	837.25	837.26	837.24	838.75	841.28	841.43	841.29	840.34	839.66	839.38
17	838.06	837.67	837.23	837.26	837.29	838.80	841.30	841.50	841.16	840.32	839.63	839.36
18	838.03	837.66	837.26	837.27	837.32	838.82	841.25	841.56	840.99	840.31	839.59	839.32
19	838.01	837.63	837.28	837.23	837.39	838.89	841.23	841.61	840.81	840.28	839.56	839.31
20	837.99	837.62	837.30	837.22	837.48	839.12	841.22	841.67	840.62	840.25	839.53	839.28
21	837.97	837.61	837.27	837.22	837.59	839.61	841.18	841.92	840.44	840.22	839.49	839.25
22	837.94	837.58	837.28	837.20	837.65	839.86	841.13	841.99	840.24	840.18	839.44	839.31
23	837.91	837.56	837.25	837.19	837.73	840.02	841.08	842.00	840.03	840.13	839.41	839.28
24	837.89	837.54	837.28	837.18	837.83	840.14	841.21	842.00	839.99	840.09	839.36	839.28
25	837.95	837.51	837.30	837.18	837.86	840.22	841.73	841.98	839.99	840.04	839.32	839.23
26	837.93	837.50	837.28	837.17	837.90	840.32	841.98	841.96	839.98	840.01	839.28	839.21
27	837.90	837.48	837.27	837.13	837.94	840.38	842.06	841.93	840.02	839.97	839.24	839.26
28	837.90	837.46	837.30	837.14	837.98	840.50	842.10	841.81	840.00	839.93	839.23	839.24
29	837.93	837.46	837.30	837.12	---	840.78	842.09	841.66	839.99	839.94	839.33	839.20
30	837.92	837.40	837.28	837.13	---	840.95	842.05	841.48	839.96	839.91	839.32	839.18
31	837.90	---	837.23	837.14	---	841.06	---	841.41	---	839.88	839.34	---
MAX	838.44	837.88	837.41	837.32	837.98	841.06	842.46	843.17	841.38	840.36	840.02	839.55
MIN	837.89	837.40	837.23	837.12	837.04	838.03	841.08	841.41	839.96	839.70	839.23	839.18
(-)	229,000	225,000	224,000	223,000	230,000	254,000	262,000	257,000	245,000	244,000	240,000	239,000
(=)	-4,000	-4,000	-1,000	-1,000	+7,000	+24,000	+8,000	-5,000	-12,000	-1,000	-4,000	-1,000

CAL YR 2002....-35,000
WTR YR 2003.... -6,000

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

06921325 POMME DE TERRE LAKE NEAR HERMITAGE, MO—Continued



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 National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Pomme de Terre Lake (06921325), 0.5 mi upstream. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

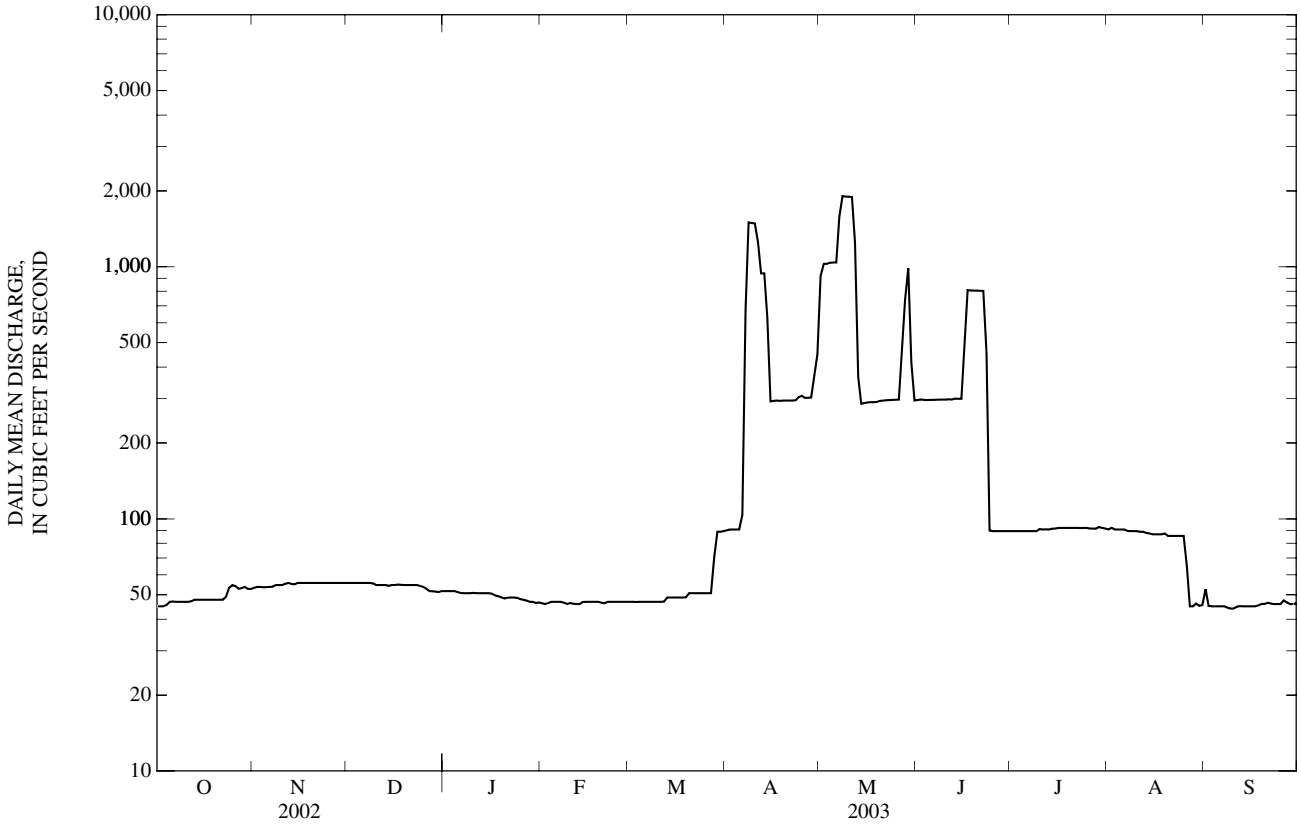
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	53	56	52	46	47	90	921	296	89	91	53
2	45	54	56	52	46	47	91	1,030	298	89	92	45
3	45	54	56	52	46	47	91	1,030	297	89	91	45
4	46	54	56	52	47	47	91	1,040	296	89	91	45
5	47	54	56	51	47	47	91	1,040	296	89	91	45
6	47	54	56	51	47	47	104	1,040	297	89	91	45
7	47	54	56	51	47	47	673	1,580	297	89	90	45
8	47	55	56	51	46	47	1,500	1,910	297	89	89	44
9	47	55	55	51	46	47	1,490	1,900	297	90	89	44
10	47	55	55	51	46	47	1,490	1,900	297	91	89	44
11	47	55	55	51	46	47	1,250	1,890	298	91	89	45
12	47	56	55	51	46	47	943	1,250	297	91	89	45
13	48	55	55	51	46	49	942	366	300	91	88	45
14	48	55	54	51	47	49	630	286	300	91	88	45
15	48	56	55	51	47	49	293	288	300	92	87	45
16	48	56	55	50	47	49	294	289	483	92	87	45
17	48	56	55	50	47	49	295	290	808	92	87	45
18	48	56	55	49	47	49	294	290	806	92	87	45
19	48	56	55	49	47	49	295	291	804	92	87	46
20	48	56	55	48	46	51	295	294	804	92	86	46
21	48	56	55	49	46	51	295	295	803	92	86	46
22	48	56	55	49	47	51	295	296	802	92	86	46
23	49	56	55	49	47	51	296	296	455	92	86	46
24	53	56	54	49	47	51	304	296	90	92	86	46
25	55	56	54	48	47	51	307	297	89	92	86	46
26	54	56	53	48	47	51	302	297	89	92	65	48
27	53	56	52	47	47	51	302	499	89	92	45	47
28	53	56	52	47	47	70	303	741	89	91	45	46
29	54	56	51	47	---	89	374	987	89	93	46	46
30	53	56	51	46	---	89	449	418	89	92	45	46
31	53	---	52	47	---	89	---	295	---	92	46	---
MEAN	48.8	55.3	54.5	49.7	46.6	53.3	482	763	362	91.0	80.7	45.7
MAX	55	56	56	52	47	89	1,500	1,910	808	93	92	53
MIN	45	53	51	46	46	47	90	286	89	89	45	44
IN.	0.09	0.10	0.10	0.09	0.08	0.10	0.88	1.43	0.66	0.17	0.15	0.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2003, BY WATER YEAR (WY)

MEAN	321	535	611	492	566	850	841	903	634	350	118	131
MAX	3,116	2,872	2,886	2,042	2,100	3,487	2,948	4,799	2,397	2,349	480	1,110
(WY)	(1994)	(1987)	(1986)	(1993)	(1975)	(1985)	(1984)	(1961)	(2002)	(1995)	(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)

06921350 POMME DE TERRE RIVER NEAR HERMITAGE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1960 - 2003	
ANNUAL MEAN	616		178		529	
HIGHEST ANNUAL MEAN					1,163	1973
LOWEST ANNUAL MEAN					67.8	1963
HIGHEST DAILY MEAN	3,300	May 21	1,910	May 8	9,000	May 9, 1961
LOWEST DAILY MEAN	43	Aug 11,15,16	44	Sep 8-10	0.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	44	Aug 10	45	Sep 4	0.00	At Times
MAXIMUM PEAK FLOW	---		1,920	May 7,8,29	5,910	May 5, 1970
MAXIMUM PEAK STAGE	---		7.24	May 7	12.15	May 5, 1970
INSTANTANEOUS LOW FLOW	---		44	Sep 8-11	0.00	Several Years
ANNUAL RUNOFF (INCHES)	13.59		3.93		11.69	
10 PERCENT EXCEEDS	2,500		305		1,920	
50 PERCENT EXCEEDS	102		55		103	
90 PERCENT EXCEEDS	45		46		44	



06921582 SOUTH GRAND RIVER BELOW FREEMAN, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 38°35'20", long 94°26'30", in NW ¼ NW ¼ NE ¼ sec.27, T.44N., R.32 W., Cass County, Hydrologic Unit 10290108, on the left bank on upstream side of bridge on gravel road, approximately 2 mi south of State Highway 2, approximately 6.1 mi southwest of Harrisonville, and 4 mi southeast of Freeman.

DRAINAGE AREA.--150 mi^2.

PERIOD OF RECORD.--October 1997 to current year. October 1998 to September 2000 published as South Grand River at Grand River Church (06921881).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
21...	1310	Environmental	1.3	9.1	87	8.0	916	12.0	--	--	--	--
NOV												
14...	1110	Environmental	0.95	5.4	48	7.8	794	8.5	230	68.3	13.8	7.38
DEC												
13...	1120	Environmental	1.4	11.9	95	8.3	860	4.5	--	--	--	--
JAN												
07...	1105	Environmental	1.5	12.0	92	8.4	904	3.5	280	85.1	15.6	8.36
07...	1115	Blank	--	--	--	--	--	--	--	E.01	<0.008	<0.10
FEB												
11...	1150	Environmental	1.5	--e	--e	9.5	890	5.0	--	--	--	--
MAR												
05...	1145	Environmental	1.9	17.3	131	9.6	781	2.5	--	--	--	--
APR												
10...	1130	Environmental	2.8	9.2	85	8.3	760	10.5	--	--	--	--
MAY												
30...	1050	Environmental	2.8	7.2	88	8.1	566	23.0	260	86.2	10.5	5.06
JUN												
19...	1130	Environmental	3.8	7.3	92	8.0	485	25.5	--	--	--	--
JUL												
23...	1045	Environmental	0.35	4.6	58	7.9	601	26.0	--	--	--	--
AUG												
22...	0905	Environmental	0.12	2.5	32	7.9	580	27.0	210	63.7	11.9	6.09
SEP												
23...	1110	Environmental	1.2	7.8	85	8.0	447	18.0	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
21...	--	184	184	225	<1	--	--	--	--	10	0.43	<0.04	E.04
NOV													
14...	78.5	175	173	211	<1	38.7	0.40	167	510	<10	0.55	<0.04	E.04
DEC													
13...	--	203	202	246	<1	--	--	--	--	<10	0.62	<0.04	<0.06
JAN													
07...	91.6	220	221	257	6	49.5	0.44	179	582	22	0.91	<0.04	<0.06
07...	<0.09	--	--	--	--	<0.20	<0.17	<0.2	<10	<10	<0.10	<0.04	<0.06
FEB													
11...	--	198	192	128	52	--	--	--	--	28	1.8	<0.04	0.22
MAR													
05...	--	128	126	99	27	--	--	--	--	24	1.6	<0.04	2.99
APR													
10...	--	189	190	231	<1	--	--	--	--	28	1.0	0.08	E.04
MAY													
30...	23.5	198	198	242	<1	23.6	0.30	57.2	337	36	0.85	<0.04	<0.06
JUN													
19...	--	176	177	216	<1	--	--	--	--	43	0.85	<0.04	0.21
JUL													
23...	--	177	178	217	<1	--	--	--	--	17	0.90	<0.04	<0.30
AUG													
22...	43.2	163	164	200	<1	41.9	0.50	57.2	356	12	0.97	<0.04	<0.06
SEP													
23...	--	143	144	176	<1	--	--	--	--	12	0.59	0.04	0.42

06921582 SOUTH GRAND RIVER BELOW FREEMAN, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
21...	<0.008	0.03	0.04	0.07	27k	18k	45	--	--	--	--	--	--
NOV													
14...	<0.008	0.07	0.08	0.12	14k	10k	16k	<2	140	1.6	0.07	<0.2	<6
DEC													
13...	<0.008	0.03	0.04	0.08	64	34	11k	--	--	--	--	--	--
JAN													
07...	<0.008	0.03	E.04	0.13	12k	3k	43k	E1	530	1.8	0.05	<0.2	E3
07...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<6
FEB													
11...	0.011	0.12	0.14	0.41	12k	430k	4k	--	--	--	--	--	--
MAR													
05...	0.082	0.33	0.39	0.60	5k	15k	19k	--	--	--	--	--	--
APR													
10...	E.005	0.05	0.07	0.15	13k	27k	13k	--	--	--	--	--	--
MAY													
30...	<0.008	0.02	0.04	0.15	2k	50k	62	5	669	1.8	E.02	<0.2	<7
JUN													
19...	0.012	0.03	0.05	0.17	<1b	76k	240	--	--	--	--	--	--
JUL													
23...	E.006	0.08	0.07	0.17	2k	120	150	--	--	--	--	--	--
AUG													
22...	<0.008	0.07	0.10	0.18	32k	70	78	5	285	4.7	E.03n	0.05	1.1
SEP													
23...	0.008	0.07	0.07	0.13	35k	150	130	--	--	--	--	--	--

06921582 SOUTH GRAND RIVER BELOW FREEMAN, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT								
21...	--	--	--	--	--	--	--	--
NOV								
14...	37	0.10	<1	188	<0.02	0.8	12	4
DEC								
13...	--	--	--	--	--	--	--	--
JAN								
07...	19	E.08	M	200	<0.02	0.7	2	4
07...	<10	<0.08	<1	<2.0	<0.02	<0.5	M	<2
FEB								
11...	--	--	--	--	--	--	--	--
MAR								
05...	--	--	--	--	--	--	--	--
APR								
10...	--	--	--	--	--	--	--	--
MAY								
30...	<8	<0.08	1	48.6	<0.02	0.7	M	4
JUN								
19...	--	--	--	--	--	--	--	--
JUL								
23...	--	--	--	--	--	--	--	--
AUG								
22...	10	<0.08	M	229	<0.02	0.6	Mn	3
SEP								
23...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

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.4l 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.

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 700.00 ft above National Geodetic Vertical Datum of 1929. Auxiliary water-stage recorder 3.3 mi upstream from base gage at same datum.

REMARKS.--Discharge is calculated using fall computations due to backwater from Harry S. Truman Reservoir. Records poor. U.S. Army Corps of Engineers satellite telemeter at base and auxiliary gage.

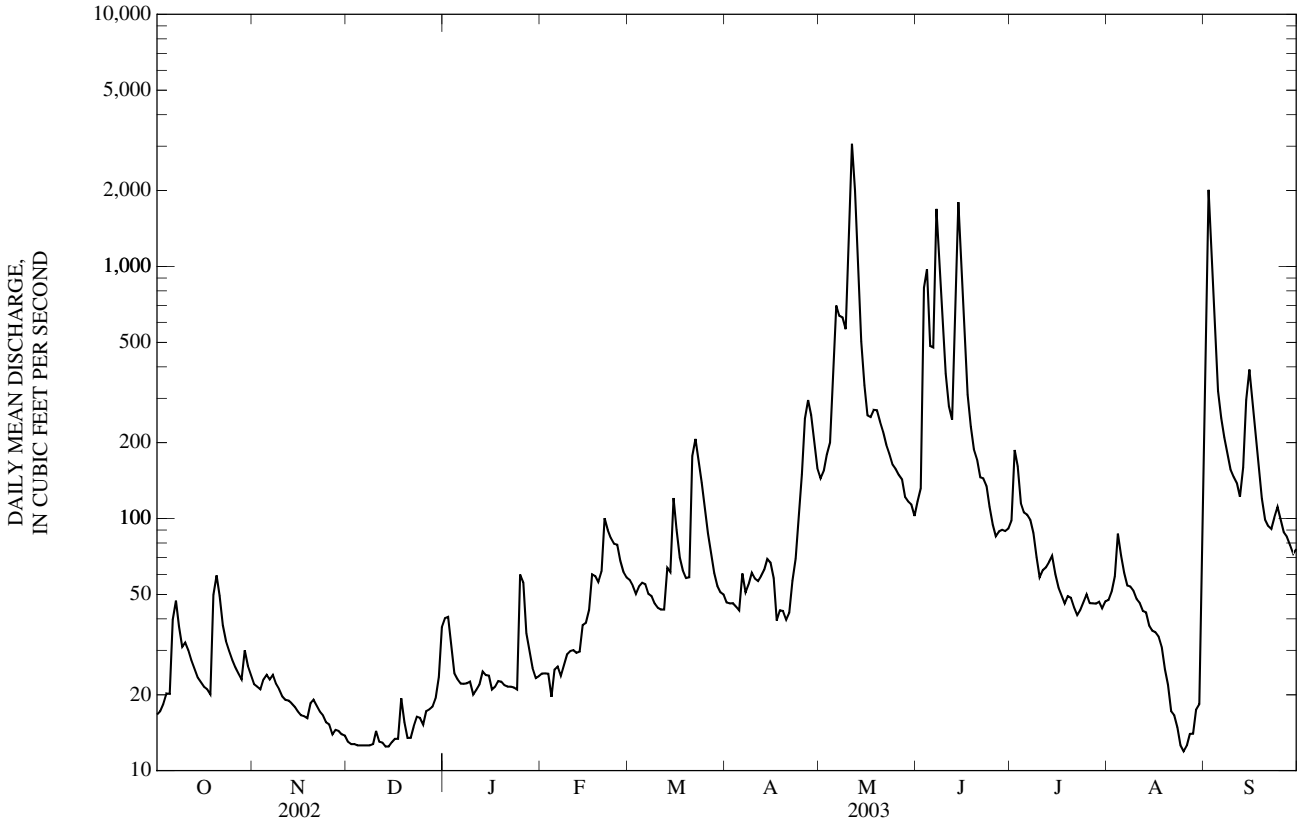
EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,220 ft^3/s, May 11, gage height 14.41 ft; minimum 0.00 ft^3/s, Oct. 18, Dec. 1, Jan. 21-25, and Aug. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	e22	e13	40	24	e57	46	144	117	98	48	721
2	17	e22	e13	41	24	e54	46	155	132	187	51	2,010
3	18	e21	e13	31	24	e50	46	179	823	161	59	962
4	20	e23	e13	24	20	e54	45	200	974	115	87	511
5	20	e24	e13	23	25	e56	43	410	484	106	71	320
6	40	e23	e13	22	26	e55	61	e700	478	104	61	e250
7	47	e24	e13	22	24	e50	51	637	1,690	99	54	e210
8	37	e22	e13	22	26	e49	55	628	1,070	88	54	180
9	31	e21	e13	23	29	e46	61	563	578	70	e52	157
10	32	e20	e14	20	30	e44	58	1,460	376	58	e48	146
11	30	e19	e13	21	30	e44	57	3,060	279	62	e46	138
12	e27	e19	13	22	29	e44	59	2,010	247	64	e43	122
13	e25	e19	12	25	30	e64	63	910	e800	67	e42	159
14	e23	e18	12	e24	38	e61	69	504	e1,800	71	e38	296
15	e22	e17	13	e24	39	e121	67	338	e1,000	60	e36	390
16	e21	e17	13	e21	43	e90.0	58	257	e600	53	e35	288
17	e21	e16	13	e22	60	e70	39	253	310	50	e34	211
18	e20	e16	19	e23	59	62	43	270	232	46	31	157
19	e50	e19	16	e23	56	58	43	269	188	49	25	120
20	e59	e19	13	e22	e62	59	40	242	171	48	22	99
21	e49	e18	13	e22	e100	177	42	221	146	45	17	94
22	e38	e17	15	e22	e90	207	57	196	144	41	17	91
23	e33	e17	16	e21	e84	170	69	181	135	43	15	101
24	e30	e16	16	e21	e79	139	100	164	111	47	13	111
25	e28	e15	15	e60	e79	110	149	157	95	50	12	99
26	e26	e14	17	56	e68	87	249	149	85	46	13	88
27	e24	e15	18	35	e61	74	295	143	89	46	14	85
28	e23	e14	18	30	e58	61	257	122	90	46	14	79
29	e30	e14	19	26	---	54	198	117	89	47	17	73
30	e26	e14	24	23	---	e51	158	114	91	44	18	76
31	e24	---	37	24	---	50	---	102	---	47	61	---
MEAN	29.3	18.5	15.4	26.9	47.0	76.4	87.5	479	447	69.6	37.0	278
MAX	59	24	37	60	100	207	295	3,060	1,800	187	87	2,010
MIN	17	14	12	20	20	44	39	102	85	41	12	73
IN.	0.03	0.02	0.01	0.02	0.04	0.07	0.08	0.44	0.39	0.06	0.03	0.24

e Estimated

06921760 SOUTH GRAND RIVER NEAR CLINTON, MO—Continued



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, with 7,856 mi^2 uncontrolled area below other reservoirs.

PERIOD OF RECORD.--October 1981 to current year. Records collected at same site since 1977 available from U.S. Army Corps of Engineers.

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

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, power, recreation, and fish and wildlife enhancement. U.S. Army Corps of Engineers satellite telemeter at station.

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,340,000 ac-ft, May 7, 8, elevation, 708.72 ft; minimum, 1,120,000 ac-ft, Aug. 26, elevation, 704.84 ft.

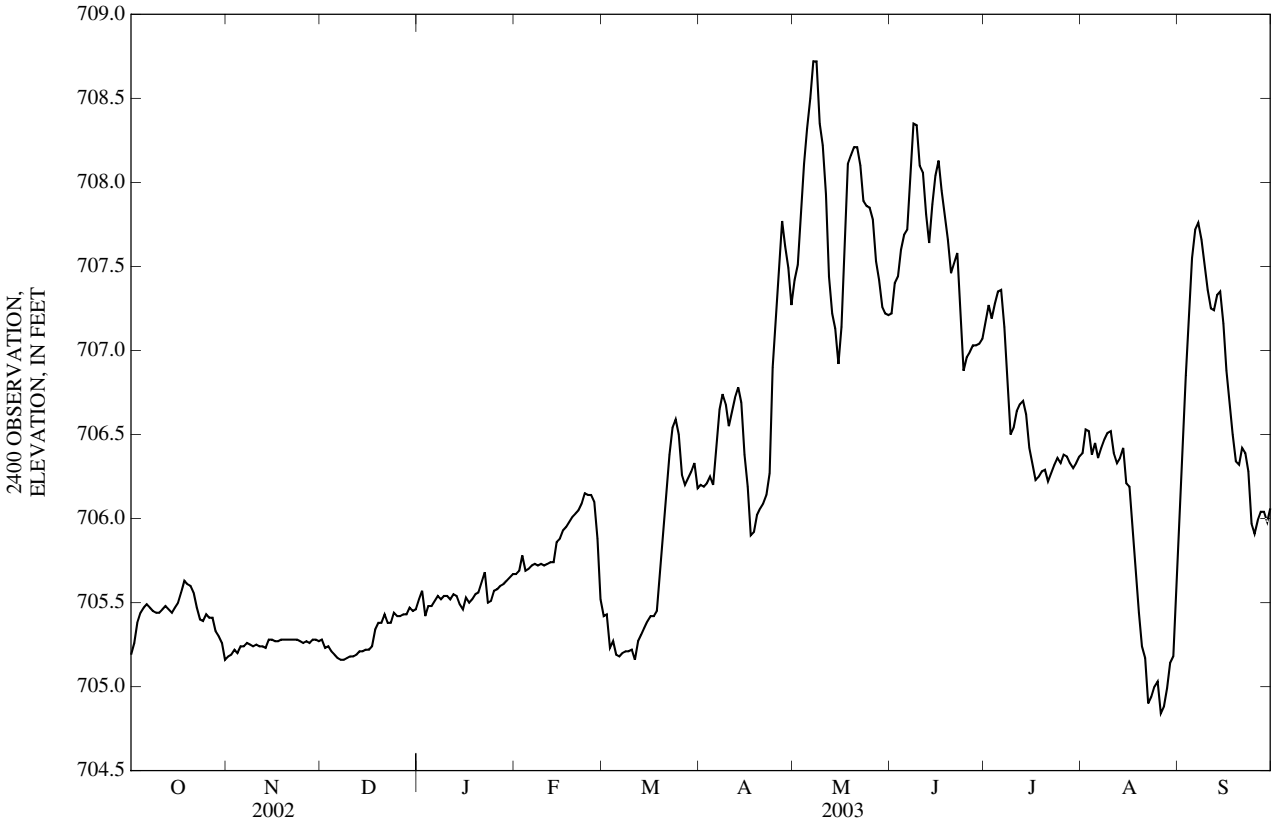
ELEVATION, IN FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
OBSERVATION AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	705.19	705.18	705.28	705.52	705.67	705.42	706.20	707.42	707.22	707.17	706.39	705.95
2	705.26	705.19	705.23	705.57	705.69	705.43	706.19	707.51	707.40	707.27	706.53	706.35
3	705.38	705.22	705.24	705.42	705.78	705.23	706.21	707.79	707.44	707.19	706.52	706.85
4	705.44	705.20	705.21	705.48	705.69	705.27	706.25	708.11	707.60	707.28	706.38	707.19
5	705.47	705.24	705.19	705.48	705.70	705.19	706.20	708.32	707.69	707.35	706.45	707.55
6	705.49	705.24	705.17	705.51	705.72	705.18	706.41	708.50	707.72	707.36	706.36	707.72
7	705.47	705.26	705.16	705.54	705.73	705.20	706.65	708.72	708.02	707.14	706.42	707.76
8	705.45	705.25	705.16	705.52	705.72	705.21	706.74	708.72	708.35	706.80	706.47	707.66
9	705.44	705.24	705.17	705.54	705.73	705.21	706.68	708.35	708.34	706.50	706.51	707.51
10	705.44	705.25	705.18	705.54	705.72	705.22	706.55	708.22	708.10	706.54	706.52	707.36
11	705.46	705.24	705.18	705.52	705.73	705.16	706.64	707.93	708.06	706.64	706.39	707.25
12	705.48	705.24	705.19	705.55	705.74	705.27	706.72	707.44	707.81	706.68	706.33	707.24
13	705.46	705.23	705.21	705.54	705.74	705.31	706.78	707.22	707.64	706.70	706.36	707.33
14	705.44	705.28	705.21	705.49	705.86	705.35	706.69	707.13	707.87	706.62	706.42	707.35
15	705.47	705.28	705.22	705.46	705.88	705.39	706.38	706.92	708.04	706.42	706.21	707.16
16	705.50	705.27	705.22	705.53	705.93	705.42	706.19	707.14	708.13	706.32	706.19	706.88
17	705.56	705.27	705.24	705.50	705.95	705.42	705.90	707.67	707.95	706.23	705.97	706.68
18	705.63	705.28	705.34	705.52	705.98	705.45	705.92	708.11	707.80	706.25	705.71	706.50
19	705.61	705.28	705.38	705.55	706.01	705.67	706.02	708.16	707.66	706.28	705.44	706.34
20	705.60	705.28	705.38	705.56	706.03	705.90	706.06	708.21	707.46	706.29	705.24	706.32
21	705.56	705.28	705.43	705.62	706.05	706.12	706.09	708.21	707.52	706.22	705.17	706.42
22	705.47	705.28	705.38	705.68	706.09	706.38	706.14	708.10	707.58	706.27	704.90	706.39
23	705.40	705.28	705.38	705.50	706.15	706.54	706.27	707.89	707.18	706.32	704.94	706.28
24	705.39	705.27	705.44	705.51	706.14	706.59	706.90	707.86	706.88	706.36	705.00	705.97
25	705.43	705.26	705.42	705.57	706.14	706.50	707.19	707.85	706.96	706.33	705.03	705.91
26	705.41	705.27	705.42	705.58	706.10	706.26	707.44	707.78	706.99	706.38	704.84	705.99
27	705.41	705.26	705.43	705.60	705.88	706.20	707.77	707.53	707.03	706.37	704.88	706.04
28	705.33	705.28	705.43	705.61	705.52	706.24	707.62	707.42	707.03	706.33	704.99	706.04
29	705.30	705.28	705.47	705.63	---	706.28	707.49	707.26	707.04	706.30	705.14	705.98
30	705.26	705.27	705.45	705.65	---	706.33	707.27	707.22	707.07	706.33	705.18	706.06
31	705.16	---	705.46	705.67	---	706.18	---	707.21	---	706.37	705.52	---
MAX	705.63	705.28	705.47	705.68	706.15	706.59	707.77	708.72	708.35	707.36	706.53	707.76
MIN	705.16	705.18	705.16	705.42	705.52	705.16	705.90	706.92	706.88	706.22	704.84	705.91
(-)	1,140,000	1,140,000	1,150,000	1,160,000	1,150,000	1,190,000	1,250,000	1,250,000	1,240,000	1,200,000	1,150,000	1,180,000
(=)	0	0	+10,000	+10,000	-10,000	+40,000	+60,000	0	-10,000	-40,000	-50,000	+30,000

CAL YR 2002.... -70,000
WTR YR 2003....+40,000

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

06922440 HARRY S. TRUMAN RESERVOIR AT WARSAW, MO—Continued



06923700 NIANGUA RIVER BELOW BENNETT SPRINGS, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 37°44'17", long 92°51'37", in NE ¼ SE ¼ SE ¼ sec.25, T.35 N., R.18 W., Dallas County, Hydrologic Unit 10290110, at bridge on Highway 64, 1,200 ft downstream from inflow of Bennett Spring Branch.

DRAINAGE AREA.--4,370 mi2.

PERIOD OF RECORD.--October 1983 to September 1988, July 1991 to current year.

REMARKS.--Ambient Water-Quality Monitoring Network station October 1983 to September 1988, November 1993 to current year. Special project station July 1991 to October 1995.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
13...	1045	Environmental	151	10.6	102	7.9	407	12.7	220	46.5	25.8	1.17
JAN												
14...	1045	Environmental	160	13.1	114	7.9	414	8.8	--	--	--	--
MAR												
11...	1110	Environmental	256	14.0	127	7.8	389	9.7	--	--	--	--
MAY												
28...	1040	Environmental	160	9.3	98	7.6	373	16.5	180	35.9	20.8	1.55
28...	1041	Replicate	--	9.4	99	7.6	377	16.5	180	36.1	20.8	1.62
JUL												
17...	0945	Environmental	153	6.6	75	7.6	327	20.2	--	--	--	--
SEP												
08...	1045	Environmental	110	9.5	100	7.6	395	16.3	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
13...	2.80	213	213	260	<1	4.48	<0.2	4.4	223	<10	E.08	<0.04	0.81
JAN													
14...	--	200	198	241	<1	--	--	--	--	<10	0.13	<0.04	0.71
MAR													
11...	--	166	168	205	<1	--	--	--	--	<10	0.12	<0.04	0.73
MAY													
28...	4.07	176	177	211	<1	8.32	<0.2	5.9	210	<10	0.22	<0.04	0.60
28...	4.09	--	--	--	--	8.22	<0.2	5.9	203	<10	0.20	<0.04	0.62
JUL													
17...	--	153	152	186	<1	--	--	--	--	12	0.35	<0.04	0.87
SEP													
08...	--	203	203	248	<1	--	--	--	--	<10	0.13	<0.04	0.81

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
13...	E.004	0.02	E.03	E.03	<1b	13k	8k	<2	15	E.2	<0.04	<0.2	E3n
JAN													
14...	<0.008	0.02	E.02	E.04	7k	6k	4k	--	--	--	--	--	--
MAR													
11...	E.006	<0.02	<0.04	<0.04	1k	3k	22	--	--	--	--	--	--
MAY													
28...	E.004	0.02	0.04	E.02	15k	25	18k	E1n	64	0.3	<0.04	<0.2	<7
28...	E.005	E.02	0.05	E.03	5k	28	21	E1	62	0.3	<0.04	<0.2	<7
JUL													
17...	<0.008	0.03	0.05	0.07	30	84k	130	--	--	--	--	--	--
SEP													
08...	E.004n	0.02	E.03n	E.03n	--e	--e	28k	--	--	--	--	--	--

06923700 NIANGUA RIVER BELOW BENNETT SPRINGS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
13...	<10	<0.08	<1	5.3	<0.02	<0.5	<1	<2
JAN								
14...	--	--	--	--	--	--	--	--
MAR								
11...	--	--	--	--	--	--	--	--
MAY								
28...	<8	<0.08	<1	9.2	<0.02	<0.5	Mn	E1n
28...	<8	<0.08	M	9.2	<0.02	<0.5	M	E1
JUL								
17...	--	--	--	--	--	--	--	--
SEP								
08...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

06923950 NIANGUA RIVER AT TUNNEL DAM NEAR MACKS CREEK, MO

LOCATION.--Lat 37°56'14", long 92°51'03", in SE ¼ SW ¼ SW ¼ sec.19, T.37 N., R.17 W., Camden County, Hydrologic Unit 10290110, at left end of concrete structure on top of Tunnel Dam, 6.5 mi southeast of Macks Creek.

DRAINAGE AREA.--598 mi^2.

PERIOD OF RECORD.--September 1995 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversion upstream through tunnel for power generation. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	224	183	266	191	179	420	216	302	142	175	153
2	136	217	180	293	190	238	496	312	201	128	184	167
3	143	215	181	304	190	292	474	543	129	135	186	164
4	143	210	196	e289	188	320	411	423	159	126	236	154
5	147	221	193	e275	186	305	214	378	206	139	201	155
6	151	219	186	e265	186	271	360	327	214	269	114	153
7	152	214	184	e255	189	233	679	871	202	262	201	148
8	154	211	183	e245	185	198	764	522	201	174	115	144
9	159	211	184	e235	185	167	304	293	186	205	72	142
10	161	210	184	e227	186	156	238	163	169	226	123	139
11	165	210	184	e220	183	157	268	204	239	234	129	145
12	165	202	e183	e216	182	142	323	180	269	257	165	171
13	166	197	183	214	182	283	269	170	331	431	183	178
14	167	203	182	214	297	295	230	158	900	485	183	172
15	168	216	180	210	405	292	250	151	812	218	176	161
16	175	216	181	211	399	267	202	172	514	129	171	155
17	181	214	193	209	396	234	189	188	333	109	168	149
18	187	212	234	203	298	204	172	215	223	114	165	151
19	188	206	263	200	210	299	165	263	177	224	166	161
20	189	201	266	202	259	727	203	287	154	223	160	162
21	189	198	264	203	296	886	190	326	145	211	154	163
22	190	198	248	201	346	665	176	466	116	202	151	171
23	188	195	234	199	316	533	163	340	136	193	153	167
24	186	194	236	191	295	412	261	252	125	197	153	159
25	227	189	231	191	253	332	494	228	123	202	153	150
26	225	186	215	191	218	274	500	178	250	193	150	156
27	217	186	209	188	184	250	418	155	1,510	188	145	170
28	214	185	205	188	162	279	317	151	525	185	147	188
29	253	184	211	190	---	351	245	152	251	204	154	181
30	257	183	215	188	---	429	211	139	164	201	153	178
31	243	---	231	192	---	457	---	170	---	192	116	---
MEAN	181	204	207	222	241	327	320	277	309	206	158	160
MAX	257	224	266	304	405	886	764	871	1,510	485	236	188
MIN	136	183	180	188	162	142	163	139	116	109	72	139
IN.	0.35	0.38	0.40	0.43	0.42	0.63	0.60	0.53	0.58	0.40	0.30	0.30

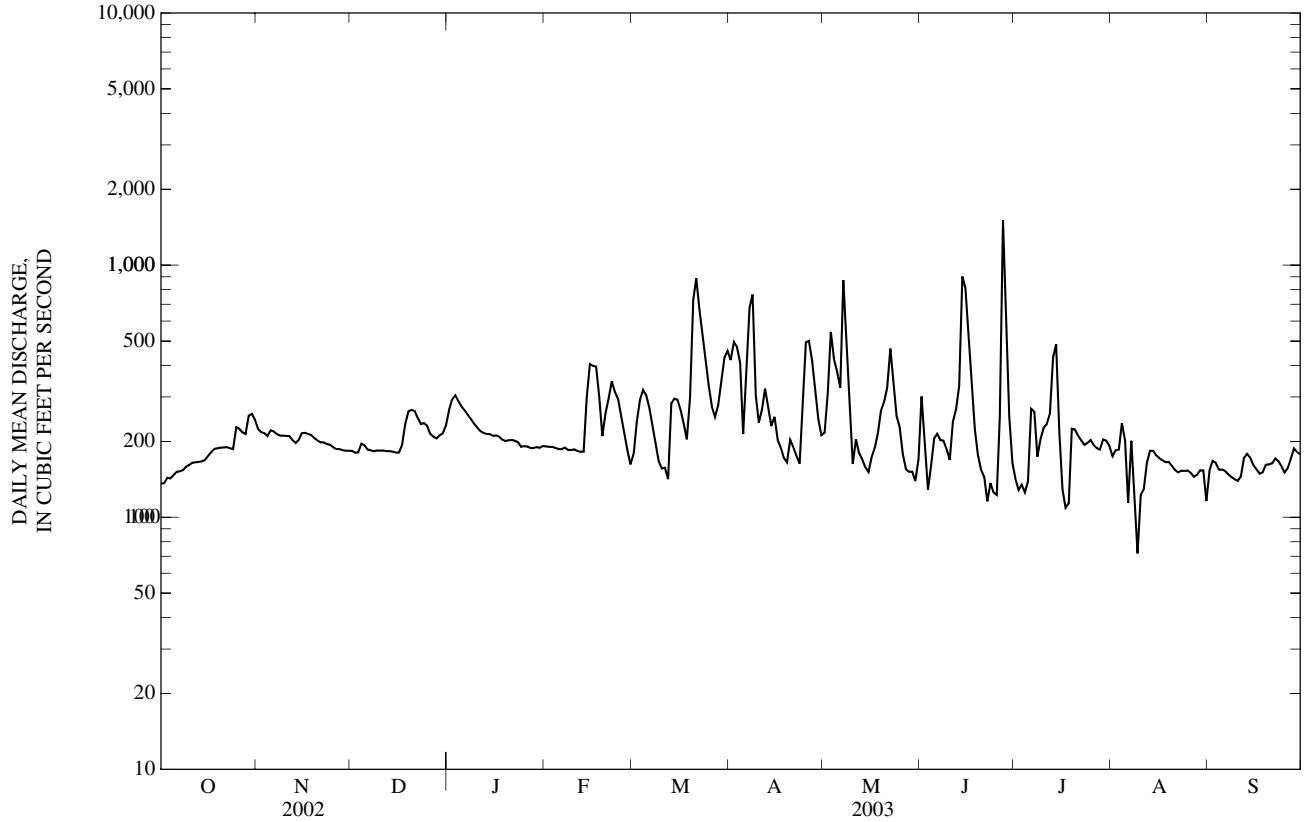
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2003, BY WATER YEAR (WY)

MEAN	220	326	254	185	452	499	565	820	242	169	168	186
MAX	492	1,345	535	317	845	1,458	1,696	2,819	370	248	385	462
(WY)	(1999)	(1997)	(2002)	(1999)	(2001)	(1998)	(1999)	(2002)	(1999)	(2001)	(1997)	(1996)
MIN	59.8	66.8	130	56.9	39.2	47.9	106	28.1	55.4	54.8	43.9	110
(WY)	(1998)	(1998)	(1998)	(1997)	(1996)	(1996)	(2000)	(1997)	(1996)	(1997)	(1996)	(1999)

06923950 NIANGUA RIVER AT TUNNEL DAM NEAR MACKS CREEK, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1995 - 2003	
ANNUAL MEAN	503		234		343	
HIGHEST ANNUAL MEAN					555	1999
LOWEST ANNUAL MEAN					143	2000
HIGHEST DAILY MEAN	12,000	May 14	1,510	Jun 27	14,500	Nov 8, 1996
LOWEST DAILY MEAN	84	Jul 14	72	Aug 9	0.00	Oct 18, 1997
ANNUAL SEVEN-DAY MINIMUM	98	Jul 9	131	Aug 6	8.1	Sep 25, 1997
MAXIMUM PEAK FLOW	---		2,210	Jun 27	15,200[a]	Nov 8, 1996
MAXIMUM PEAK STAGE	---		5.09	Jun 27	14.19	Nov 8, 1996
INSTANTANEOUS LOW FLOW	---		41	Aug 10	0.00	Oct 18, 1997
ANNUAL RUNOFF (INCHES)	11.43		5.32		7.79	
10 PERCENT EXCEEDS	609		336		524	
50 PERCENT EXCEEDS	215		198		168	
90 PERCENT EXCEEDS	143		150		58	

e Estimated
[a] From rating extended above 10,500 ft^3/s.



06925500 LAKE OF THE OZARKS NEAR BAGNELL, MO

LOCATION.--Lat 38°12'19", long 92°37'21", in SE 1/4 sec.19, T.40 N., R.15 W., Miller County, Hydrologic Unit 10290111, at left end of powerhouse section near left end of Bagnell Dam on Osage River, 2 mi southwest of Bagnell, and at mile 81.7.

DRAINAGE AREA.--14,000 mi^2.

PERIOD OF RECORD.--April 1931 to current year. Gage-height records collected at same site since 1932 are in reports of the National Weather Service, published as "Osage River at Bagnell Dam, Lakeside".

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum, adjustment of 1912. To obtain National Geodetic Vertical Datum of 1929, subtract 0.88 ft.

REMARKS.--Lake is formed by concrete gravity dam. Spillway is equipped with 12 tainter gates 34 ft wide by 22 ft high. Storage began in 1931. Usable capacity 1,218,000 ac-ft between elevation 630.00 ft (maximum draw-down) and 660.00 ft (top of gates). Dead storage, 708,800 ac-ft. Figures given herein are usable contents. Lake is used for flood control, power, and recreational purposes.

COOPERATION.--Records were provided by the AmerenUE 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, 1,223,000 ac-ft, June 10, elevation, 660.10 ft; minimum, 901,000 ac-ft, Mar. 6-10, elevation, 654.10 ft.

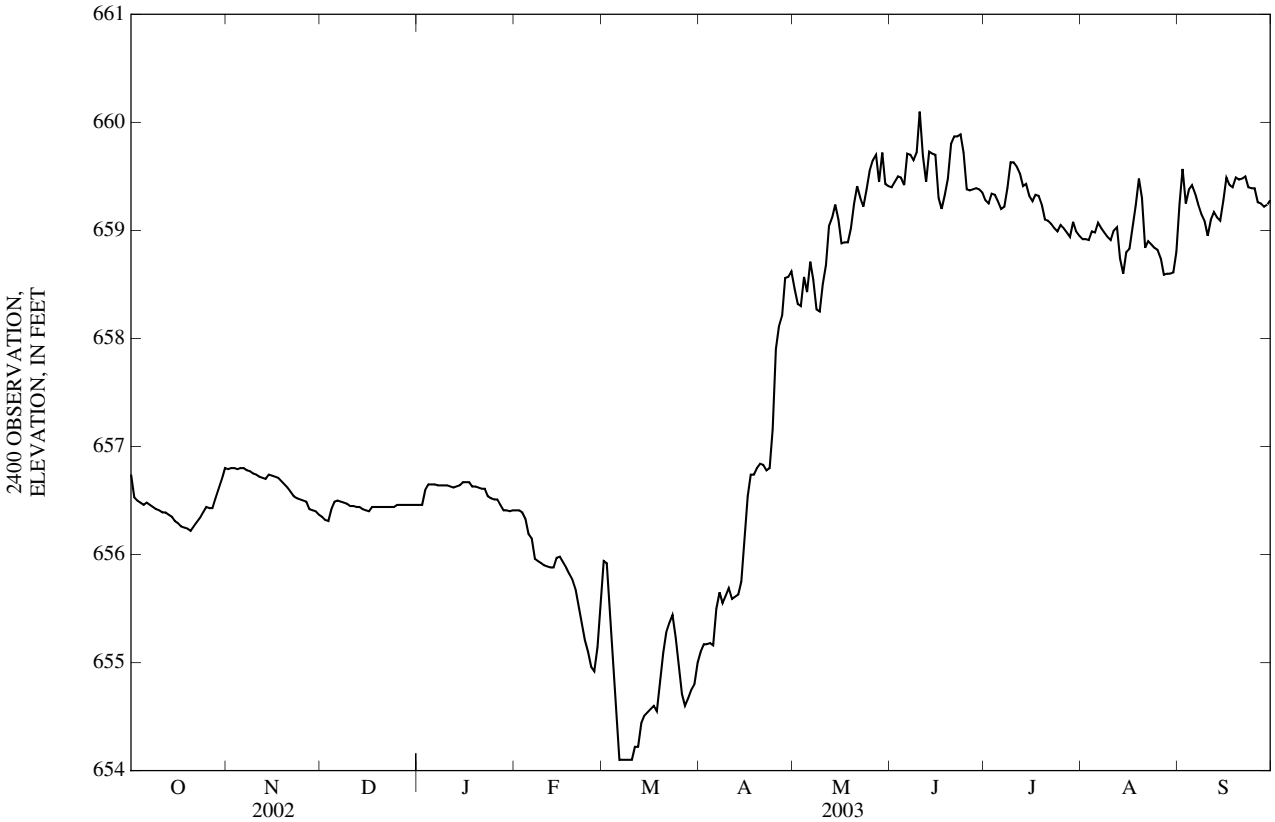
ELEVATION, IN FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
OBSERVATION AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	656.74	656.79	656.35	656.46	656.41	655.94	655.10	658.46	659.40	659.28	658.92	659.25
2	656.53	656.80	656.32	656.46	656.41	655.92	655.17	658.32	659.45	659.25	658.92	659.57
3	656.50	656.80	656.31	656.60	656.39	655.56	655.17	658.30	659.50	659.34	658.91	659.25
4	656.48	656.79	656.42	656.65	656.33	655.13	655.18	658.57	659.49	659.33	658.99	659.38
5	656.46	656.80	656.49	656.65	656.19	654.69	655.16	658.43	659.42	659.27	658.98	659.42
6	656.48	656.80	656.50	656.65	656.15	654.10	655.50	658.71	659.71	659.20	659.07	659.34
7	656.46	656.78	656.49	656.64	655.96	654.10	655.65	658.54	659.70	659.22	659.02	659.24
8	656.44	656.77	656.48	656.64	655.94	654.10	655.55	658.27	659.65	659.39	658.98	659.15
9	656.42	656.75	656.47	656.64	655.92	654.10	655.62	658.25	659.72	659.63	658.94	659.09
10	656.41	656.74	656.45	656.64	655.90	654.10	655.69	658.50	660.10	659.63	658.91	658.95
11	656.39	656.72	656.45	656.63	655.89	654.22	655.59	658.68	659.69	659.59	659.00	659.10
12	656.39	656.71	656.44	656.62	655.88	654.22	655.61	659.04	659.45	659.53	659.03	659.17
13	656.37	656.70	656.44	656.63	655.88	654.44	655.63	659.12	659.73	659.41	658.74	659.12
14	656.35	656.74	656.42	656.64	655.97	654.51	655.75	659.24	659.71	659.43	658.60	659.09
15	656.31	656.73	656.41	656.67	655.98	654.54	656.14	659.10	659.70	659.32	658.80	659.28
16	656.29	656.72	656.40	656.67	655.93	654.57	656.54	658.88	659.30	659.27	658.83	659.49
17	656.26	656.71	656.44	656.67	655.88	654.60	656.74	658.89	659.20	659.33	659.03	659.42
18	656.25	656.68	656.44	656.63	655.82	654.55	656.74	658.89	659.33	659.32	659.23	659.40
19	656.24	656.65	656.44	656.63	655.77	654.84	656.80	659.02	659.48	659.24	659.48	659.49
20	656.22	656.62	656.44	656.62	655.68	655.09	656.84	659.25	659.80	659.10	659.30	659.47
21	656.26	656.58	656.44	656.61	655.52	655.28	656.83	659.41	659.87	659.09	658.84	659.48
22	656.30	656.54	656.44	656.61	655.36	655.37	656.78	659.30	659.87	659.06	658.90	659.50
23	656.34	656.52	656.44	656.54	655.21	655.44	656.80	659.22	659.89	659.02	658.87	659.40
24	656.39	656.51	656.44	656.52	655.10	655.23	657.16	659.38	659.72	658.99	658.84	659.39
25	656.44	656.50	656.46	656.51	654.96	654.98	657.90	659.55	659.38	659.05	658.82	659.39
26	656.43	656.49	656.46	656.51	654.92	654.71	658.11	659.65	659.37	659.02	658.74	659.26
27	656.43	656.42	656.46	656.46	655.14	654.60	658.21	659.70	659.38	658.98	658.59	659.25
28	656.52	656.41	656.46	656.41	655.56	654.67	658.56	659.45	659.39	658.94	658.60	659.22
29	656.61	656.40	656.46	656.41	---	654.75	658.57	659.72	659.38	659.08	658.60	659.24
30	656.70	656.37	656.46	656.40	---	654.80	658.62	659.43	659.35	658.99	658.61	659.28
31	656.80	---	656.46	656.41	---	655.00	---	659.41	---	658.95	658.80	---
MEAN	656.43	656.65	656.44	656.58	655.79	654.78	656.46	658.99	659.57	659.23	658.90	659.30
MAX	656.80	656.80	656.50	656.67	656.41	655.94	658.62	659.72	660.10	659.63	659.48	659.57
MIN	656.22	656.37	656.31	656.40	654.92	654.10	655.10	658.25	659.20	658.94	658.59	658.95
(-)	1,039,000	1,016,000	1,021,000	1,018,000	975,000	946,000	1,139,000	1,184,000	1,181,000	1,158,000	1,149,000	1,177,000
(=)	0	-23,000	+5,000	-3,000	-43,000	-29,000	+193,000	+45,000	-3,000	-23,000	-9,000	+28,000

CAL YR 2002.... -182,000
WTR YR 2003....+138,000

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

06925500 LAKE OF THE OZARKS NEAR BAGNELL, MO—Continued



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 AmerenUE 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 the Missouri River Commission or the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 549.13 ft above National Geodetic Vertical Datum of 1929 (levels by the Missouri State Highway and Transportation Commission). Nonrecording gage from October 1880 to Oct. 15, 1930, and recording gage from Oct. 15, 1930, to Sept. 30, 1979, at site 1.7 mi downstream at datum 0.56 ft lower.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by Lake of the Ozarks (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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,130	438	526	464	435	444	441	11,000	489	3,040	1,380	6,900
2	4,460	466	707	483	443	852	405	9,950	443	2,090	964	5,180
3	2,780	465	463	467	992	13,100	2,010	2,790	616	4,270	876	12,100
4	516	896	454	440	2,390	11,400	857	495	897	1,230	2,500	2,500
5	443	447	468	437	4,400	12,700	429	9,160	2,900	2,220	1,700	1,260
6	429	419	464	459	1,280	14,700	508	9,370	978	2,640	1,220	3,000
7	417	516	539	771	4,700	1,490	5,520	17,700	799	5,420	1,450	3,140
8	443	463	651	507	577	457	7,620	29,800	1,940	6,340	1,630	5,960
9	469	766	647	448	438	429	7,700	25,500	7,960	4,490	1,360	7,350
10	468	544	965	601	450	417	5,350	15,700	11,700	1,510	1,040	8,520
11	469	458	513	461	434	583	6,200	10,300	30,600	1,510	977	5,880
12	467	479	402	446	445	948	552	14,200	22,000	1,680	978	1,650
13	465	449	408	463	471	871	451	10,600	4,240	2,960	7,740	2,570
14	458	444	1,120	462	489	1,380	1,470	3,440	3,660	3,890	4,600	1,050
15	981	544	458	470	1,740	470	679	14,200	1,090	7,260	2,190	932
16	496	463	451	474	2,260	466	894	9,000	9,910	7,280	1,800	2,210
17	462	465	464	536	2,250	478	3,660	1,580	10,700	2,900	1,310	7,070
18	450	868	1,310	1,390	2,240	1,790	518	455	6,110	1,030	1,160	8,280
19	458	1,170	489	485	2,240	815	471	2,820	2,930	2,140	1,160	1,970
20	459	1,160	421	464	3,000	1,340	470	4,560	1,740	3,780	7,690	957
21	458	1,130	427	476	5,760	837	461	5,470	873	3,180	14,900	1,170
22	478	1,360	426	473	5,680	444	1,540	12,500	780	968	5,230	1,630
23	487	604	453	2,630	5,410	452	1,060	14,400	8,300	889	1,100	5,650
24	474	461	460	4,640	3,140	4,080	2,430	1,650	14,800	888	1,260	8,360
25	481	459	446	549	3,890	15,600	1,630	476	14,400	885	2,870	1,930
26	489	428	453	480	3,570	15,700	670	1,090	2,040	892	7,640	6,600
27	629	2,020	437	1,600	1,450	8,980	469	8,440	1,160	1,120	4,690	1,740
28	697	456	428	2,060	733	3,260	2,780	10,400	885	1,470	2,650	873
29	1,170	438	434	487	---	621	7,840	2,630	876	1,030	1,370	898
30	705	822	452	715	---	754	8,220	8,140	2,160	2,780	919	923
31	434	---	476	474	---	1,620	---	2,970	---	1,190	909	---
MEAN	781	670	542	817	2,190	3,790	2,444	8,735	5,599	2,677	2,815	3,942
MAX	4,460	2,020	1,310	4,640	5,760	15,700	8,220	29,800	30,600	7,280	14,900	12,100
MIN	417	419	402	437	434	417	405	455	443	885	876	873
IN.	0.06	0.05	0.04	0.07	0.16	0.31	0.19	0.72	0.45	0.22	0.23	0.31

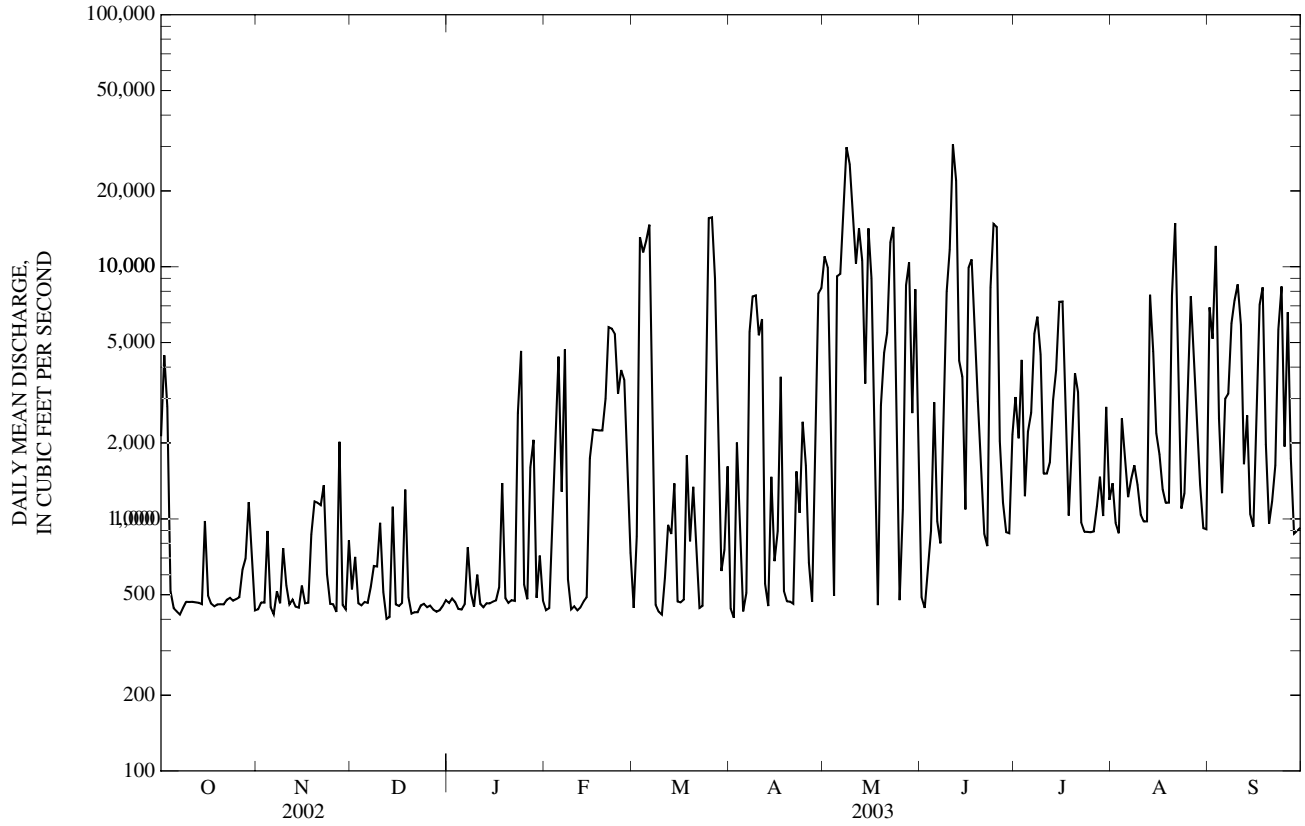
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2003[a], BY WATER YEAR (WY)

MEAN	7,106	8,414	8,005	7,914	9,930	13,440	15,430	15,890	15,410	9,552	4,908	5,695
MAX	67,300	45,270	45,050	34,700	34,720	57,300	70,040	92,260	78,160	96,780	26,560	54,540
(WY)	(1987)	(1987)	(1993)	(1993)	(1949)	(1973)	(1973)	(1943)	(1935)	(1951)	(1993)	(1951)
MIN	471	538	542	554	535	359	452	516	515	492	510	486
(WY)	(1957)	(1957)	(2003)	(2001)	(1964)	(1931)	(1931)	(1956)	(1931)	(1931)	(1956)	(1954)

06926000 OSAGE RIVER NEAR BAGNELL, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1931 - 2003[a]	
ANNUAL MEAN	8,829		2,920		10,130	
HIGHEST ANNUAL MEAN					23,360	1973
LOWEST ANNUAL MEAN					1,046	1954
HIGHEST DAILY MEAN	49,200	May 25	30,600	Jun 11	212,000	May 19, 1943
LOWEST DAILY MEAN	402	Dec 12	402	Dec 12	235	Apr 23, 1971
ANNUAL SEVEN-DAY MINIMUM	441	Dec 20	441	Dec 20	320	Mar 3, 1931
MAXIMUM PEAK FLOW	---		34,100	May 8	220,000	May 19, 1943
MAXIMUM PEAK STAGE	---		15.85	May 8	48.80	May 19, 1943
INSTANTANEOUS LOW FLOW	---		392	Mar 11	183	Sep 9, 1969
ANNUAL RUNOFF (INCHES)	8.56		2.83		9.83	
10 PERCENT EXCEEDS	34,900		8,290		30,000	
50 PERCENT EXCEEDS	2,440		1,050		3,940	
90 PERCENT EXCEEDS	458		448		502	

[a] Post-regulation period.



06926510 OSAGE RIVER BELOW ST. THOMAS, MO

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, on downstream bridge pier of State Highway B, 3.8 mi north of St. Thomas, and at mile 34.5.

DRAINAGE AREA.--14,584 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Oct. 1, 1996 to current year. August 1931 to Sept. 30, 1996, records collected at site 8.6 mi upstream, published as Osage River near St. Thomas (06926500).

GAGE.--Water-stage recorder. Datum of gage is 525.72 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Water-discharge records fair. Considerable regulation by Lake of the Ozarks (06925500), 47.2 mi upstream. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

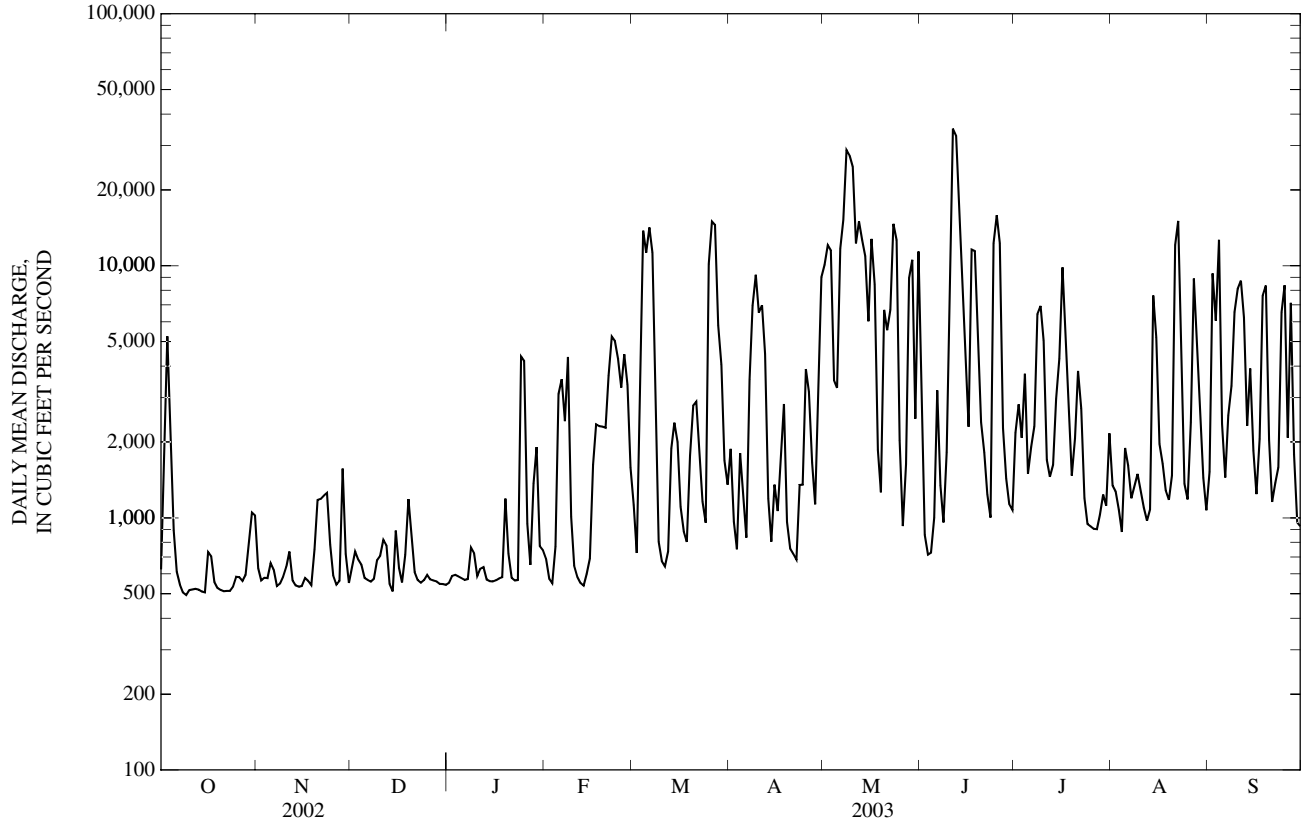
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	624	632	633	553	689	1,130	1,880	10,100	2,470	2,180	1,340	1,520
2	1,630	565	736	588	574	726	966	12,100	856	2,820	1,270	9,330
3	5,250	579	682	594	551	3,220	750	11,500	716	2,080	1,080	6,060
4	2,600	577	653	586	770	13,800	1,810	3,520	728	3,730	879	12,700
5	892	662	578	577	3,100	11,300	1,240	3,280	1,000	1,500	1,890	2,360
6	612	624	568	568	3,550	14,200	835	11,700	3,200	1,910	1,620	1,450
7	543	537	559	572	2,420	11,300	3,530	15,200	1,350	2,310	1,200	2,550
8	506	549	573	762	4,340	1,850	6,960	28,800	960	6,420	1,330	3,340
9	494	584	679	724	1,010	804	9,220	27,300	1,820	6,930	1,490	6,550
10	517	640	707	588	646	673	6,520	24,700	10,000	5,040	1,270	8,100
11	520	736	818	628	583	642	6,970	12,300	35,000	1,700	1,100	8,730
12	524	564	776	639	552	737	4,470	15,000	32,800	1,450	975	6,240
13	519	539	548	570	539	1,880	1,190	12,600	14,800	1,620	1,080	2,320
14	511	533	511	561	600	2,390	805	10,900	6,430	2,970	7,620	3,910
15	507	537	890	559	691	2,000	1,360	6,030	3,640	4,280	5,200	1,850
16	732	577	634	565	1,630	1,110	1,060	12,800	2,300	9,860	1,960	1,240
17	705	562	555	575	2,350	883	1,750	8,450	11,600	5,620	1,640	2,060
18	557	541	713	581	2,310	803	2,830	1,860	11,400	2,640	1,290	7,600
19	528	751	1,190	1,190	2,300	1,770	964	1,260	6,310	1,470	1,180	8,340
20	518	1,180	834	721	2,280	2,790	755	6,680	2,400	2,070	1,470	2,040
21	512	1,190	610	579	3,670	2,890	721	5,550	1,820	3,830	12,100	1,160
22	514	1,220	567	564	5,240	1,850	683	6,690	1,240	2,720	15,100	1,380
23	513	1,260	553	567	5,040	1,160	1,350	14,700	1,000	1,200	3,850	1,590
24	533	783	566	4,370	4,280	956	1,350	12,700	12,300	946	1,370	6,540
25	584	591	594	4,200	3,290	10,200	3,890	2,030	15,900	925	1,180	8,370
26	582	543	571	949	4,460	15,000	3,160	927	12,300	905	2,390	2,080
27	562	562	565	651	3,370	14,500	1,660	1,640	2,270	902	8,890	7,120
28	593	1,570	560	1,370	1,580	5,810	1,130	8,940	1,430	1,030	4,730	1,790
29	808	720	548	1,910	---	4,050	4,180	10,600	1,130	1,240	2,470	960
30	1,050	552	547	773	---	1,690	9,020	2,470	1,070	1,120	1,440	926
31	1,020	---	542	745	---	1,350	---	11,400	---	2,170	1,070	---
MEAN	857	715	647	948	2,229	4,305	2,767	10,120	6,675	2,761	2,951	4,340
MAX	5,250	1,570	1,190	4,370	5,240	15,000	9,220	28,800	35,000	9,860	15,100	12,700
MIN	494	533	511	553	539	642	683	927	716	902	879	926
IN.	0.07	0.05	0.05	0.07	0.16	0.34	0.21	0.80	0.51	0.22	0.23	0.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)

MEAN	8,501	8,781	7,673	6,696	12,350	16,430	14,040	17,910	21,020	10,180	4,415	4,286
MAX	41,410	35,360	16,580	18,890	27,140	35,430	32,900	43,010	37,210	21,200	8,775	14,790
(WY)	(1999)	(1999)	(1999)	(1998)	(1999)	(1997)	(1998)	(1999)	(1999)	(1999)	(1998)	(1998)
MIN	661	629	647	687	2,229	4,305	1,814	1,334	6,089	2,761	2,257	1,263
(WY)	(2001)	(2001)	(2003)	(2001)	(2003)	(2003)	(2000)	(2000)	(2000)	(2003)	(2002)	(2001)

06926510 OSAGE RIVER BELOW ST. THOMAS, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1996 - 2003	
ANNUAL MEAN	9,382		3,281		11,020	
HIGHEST ANNUAL MEAN					22,740	1999
LOWEST ANNUAL MEAN					3,281	2003
HIGHEST DAILY MEAN	53,500	May 9	35,000	Jun 11	63,600	Jul 27, 1998
LOWEST DAILY MEAN	494	Oct 9	494	Oct 9	320	Sep 24, 1999
ANNUAL SEVEN-DAY MINIMUM	513	Oct 8	513	Oct 8	513	Oct 8, 2002
MAXIMUM PEAK FLOW	---		39,100	Jun 11	74,700	Jul 26, 1998
MAXIMUM PEAK STAGE	---		14.18	Jun 11	21.86	Jul 26, 1998
INSTANTANEOUS LOW FLOW	---		490	Oct 8,9	320	Sep 24, 1999
ANNUAL RUNOFF (INCHES)	8.74		3.05		10.27	
10 PERCENT EXCEEDS	35,100		9,920		34,200	
50 PERCENT EXCEEDS	2,600		1,270		4,410	
90 PERCENT EXCEEDS	563		559		632	



06926510 OSAGE RIVER BELOW ST. THOMAS, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to September 1981.
WATER TEMPERATURE: October 1974 to September 1981.

REMARKS.--National Stream-Quality Accounting Network station October 1975 to September 1995. Ambient Water-Quality Monitoring Network station October 1995 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 398 microsiemens per centimeter, Jan. 1, 1981; minimum daily, 140 microsiemens per centimeter, Sept. 3, 1981.
WATER TEMPERATURE: Maximum daily, 30.0 °C, July 29, 1977, July 25 and Aug. 11, 1980; minimum daily, 0.0 °C, Jan. 21, 1978.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
12...	1150	Environmental	562	9.5	89	7.9	288	12.3	140	38.2	10.7	3.32
JAN												
13...	1100	Environmental	568	14.5	108	8.3	300	2.6	--	--	--	--
MAR												
10...	1130	Environmental	676	13.2	109	7.8	281	6.7	--	--	--	--
MAY												
27...	1000	Environmental	820	8.7	95	7.8	310	18.6	140	35.2	12.4	2.70
JUL												
14...	1400	Environmental	3,450	7.2	93	7.9	303	27.4	--	--	--	--
SEP												
03...	1000	Environmental	6,110	5.0	59	7.5	297	22.2	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
12...	5.82	115	115	140	<1	7.78	<0.2	17.7	165	19	0.38	<0.04	0.13
JAN													
13...	--	127	127	154	<1	--	--	--	--	<10	0.33	<0.04	<0.06
MAR													
10...	--	116	117	142	<1	--	--	--	--	<10	0.42	E.02	<0.06
MAY													
27...	5.30	135	136	166	<1	7.46	<0.2	15.0	172	<10	0.36	<0.04	E.05
JUL													
14...	--	133	133	162	<1	--	--	--	--	14	0.38	<0.04	<0.06
SEP													
03...	--	119	122	149	<1	--	--	--	--	25	0.47	0.05	0.14

06926510 OSAGE RIVER BELOW ST. THOMAS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
12...	<0.008	0.02	0.04	0.06	2k	9k	8k	<2	209	1.2	<0.04	<0.2	E4n
JAN													
13...	<0.008	<0.02	E.03	E.03	2k	1k	2k	--	--	--	--	--	--
MAR													
10...	<0.008	0.98	1.08	1.04	--e	--e	2k	--	--	--	--	--	--
MAY													
27...	<0.008	<0.02	<0.04	<0.04	3k	7k	72k	2	139	0.8	<0.04	<0.2	<7
JUL													
14...	<0.008	<0.02	<0.04	E.04	25	24	5k	--	--	--	--	--	--
SEP													
03...	E.006n	<0.18d	0.04	0.09	310k	620	1,680	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
12...	<10	<0.08	M	23.3	<0.02	E.3	<1	2
JAN								
13...	--	--	--	--	--	--	--	--
MAR								
10...	--	--	--	--	--	--	--	--
MAY								
27...	<8	0.13	2	48.2	<0.02	<0.5	1	3
JUL								
14...	--	--	--	--	--	--	--	--
SEP								
03...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

06927000 MARIES RIVER AT WESTPHALIA, MO

LOCATION.--Lat 38°25'55", lone 91°59'23", in NE 1/4 sec.35, T.43 N., R.10 W., Osage County, Hydrologic Unit 10290111, on the downstream side of bridge on U.S. Highway 63, 0.8 mi southeast of Westphalia, 1.2 mi downstream from Little Maries Creek, and at mile 9.9.

DRAINAGE AREA.--257 mi^2.

PERIOD OF RECORD.--December 1947 to September 1970, Oct. 1, 2002 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 542.74 ft above National Geodetic Vertical Datum of 1929. Prior to June 8, 1951, nonrecording gage at site 200 ft downstream at same datum.

REMARKS.--Records good. U.S.G.S. satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 26, 1998 reached a stage of 24.84 ft from crest-stage gage, discharge, 56,000 ft^3/s, from rating extended above 35,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	26	9.2	28	16	71	150	137	31	116	3.9	7.2
2	3.0	21	9.0	33	16	111	120	149	30	82	3.8	166
3	6.9	19	8.7	35	16	158	98	114	35	56	3.6	290
4	21	17	9.3	37	15	158	84	1,200	36	44	3.2	100
5	20	21	9.7	42	14	139	71	1,610	33	36	2.4	58
6	14	32	9.5	54	14	117	123	1,400	32	31	1.9	38
7	12	36	9.4	53	14	98	665	2,570	31	27	1.5	28
8	9.8	32	9.2	49	13	85	446	896	32	23	1.7	20
9	7.7	29	9.2	44	13	72	245	454	31	20	2.3	16
10	6.6	26	e9.0	38	13	63	170	363	839	24	2.1	14
11	5.8	22	e8.9	33	13	60	130	302	9,280	20	1.7	12
12	5.5	18	8.7	30	13	106	105	181	1,770	19	1.4	12
13	5.4	17	8.7	28	12	1,320	87	131	1,310	17	1.9	14
14	5.0	16	8.6	26	21	875	73	105	614	15	1.9	363
15	4.4	17	8.5	24	88	406	63	90	333	14	1.9	124
16	3.9	16	8.6	23	142	254	58	78	224	12	1.7	72
17	3.7	15	8.9	21	115	181	66	72	164	11	1.7	47
18	4.2	15	74	19	99	140	60	67	129	11	1.8	33
19	5.9	15	109	18	87	249	54	62	104	13	1.5	25
20	5.3	14	58	18	84	1,140	64	60	91	14	1.0	20
21	4.5	13	44	18	106	703	65	54	84	12	1.6	55
22	4.1	12	34	17	107	402	61	49	70	9.5	1.2	263
23	3.9	12	28	16	99	254	55	44	59	8.1	0.65	80
24	3.9	11	27	14	114	186	73	40	50	7.1	0.48	57
25	7.5	11	26	14	103	146	396	46	47	6.6	0.74	40
26	9.1	10	25	14	85	123	432	67	831	5.9	0.66	33
27	9.8	10	24	14	77	102	240	73	189	5.5	0.86	75
28	11	9.7	23	15	71	177	208	60	111	5.4	0.83	44
29	17	9.9	23	15	---	444	251	48	80	4.9	1.0	28
30	49	9.5	26	15	---	299	147	40	63	4.4	1.1	22
31	37	---	27	16	---	197	---	35	---	4.0	1.5	---
MEAN	9.99	17.7	22.6	26.5	56.4	285	162	342	558	21.9	1.73	71.9
MAX	49	36	109	54	142	1,320	665	2,570	9,280	116	3.9	363
MIN	2.9	9.5	8.5	14	12	60	54	35	30	4.0	0.48	7.2
IN.	0.04	0.08	0.10	0.12	0.23	1.28	0.70	1.53	2.42	0.10	0.01	0.31

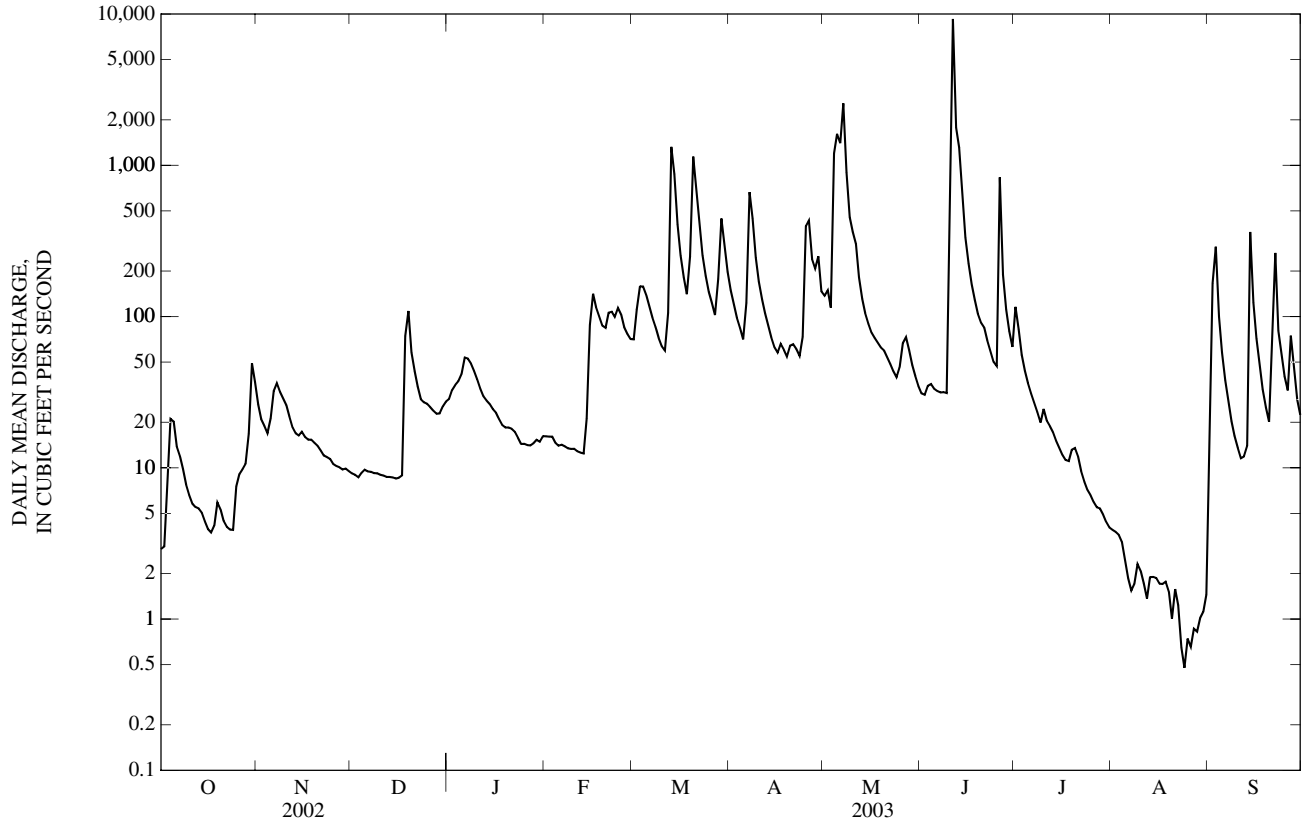
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	117	78.5	128	184	237	358	348	400	360	140	52.8	99.6
MAX	1,034	539	815	987	623	752	997	1,335	1,304	793	303	661
(WY)	(1970)	(1969)	(1968)	(1950)	(1951)	(1962)	(1966)	(1961)	(1949)	(1951)	(1951)	(1965)
MIN	0.24	2.24	4.12	4.27	6.97	9.92	37.4	24.0	8.16	3.99	0.85	0.43
(WY)	(1957)	(1954)	(1954)	(1956)	(1954)	(1954)	(1956)	(1965)	(1952)	(1959)	(1959)	(1953)

06927000 MARIES RIVER AT WESTPHALIA, MO—Continued

SUMMARY STATISTICS	FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	131		208	
HIGHEST ANNUAL MEAN			435	1970
LOWEST ANNUAL MEAN			40.7	1956
HIGHEST DAILY MEAN	9,280	Jun 11	18,700	Oct 12, 1969
LOWEST DAILY MEAN	0.48	Aug 24	0.10	Oct 5, 1956
ANNUAL SEVEN-DAY MINIMUM	0.75	Aug 23	0.10	Oct 5, 1956
MAXIMUM PEAK FLOW	11,400	Jun 11	26,100	Oct 12, 1969
MAXIMUM PEAK STAGE	13.73	Jun 11	20.83	Oct 12, 1969
INSTANTANEOUS LOW FLOW	0.33	Aug 24	0.10	Sep 22, 1956
ANNUAL RUNOFF (INCHES)	6.93		10.98	
10 PERCENT EXCEEDS	30		415	
50 PERCENT EXCEEDS	28		36	
90 PERCENT EXCEEDS	3.9		3.4	

e Estimated



06928000 GASCONADE RIVER NEAR HAZELGREEN, MO

LOCATION.--Lat 37°45'33", long 92°27'06", in SE ¼ SE ¼ sec.15, T.35 N., R.14 W., Laclede County, Hydrologic Unit 10290201 on downstream end of center pier of bridge on south outer road, 400 ft upstream from eastbound bridge of Interstate 44, 1 mi downstream from Osage Fork, 1.5 mi west of Hazelgreen, and at mile 180.

DRAINAGE AREA.--1,250 mi^2.

PERIOD OF RECORD.--October 1928 to September 1971, October 2000 to current year. Prior to April 1929 monthly discharge only published in WSP 1310.

GAGE.--Water-stage recorder. Datum of gage is 844.75 ft above National Geodetic Vertical Datum of 1929. Prior to March 6, 1956, nonrecording gage at present site and datum. March 6, 1956 to Dec. 17, 1957, nonrecording gage at site 750 ft downstream at present datum and Dec. 18, 1957 to Aug. 20, 1958, nonrecording gage at present site and datum. Aug. 20, 1958 to September 1971, water-stage recorder at present site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. U.S.G.S. satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 4-5, 1982 reached a stage of 34.46 ft, discharge 87,000 ft^3/s from rating extended above 74,400 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	164	118	2,730	182	946	828	846	275	295	121	116
2	88	207	116	2,040	181	985	755	845	269	280	161	213
3	84	203	116	1,440	177	1,170	692	1,090	268	262	175	3,290
4	80	189	127	1,120	174	1,250	640	1,060	262	260	192	2,310
5	77	184	130	920	170	1,180	594	914	260	240	207	1,240
6	75	176	128	782	170	1,070	664	864	284	223	225	869
7	75	170	125	676	170	946	1,480	837	293	207	210	646
8	74	164	125	592	165	833	2,000	670	278	191	198	514
9	73	158	125	531	162	741	1,670	651	259	178	183	426
10	71	156	125	479	162	661	1,280	584	251	170	162	361
11	70	155	125	432	161	593	1,060	581	326	163	149	312
12	70	153	124	394	160	543	910	551	1,550	182	142	290
13	71	150	129	362	159	624	792	533	3,320	191	132	274
14	69	151	133	335	212	646	698	484	3,520	170	124	265
15	67	162	136	314	326	618	622	444	2,310	157	117	249
16	67	160	141	298	1,220	604	568	451	1,560	149	109	473
17	68	156	150	283	1,280	568	537	458	1,170	147	101	468
18	70	152	191	275	1,040	535	506	496	936	143	94	399
19	77	151	297	255	942	636	473	547	789	139	89	359
20	78	149	808	250	1,410	930	465	606	682	132	84	308
21	78	147	751	239	2,230	1,360	447	755	584	125	79	270
22	76	144	574	233	1,760	1,500	436	676	511	119	75	251
23	76	140	476	e231	1,640	1,380	425	579	454	112	71	228
24	78	137	434	e229	1,830	1,180	431	512	406	106	67	207
25	109	134	399	227	1,520	1,030	516	478	372	100	63	193
26	112	131	359	206	1,260	916	733	443	1,020	95	61	183
27	110	126	325	197	1,110	848	1,030	401	576	91	66	189
28	108	122	294	189	1,010	846	908	365	413	88	65	178
29	139	120	277	188	---	896	777	334	356	106	62	172
30	148	119	316	183	---	964	884	315	321	106	84	177
31	151	---	1,080	183	---	918	---	295	---	104	96	---
MEAN	86.5	154	282	542	749	901	794	602	796	162	121	514
MAX	151	207	1,080	2,730	2,230	1,500	2,000	1,090	3,520	295	225	3,290
MIN	67	119	116	183	159	535	425	295	251	88	61	116
IN.	0.08	0.14	0.26	0.50	0.62	0.83	0.71	0.56	0.71	0.15	0.11	0.46

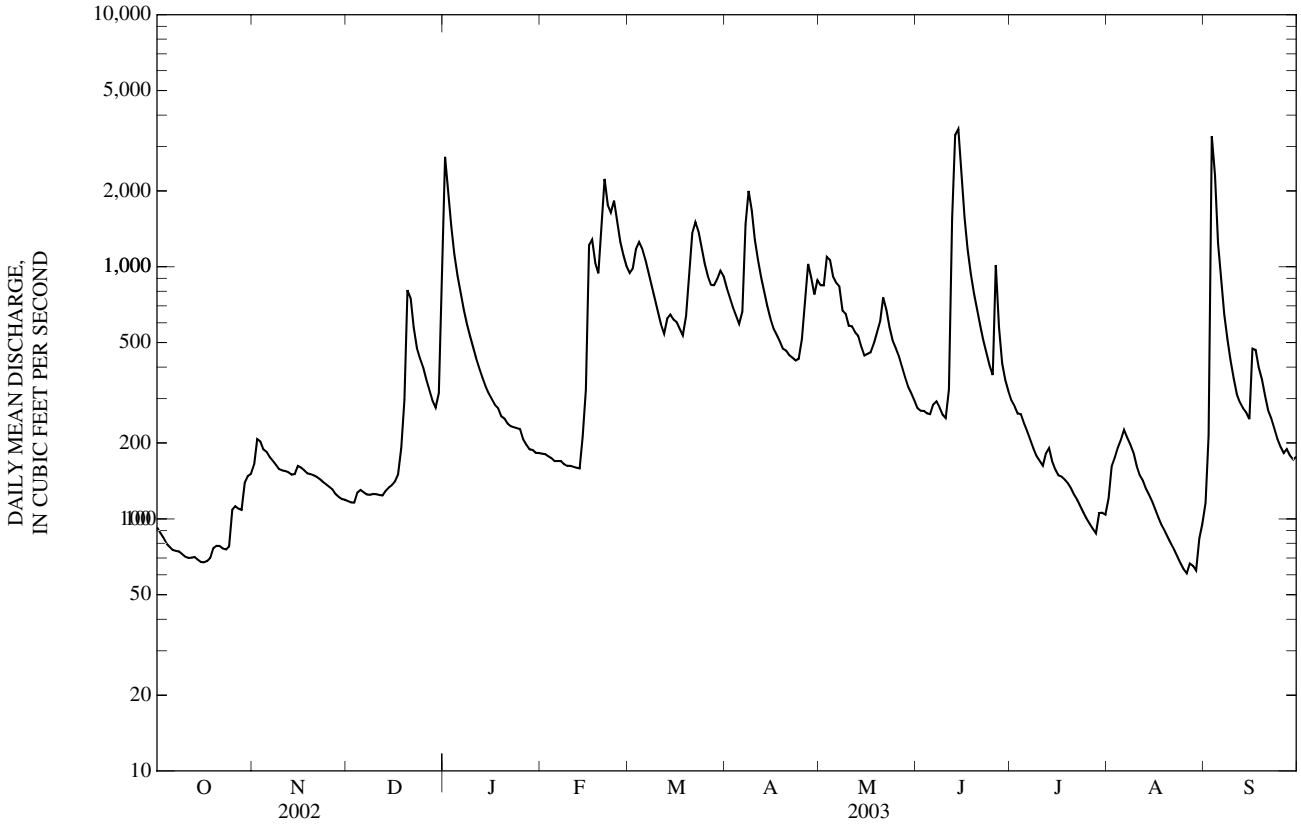
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	486	633	704	929	1,194	1,557	1,723	1,890	1,105	532	284	364
MAX	4,943	4,273	3,361	4,805	3,209	6,584	10,180	7,340	8,710	5,322	1,467	2,519
(WY)	(1950)	(1952)	(1943)	(1950)	(1938)	(1945)	(1945)	(1943)	(1935)	(1958)	(1946)	(1970)
MIN	31.6	65.8	72.6	68.0	91.2	141	130	202	83.2	41.8	30.8	25.6
(WY)	(1957)	(1954)	(1956)	(1956)	(1964)	(1956)	(1956)	(1932)	(1936)	(1934)	(1936)	(1954)

06928000 GASCONADE RIVER NEAR HAZELGREEN, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1,140		472		948	
HIGHEST ANNUAL MEAN					2,236	1950
LOWEST ANNUAL MEAN					123	1954
HIGHEST DAILY MEAN	37,800	May 9	3,520	Jun 14	58,800	Mar 12, 1935
LOWEST DAILY MEAN	67	Oct 15,16	61	Aug 26	19	Sep 20, 1954
ANNUAL SEVEN-DAY MINIMUM	69	Oct 11	65	Aug 23	21	Sep 14, 1954
MAXIMUM PEAK FLOW	---		5,640	Sep 3	76,400	Apr 14, 1945
MAXIMUM PEAK STAGE	---		7.99	Sep 3	29.60	Apr 14, 1945
INSTANTANEOUS LOW FLOW	---		60	Aug 26,29	18	Aug 1, 1936
ANNUAL RUNOFF (INCHES)	12.39		5.13		10.31	
10 PERCENT EXCEEDS	2,050		1,070		2,000	
50 PERCENT EXCEEDS	256		265		343	
90 PERCENT EXCEEDS	101		90		85	

e Estimated



06928300 ROUBIDOUX CREEK ABOVE FT. LEONARD WOOD, MO

LOCATION.--Lat 37°36'04", long 92°14'02", in NE ¼ SW ¼ NE ¼ sec.3, T.33 N., R.12 W., Pulaski County, Hydrologic Unit 10290201, on State Highway 17 bridge, 12 mi south of Ft. Leonard Wood.

DRAINAGE AREA.--165 mi^2.

PERIOD OF RECORD.--Dec. 29, 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage unknown.

REMARKS.--No estimated daily discharges. Records fair. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

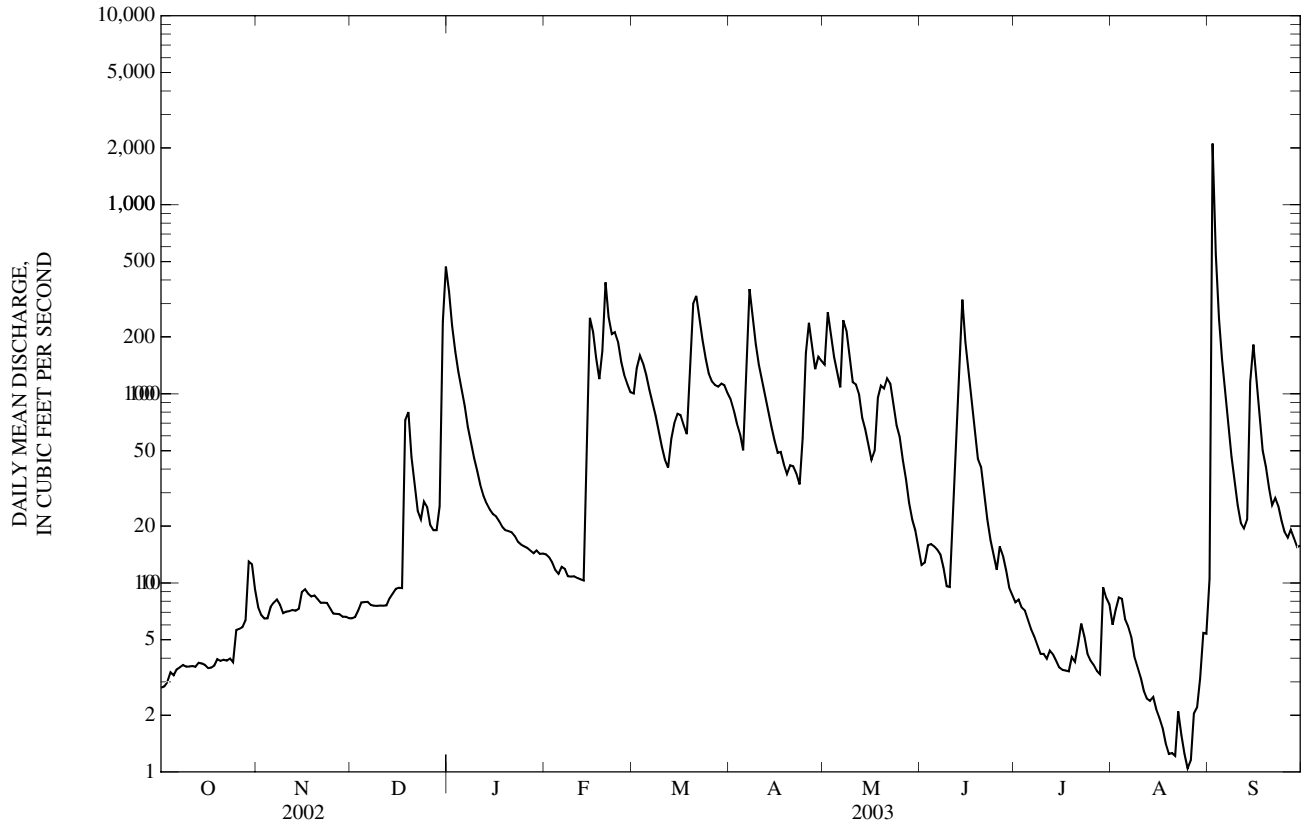
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	7.4	6.5	346	14	100	94	143	12	7.9	6.0	11
2	2.8	6.8	6.6	229	14	137	82	270	13	8.2	7.2	2,110
3	3.0	6.5	7.2	167	13	160	70	210	16	7.4	8.4	549
4	3.4	6.5	7.9	131	12	145	61	157	16	7.1	8.2	250
5	3.2	7.5	7.9	106	11	126	50	132	16	6.4	6.4	152
6	3.5	7.9	7.9	86	12	105	126	108	15	5.7	5.9	103
7	3.6	8.2	7.7	67	12	90	358	245	14	5.2	5.2	69
8	3.7	7.7	7.6	56	11	77	255	215	12	4.7	4.1	47
9	3.6	6.9	7.6	46	11	64	183	153	9.6	4.2	3.6	34
10	3.6	7.1	7.6	39	11	52	142	115	9.5	4.2	3.2	26
11	3.6	7.1	7.6	33	11	45	116	112	23	4.0	2.7	21
12	3.6	7.2	7.6	29	10	41	97	100	52	4.4	2.4	19
13	3.8	7.1	8.3	26	10	58	81	75	135	4.2	2.4	22
14	3.7	7.3	8.8	24	40	70	68	65	315	3.9	2.5	116
15	3.7	8.9	9.3	23	252	78	57	53	188	3.6	2.1	182
16	3.5	9.2	9.4	23	213	77	49	45	125	3.5	1.9	117
17	3.6	8.8	9.4	21	155	68	49	50	88	3.4	1.7	75
18	3.7	8.5	73	20	120	61	42	95	62	3.4	1.4	50
19	4.0	8.6	80	19	169	120	38	111	45	4.1	1.2	41
20	3.9	8.2	46	19	389	300	42	107	41	3.8	1.3	32
21	3.9	7.8	33	19	255	330	41	121	29	4.7	1.2	26
22	3.9	7.9	24	18	207	251	38	113	22	6.1	2.1	28
23	4.0	7.8	22	17	212	193	33	88	17	5.2	1.6	26
24	3.8	7.3	27	16	188	154	58	68	14	4.2	1.3	21
25	5.6	6.9	25	16	148	128	164	59	12	3.9	1.0	19
26	5.7	6.9	20	15	126	116	237	45	16	3.7	1.2	17
27	5.8	6.8	19	15	112	112	179	35	14	3.4	2.0	19
28	6.3	6.6	19	14	102	109	135	27	12	3.3	2.2	17
29	13	6.6	25	15	---	113	157	22	9.5	9.5	3.1	15
30	13	6.5	241	14	---	111	150	19	8.6	8.4	5.4	16
31	9.3	---	471	14	---	101	---	15	---	7.7	5.4	---
MEAN	4.66	7.48	40.6	54.3	101	119	108	102	45.4	5.14	3.36	141
MAX	13	9.2	471	346	389	330	358	270	315	9.5	8.4	2,110
MIN	2.8	6.5	6.5	14	10	41	33	15	8.6	3.3	1.0	11
IN.	0.03	0.05	0.28	0.38	0.64	0.83	0.73	0.72	0.31	0.04	0.02	0.95

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

MEAN	5.31	17.4	116	65.7	193	160	113	297	42.6	8.61	4.70	39.6
MAX	6.66	36.0	298	163	401	423	296	1,027	73.6	10.5	5.92	141
(WY)	(2002)	(2002)	(2002)	(2002)	(2001)	(2002)	(2002)	(2002)	(2001)	(2002)	(2002)	(2003)
MIN	4.60	7.48	8.49	17.2	35.2	43.4	18.0	8.17	7.71	5.14	3.36	2.31
(WY)	(2001)	(2003)	(2001)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2003)	(2003)	(2000)

06928300 ROUBIDOUX CREEK ABOVE FT. LEONARD WOOD, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL MEAN	189		60.6		110	
HIGHEST ANNUAL MEAN					214	2002
LOWEST ANNUAL MEAN					54.5	2001
HIGHEST DAILY MEAN	7,580	May 8	2,110	Sep 2	7,580	May 8, 2002
LOWEST DAILY MEAN	2.1	Sep 14	1.0	Aug 25	1.0	Aug 25, 2003
ANNUAL SEVEN-DAY MINIMUM	2.3	Sep 9	1.4	Aug 19	1.3	Aug 29, 2000
MAXIMUM PEAK FLOW	---		6,550	Sep 2	12,900	May 8, 2002
MAXIMUM PEAK STAGE	---		10.93	Sep 2	14.86	May 8, 2002
INSTANTANEOUS LOW FLOW	---		0.83	Aug 25	0.82	Sep 1, 2000
ANNUAL RUNOFF (INCHES)	15.59		4.99		9.03	
10 PERCENT EXCEEDS	400		156		227	
50 PERCENT EXCEEDS	19		17		17	
90 PERCENT EXCEEDS	3.6		3.6		4.0	



06928430 ROUBIDOUX CREEK BELOW FT. LEONARD WOOD, MO

LOCATION.--Lat 37°49'40", long 92°12'19", in SE 1/4 SW 1/4 SW 1/4 sec.24, T.36 N., R.12 W., Pulaski County, Hydrologic Unit 10290201, on right bank 400 ft downstream from Interstate 44 bridge, on Superior Road, 0.9 mi south of Business 44, and 0.6 mi upstream from Roubidoux Spring.

DRAINAGE AREA.--287 mi^2.

PERIOD OF RECORD.--Feb. 23, 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage unknown.

REMARKS.--No estimated daily discharges. Records fair. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

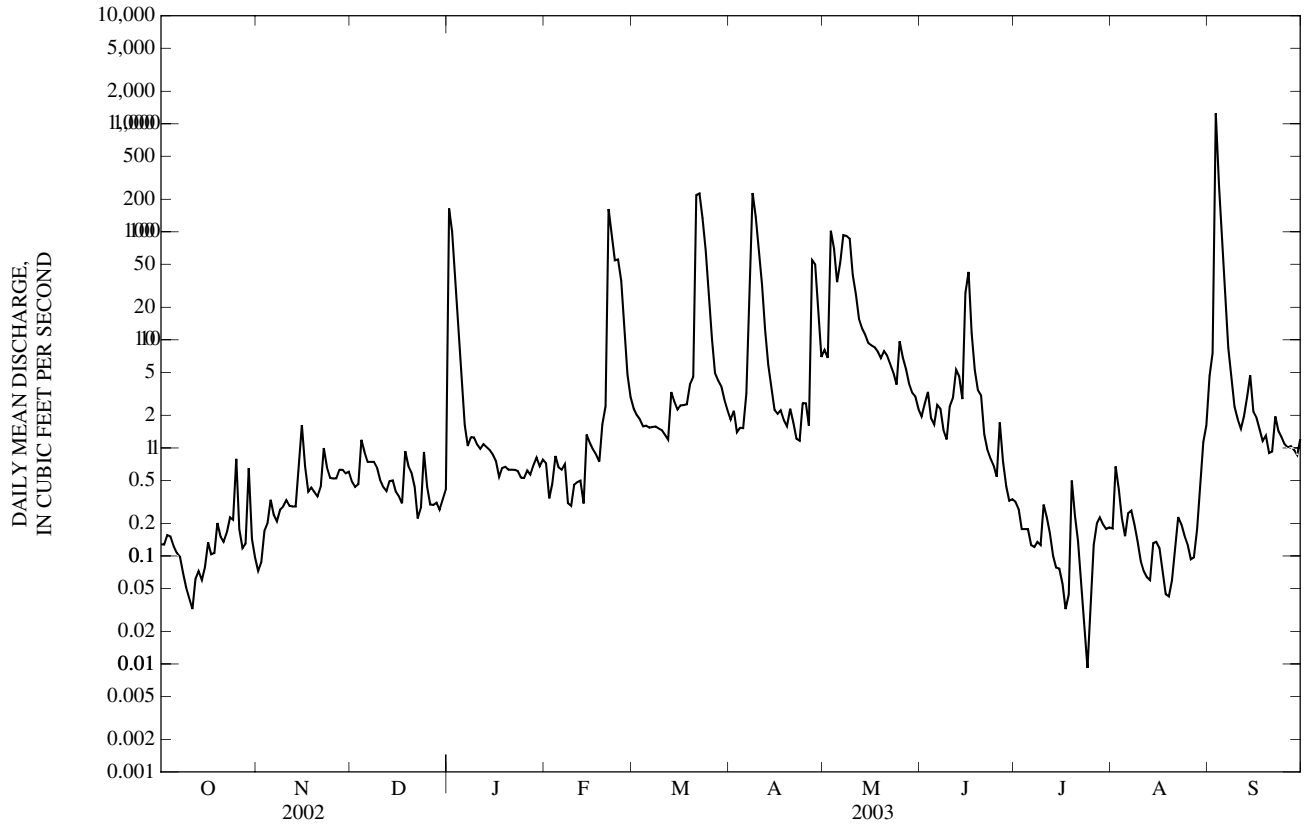
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.13	0.07	0.49	164	0.72	2.3	1.8	8.1	2.0	0.32	0.18	4.6
2	0.13	0.09	0.43	100	0.34	2.0	2.2	6.8	2.6	0.27	0.67	7.5
3	0.16	0.17	0.46	40	0.47	1.8	1.4	102	3.3	0.18	0.41	1,250
4	0.15	0.20	1.2	17	0.84	1.6	1.5	70	1.9	0.18	0.22	270
5	0.12	0.33	0.91	5.8	0.66	1.6	1.5	34	1.7	0.18	0.15	95
6	0.11	0.24	0.74	1.6	0.63	1.5	3.2	52	2.5	0.13	0.25	28
7	0.10	0.21	0.74	1.0	0.71	1.6	22	93	2.3	0.12	0.26	8.4
8	0.07	0.27	0.74	1.3	0.31	1.6	228	92	1.5	0.14	0.20	4.3
9	0.05	0.29	0.65	1.3	0.29	1.5	136	86	1.2	0.13	0.14	2.4
10	0.04	0.33	0.51	1.1	0.46	1.5	71	40	2.4	0.30	0.09	1.8
11	0.03	0.29	0.43	0.98	0.48	1.3	32	26	2.9	0.23	0.07	1.5
12	0.06	0.29	0.40	1.1	0.50	1.2	12	16	5.3	0.16	0.06	2.0
13	0.07	0.29	0.49	1.0	0.31	3.3	5.8	13	4.6	0.10	0.06	3.0
14	0.06	0.69	0.50	0.96	1.3	2.7	3.6	11	2.8	0.08	0.13	4.7
15	0.08	1.6	0.39	0.87	1.1	2.3	2.2	9.3	27	0.08	0.14	2.2
16	0.13	0.68	0.36	0.75	0.96	2.5	2.1	8.9	43	0.06	0.12	1.9
17	0.10	0.39	0.31	0.54	0.87	2.5	2.2	8.5	12	0.03	0.07	1.5
18	0.11	0.43	0.93	0.65	0.75	2.5	1.8	7.7	5.2	0.04	0.04	1.2
19	0.20	0.39	0.68	0.67	1.6	3.9	1.6	6.8	3.4	0.50	0.04	1.3
20	0.15	0.36	0.59	0.63	2.4	4.5	2.3	7.9	3.1	0.23	0.06	0.90
21	0.14	0.44	0.43	0.63	162	218	1.7	7.1	1.3	0.14	0.12	0.92
22	0.16	1.00	0.22	0.63	95	226	1.2	5.9	0.97	0.05	0.23	2.0
23	0.23	0.66	0.28	0.61	54	134	1.2	5.0	0.80	0.02	0.20	1.4
24	0.22	0.53	0.92	0.53	55	67	2.6	3.9	0.69	0.01	0.16	1.3
25	0.79	0.52	0.44	0.53	35	29	2.6	9.7	0.54	0.03	0.13	1.1
26	0.18	0.52	0.30	0.62	13	10	1.6	6.8	1.7	0.13	0.09	1.0
27	0.12	0.63	0.30	0.57	4.8	4.9	55	5.4	0.75	0.20	0.10	1.0
28	0.13	0.63	0.31	0.69	3.0	4.2	50	3.9	0.44	0.23	0.18	0.96
29	0.65	0.58	0.27	0.81	---	3.7	19	3.2	0.32	0.19	0.48	0.86
30	0.14	0.60	0.33	0.68	---	2.8	6.9	3.0	0.33	0.18	1.1	1.2
31	0.10	---	0.41	0.78	---	2.2	---	2.3	---	0.18	1.6	---
MEAN	0.16	0.46	0.52	11.2	15.6	24.0	22.5	24.4	4.62	0.16	0.25	56.8
MAX	0.79	1.6	1.2	164	162	226	228	102	43	0.50	1.6	1,250
MIN	0.03	0.07	0.22	0.53	0.29	1.2	1.2	2.3	0.32	0.01	0.04	0.86
IN.	0.00	0.00	0.00	0.05	0.06	0.10	0.09	0.10	0.02	0.00	0.00	0.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

MEAN	1.13	1.30	87.2	21.5	216	118	65.1	312	25.6	0.57	0.48	14.4
MAX	1.94	1.88	260	52.8	350	412	234	1,204	94.5	0.81	1.14	56.8
(WY)	(2002)	(2002)	(2002)	(2002)	(2001)	(2002)	(2002)	(2002)	(2001)	(2001)	(2002)	(2003)
MIN	0.16	0.46	0.52	0.61	15.6	2.55	1.76	0.87	0.70	0.16	0.24	0.19
(WY)	(2003)	(2003)	(2003)	(2001)	(2003)	(2000)	(2000)	(2000)	(2000)	(2003)	(2000)	(2000)

06928430 ROUBIDOUX CREEK BELOW FT. LEONARD WOOD, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL MEAN	183		13.3		86.2	
HIGHEST ANNUAL MEAN					206	2002
LOWEST ANNUAL MEAN					13.3	2003
HIGHEST DAILY MEAN	7,240	May 13	1,250	Sep 3	7,240	May 13, 2002
LOWEST DAILY MEAN	0.03	Sep 25,Oct 11	0.01	Jul 24	0.01	Jul 24, 2003
ANNUAL SEVEN-DAY MINIMUM	0.05	Oct 8	0.05	Oct 8	0.05	Oct 8, 2002
MAXIMUM PEAK FLOW	---		3,910	Sep 3	14,000	May 9, 2002
MAXIMUM PEAK STAGE	---		9.20	Sep 3	14.13	May 9, 2002
INSTANTANEOUS LOW FLOW	---		0.01	Jul 23-25	0.01	Jul 23-25, 2003
ANNUAL RUNOFF (INCHES)	8.67		0.63		4.08	
10 PERCENT EXCEEDS	315		18		110	
50 PERCENT EXCEEDS	1.3		0.84		1.3	
90 PERCENT EXCEEDS	0.16		0.12		0.18	



06928440 ROUBIDOUX SPRING AT WAYNESVILLE, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 37°49'30", long 92°11'53", in SW ¼ NW ¼ NE ¼ sec.25, T.36 N., R.12 W., Pulaski County, Hydrologic Unit 10290201, from I-44 Exit 159 at Waynesville to Business 44, approximately 1.5 mi to Superior Road, south on Superior Road 0.3 mi to spring.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
13...	1330	Environmental	16	5.8	60	7.4	425	15.2	230	48.4	27.5	1.08
JAN												
14...	1325	Environmental	53	11.6	106	7.3	321	10.7	--	--	--	--
MAR												
12...	0950	Environmental	92	12.1	107	7.5	313	8.9	--	--	--	--
MAY												
28...	1330	Environmental	117	6.5	68	7.3	337	15.9	160	32.9	19.7	1.43
JUL												
16...	1445	Environmental	36	5.5	59	7.4	363	16.7	--	--	--	--
SEP												
04...	1300	Environmental	252	4.9	51	7.1	409	15.8	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
13...	2.16	221	221	270	<1	2.93	<0.2	5.5	230	<10	E.07	<0.04	0.50
JAN													
14...	--	147	149	182	<1	--	--	--	--	<10	0.12	<0.04	1.22
MAR													
12...	--	130	130	159	<1	--	--	--	--	<10	E.05	<0.04	0.70
MAY													
28...	2.55	161	162	197	<1	5.04	<0.2	7.3	184	<10	0.10	<0.04	0.26
JUL													
16...	--	184	188	229	<1	--	--	--	--	<10	0.43	<0.04	0.32
SEP													
04...	--	206	207	253	<1	--	--	--	--	<10	<0.10	<0.04	0.35

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
13...	<0.008	E.01	E.03	<0.04	5k	11k	5k	<2	6	E.2	<0.04	<0.2	E5n
JAN													
14...	<0.008	<0.02	E.02	<0.04	7k	8k	17k	--	--	--	--	--	--
MAR													
12...	<0.008	<0.02	E.03	<0.04	1k	1k	1k	--	--	--	--	--	--
MAY													
28...	<0.008	<0.02	0.04	<0.04	6k	23k	105	E1n	27	E.2n	<0.04	<0.2	<7
JUL													
16...	<0.008	<0.02	E.019	0.05	1k	7k	22	--	--	--	--	--	--
SEP													
04...	<0.008	<0.18d	<0.04	<0.04	9k	18k	50	--	--	--	--	--	--

06928440 ROUBIDOUX SPRING AT WAYNESVILLE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
13...	<10	<0.08	<1	<2.0	<0.02	<0.5	<1	<2
JAN								
14...	--	--	--	--	--	--	--	--
MAR								
12...	--	--	--	--	--	--	--	--
MAY								
28...	<8	<0.08	<1	<0.4	<0.02	<0.5	Mn	<2
JUL								
16...	--	--	--	--	--	--	--	--
SEP								
04...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

06930000 BIG PINEY RIVER NEAR BIG PINEY, MO

LOCATION.--Lat 37°39'56", long 92°03'01", 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 river mile 22.

DRAINAGE AREA.--560 mi^2.

PERIOD OF RECORD.--October 1921 to Sept. 30, 1982, April 4 1988 to Sept. 30, 1996, Nov. 23, 1999 to current year.

REVISED RECORDS.--WSP 826: 1935. WSP 1176: 1943, 1945. WSP 1340: 1922-23, 1927-28(M), 1933(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 800.99 ft above National Geodetic Vertical Datum of 1929. Prior to July 12, 1961, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. U.S.G.S. satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 24.54 ft, Dec. 4, 1982, from floodmark, present datum, discharge, 81,200 ft^3/s, from indirect measurement.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

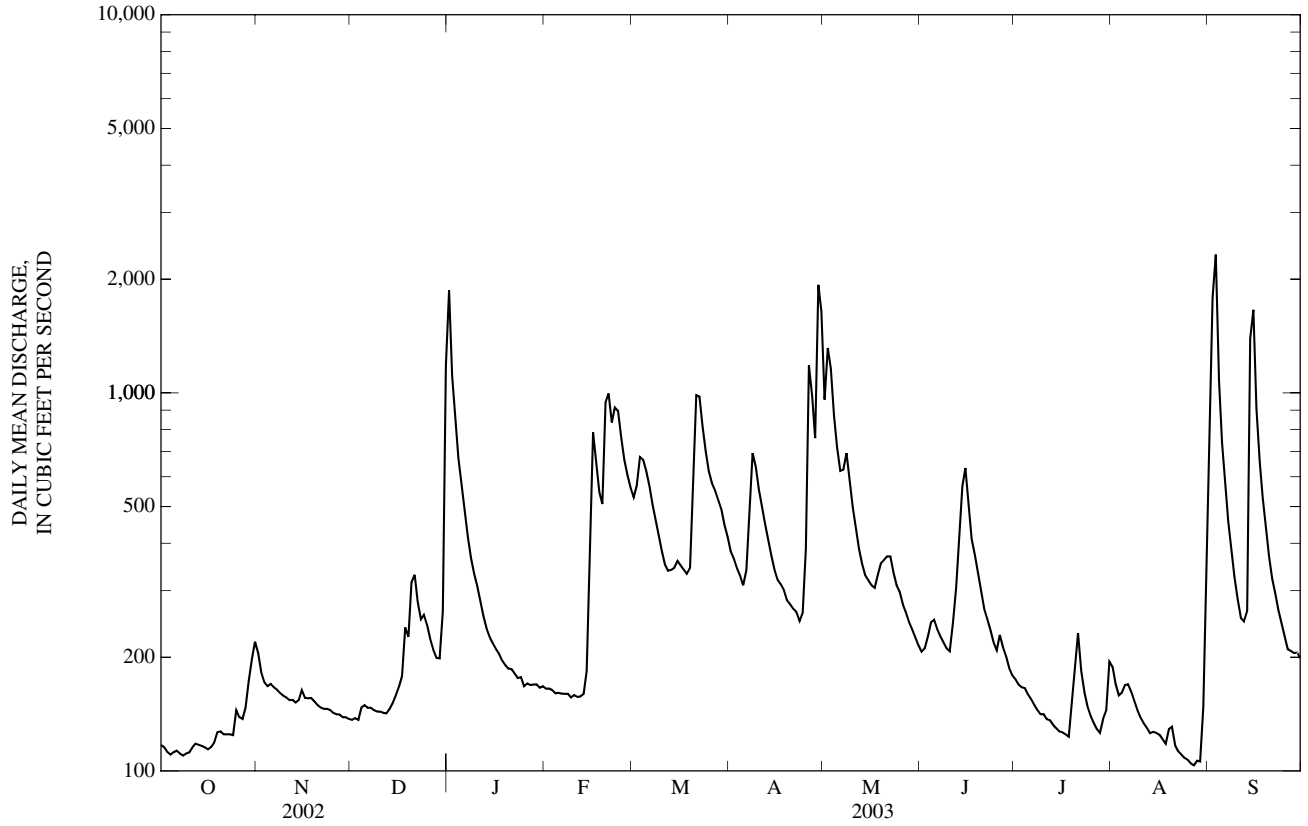
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117	205	136	1,870	165	530	382	960	207	175	188	714
2	116	182	138	1,110	165	569	365	1,310	211	169	170	1,790
3	112	172	136	839	164	677	345	1,160	227	167	158	2,320
4	111	168	147	674	161	666	329	869	247	165	161	1,080
5	112	170	149	567	161	622	310	718	251	159	169	738
6	113	167	147	485	160	568	339	622	237	155	170	564
7	111	164	147	417	160	509	477	626	227	149	162	456
8	110	161	145	366	160	460	693	693	219	145	153	379
9	111	158	144	334	156	421	637	581	211	141	145	325
10	112	156	144	309	159	381	556	498	207	141	138	284
11	115	154	142	282	157	352	499	436	246	137	134	254
12	118	154	142	257	157	339	450	387	305	136	130	248
13	117	152	146	238	160	341	410	352	429	133	126	265
14	116	154	151	226	184	345	371	329	566	130	127	1,390
15	115	164	158	217	406	359	341	319	633	127	126	1,660
16	114	156	167	210	786	350	320	310	497	127	125	909
17	116	156	178	204	653	341	312	305	411	125	121	663
18	119	156	240	196	547	332	301	330	373	123	118	529
19	127	153	226	190	508	345	283	354	333	154	129	441
20	127	149	315	187	943	574	276	362	299	186	131	369
21	125	147	330	186	996	985	269	369	268	232	117	323
22	125	146	280	181	835	977	263	370	252	184	113	294
23	125	146	252	176	915	817	249	336	236	162	111	267
24	124	145	259	177	896	700	262	310	219	148	108	246
25	145	142	243	167	762	621	388	298	209	140	107	227
26	139	141	224	170	666	577	1,180	276	229	134	105	210
27	137	141	209	169	606	553	984	262	213	129	104	208
28	147	139	199	169	562	522	759	248	201	126	106	205
29	173	139	199	169	---	492	1,930	237	187	137	106	206
30	198	137	265	166	---	448	1,640	226	179	144	148	199
31	220	---	1,180	167	---	416	---	215	---	195	353	---
MEAN	128	156	224	357	441	522	531	473	284	151	141	592
MAX	220	205	1,180	1,870	996	985	1,930	1,310	633	232	353	2,320
MIN	110	137	136	166	156	332	249	215	179	123	104	199
IN.	0.26	0.31	0.46	0.74	0.82	1.08	1.06	0.97	0.57	0.31	0.29	1.18

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

MEAN	265	473	449	547	630	823	980	933	597	286	236	260
MAX	1,261	2,127	1,940	2,554	2,237	2,565	3,637	3,324	4,490	1,969	1,947	1,959
(WY)	(1950)	(1952)	(1943)	(1950)	(1982)	(1945)	(1927)	(1990)	(1983)	(1951)	(1927)	(1993)
MIN	82.3	106	98.5	98.5	127	154	168	132	111	89.3	80.7	72.9
(WY)	(1957)	(1965)	(1956)	(1956)	(1934)	(1981)	(2000)	(2000)	(1934)	(1934)	(2001)	(1954)

06930000 BIG PINEY RIVER NEAR BIG PINEY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	611		332		541	
HIGHEST ANNUAL MEAN					1,179	1927
LOWEST ANNUAL MEAN					149	1954
HIGHEST DAILY MEAN	21,400	May 9	2,320	Sep 3	22,900	Sep 26, 1993
LOWEST DAILY MEAN	110	Oct 8	104	Aug 27	60	Sep 7, 2001
ANNUAL SEVEN-DAY MINIMUM	111	Oct 3	107	Aug 23	63	Sep 2, 2001
MAXIMUM PEAK FLOW	---		4,520	Apr 29	38,300	May 9, 2002
MAXIMUM PEAK STAGE	---		8.82	Apr 29	20.70	Dec 27, 1942
INSTANTANEOUS LOW FLOW	---		104	Aug 26-29	58	Sep 7,8, 2001
ANNUAL RUNOFF (INCHES)	14.81		8.04		13.12	
10 PERCENT EXCEEDS	996		675		1,060	
50 PERCENT EXCEEDS	209		211		256	
90 PERCENT EXCEEDS	126		126		122	



06930060 BIG PINEY RIVER BELOW FT. LEONARD WOOD, MO

LOCATION.--Lat 37°45'35", long 92°03'30", in SE ¼ SW ¼ NW ¼ sec.17, T.35 N. R.10 W., Pulaski County, Hydrologic Unit 10290202, on right downstream wingwall of bridge on East Gate Ft. Leonard Wood road, 1.8 mi west of Highway J, 8.5 mi south of Interstate 44.

DRAINAGE AREA.--593 mi^2.

PERIOD OF RECORD.--Dec. 3, 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--Records good. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	251	173	1,890	197	564	433	1,040	255	208	221	690
2	170	230	173	1,150	197	570	413	1,160	257	201	202	e1,280
3	169	214	172	880	194	674	393	1,190	268	196	188	e2,500
4	165	207	181	724	192	695	374	954	285	194	178	e1,150
5	165	212	184	619	188	661	357	826	298	190	192	e817
6	165	207	181	543	190	600	377	742	291	184	191	655
7	165	200	183	475	189	543	517	704	276	179	186	542
8	163	199	180	428	188	515	692	780	263	171	173	458
9	164	197	178	391	188	461	715	703	253	167	166	399
10	164	194	177	363	187	432	627	627	252	169	160	357
11	166	190	177	339	186	396	567	569	289	167	154	325
12	166	188	176	314	186	375	517	502	336	165	148	311
13	165	186	179	292	185	385	471	455	492	161	145	316
14	164	189	185	279	210	381	437	421	556	158	144	644
15	164	198	187	268	274	400	400	400	702	154	144	1,840
16	163	194	196	260	741	397	376	386	563	153	143	1,040
17	160	191	206	251	692	382	361	377	466	152	140	754
18	162	192	274	244	590	373	351	387	421	152	139	600
19	171	188	321	236	540	389	336	426	374	178	138	513
20	171	185	305	230	718	483	330	448	353	181	161	432
21	169	184	382	229	1,030	912	317	450	317	257	138	374
22	169	182	335	222	861	971	315	468	296	226	131	349
23	164	180	305	218	816	856	298	430	279	194	130	322
24	164	180	309	208	931	749	318	397	262	178	127	291
25	191	177	292	206	800	672	403	380	249	168	127	272
26	184	177	273	202	677	617	967	350	271	160	125	253
27	177	175	258	201	641	592	1,030	327	257	156	121	245
28	183	175	246	200	595	569	835	309	239	153	125	236
29	217	174	242	201	---	536	1,180	293	225	158	135	240
30	216	174	316	198	---	502	2,060	282	214	163	152	236
31	257	---	717	198	---	463	---	266	---	193	166	---
MEAN	174	193	247	402	449	552	559	550	329	177	155	615
MAX	257	251	717	1,890	1,030	971	2,060	1,190	702	257	221	2,500
MIN	160	174	172	198	185	373	298	266	214	152	121	236
IN.	0.34	0.36	0.48	0.78	0.79	1.07	1.05	1.07	0.62	0.34	0.30	1.16

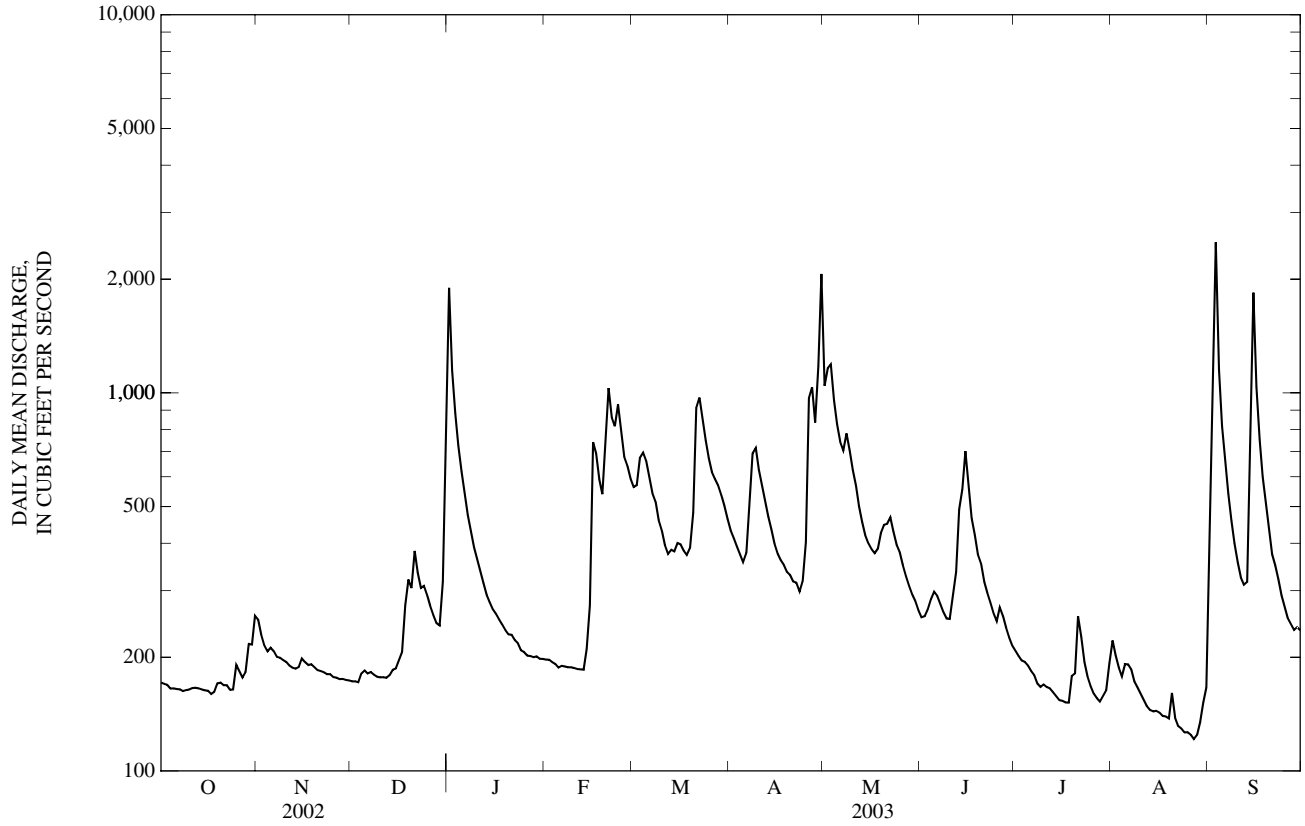
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

MEAN	145	183	396	281	845	602	502	1,138	284	186	162	266
MAX	174	198	778	402	1,798	1,103	994	3,628	377	264	224	615
(WY)	(2003)	(2002)	(2002)	(2003)	(2001)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2003)
MIN	129	158	164	195	269	305	200	160	168	147	121	124
(WY)	(2001)	(2001)	(2001)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2001)	(2000)

06930060 BIG PINEY RIVER BELOW FT. LEONARD WOOD, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL MEAN	716		365		484	
HIGHEST ANNUAL MEAN					758	2002
LOWEST ANNUAL MEAN					329	2001
HIGHEST DAILY MEAN	32,300	May 9	2,500	Sep 3	32,300	May 9, 2002
LOWEST DAILY MEAN	160	Oct 17	121	Aug 27	103	Sep 6, 2001
ANNUAL SEVEN-DAY MINIMUM	163	Oct 12	127	Aug 22	107	Sep 2, 2001
MAXIMUM PEAK FLOW	---		4,070	Apr 30	43,400	May 9, 2002
MAXIMUM PEAK STAGE	---		7.26	Apr 30	18.89	May 9, 2002
INSTANTANEOUS LOW FLOW	---		120	Aug 27	103	Sep 6, 2001
ANNUAL RUNOFF (INCHES)	16.39		8.37		11.09	
10 PERCENT EXCEEDS	1,110		708		817	
50 PERCENT EXCEEDS	259		257		232	
90 PERCENT EXCEEDS	174		164		131	

e Estimated



06930450 BIG PINEY RIVER AT DEVIL'S ELBOW, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 37°50'53", long 92°03'44, in NW ¼ SE ¼ NE ¼ sec.18, T.36 N., R.10 W., Pulaski County, Hydrologic Unit 10290202, at bridge on County Highway V at Devil's Elbow.

DRAINAGE AREA.--746 mi^2.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
13...	1515	Environmental	239	13.0	119	8.0	354	10.7	190	39.8	22.6	1.25
JAN												
14...	1445	Environmental	305	16.3	129	8.1	334	5.1	--	--	--	--
MAR												
12...	1100	Environmental	305	12.1	109	8.1	308	9.5	--	--	--	--
MAY												
28...	1540	Environmental	345	10.2	117	7.9	314	20.5	150	29.6	17.9	1.28
JUL												
16...	1315	Environmental	178	9.2	121	8.1	328	28.2	--	--	--	--
SEP												
05...	1120	Environmental	1,300	7.3	84	7.8	271	20.6	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
13...	3.18	185	187	228	<1	4.38	<0.2	4.6	180	<10	E.08	<0.04	0.19
JAN													
14...	--	153	153	186	<1	--	--	--	--	<10	0.12	<0.04	0.81
MAR													
12...	--	135	134	164	<1	--	--	--	--	<10	0.13	<0.04	0.47
MAY													
28...	3.10	152	153	187	<1	5.84	<0.2	5.3	174	<10	0.19	<0.04	0.25
JUL													
16...	--	159	159	194	<1	--	--	--	--	<10	0.23	<0.04	0.20
SEP													
05...	--	126	126	154	<1	--	--	--	--	13	0.45	<0.04	0.66

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
13...	<0.008	0.02	E.03	E.02	<1b	2k	1k	<2	9	E.2	<0.04	<0.2	E6n
JAN													
14...	<0.008	<0.02	E.02	<0.04	2k	3k	<1b	--	--	--	--	--	--
MAR													
12...	E.005	E.02	E.02	E.02	1k	2k	1k	--	--	--	--	--	--
MAY													
28...	<0.008	E.01	0.04	<0.04	5k	12k	8k	E1n	47	0.3	<0.04	<0.2	<7
JUL													
16...	<0.008	0.03	0.04	0.06	1k	7k	37	--	--	--	--	--	--
SEP													
05...	0.008	<0.18d	0.05	0.06	84	96	114	--	--	--	--	--	--

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
13...	11	<0.08	<1	3.7	<0.02	<0.5	<1	<2
JAN								
14...	--	--	--	--	--	--	--	--
MAR								
12...	--	--	--	--	--	--	--	--
MAY								
28...	12	<0.08	<1	11.6	<0.02	<0.5	Mn	<2
JUL								
16...	--	--	--	--	--	--	--	--
SEP								
05...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M--Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

06930800 GASCONADE RIVER ABOVE JEROME, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 37°55'12", long 91°58'33", in SW ¼ NW ¼ NE ¼ sec.24, T.37 N., R.10 W., Phelps County, Hydrologic Unit 10290203, at bridge on State 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.

REMARKS.--National Stream-Quality Accounting Network station January 1978 to September 1993. Ambient Water-Quality Monitoring Network station November 1993 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 588 microsiemens per centimeter, Sept. 23, 1981; minimum, 133 microsiemens per centimeter, 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 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
01...	1240	Environmental	498	9.3	107	8.2	314	21.2	--	--	--	--
NOV												
13...	0905	Environmental	547	12.2	108	8.2	356	9.2	190	38.2	22.9	1.43
DEC												
05...	0945	Environmental	547	11.0	84	8.1	365	3.5	--	--	--	--
JAN												
15...	0940	Environmental	952	16.7	128	8.1	343	3.7	180	37.3	21.2	1.71
15...	0941	Blank	--	--	--	--	--	--	--	E.01	<0.008	<0.10
FEB												
04...	0930	Environmental	631	10.9	89	7.9	351	5.9	--	--	--	--
MAR												
05...	1020	Environmental	2,660	10.9	91	7.9	331	6.4	--	--	--	--
APR												
08...	1315	Environmental	2,720	9.1	87	7.7	318	12.8	--	--	--	--
MAY												
08...	0940	Environmental	4,900	6.8	74	7.3	256	17.7	130	27.4	15.8	2.37
JUN												
09...	0950	Environmental	952	7.0	79	7.4	333	20.1	--	--	--	--
JUL												
28...	1229	Blank	--	--	--	--	--	--	--	E.01n	E.006n	<0.16
28...	1230	Environmental	475	7.6	99	7.7	347	26.7	190	35.4	23.8	1.52
AUG												
07...	0915	Environmental	554	5.5	68	7.8	344	24.7	--	--	--	--
07...	0916	Replicate	--	5.7	70	7.9	344	24.7	--	--	--	--
SEP												
05...	0940	Environmental	5,300	6.6	77	7.6	298	21.8	--	--	--	--

06930800 GASCONADE RIVER ABOVE JEROME, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicar-bonate, wat unf incrm. titr., field, mg/L (00450)	Carbon-ate, wat unf incrm. titr., field, mg/L (00447)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
01...	--	169	169	206	<1	--	--	--	--	<10	E.05	<0.04	0.07
NOV													
13...	2.94	188	188	229	<1	3.67	<0.20	3.6	140	<10	0.11	0.08	E.06
DEC													
05...	--	174	174	212	<1	--	--	--	--	<10	E.06	<0.04	0.10
JAN													
15...	3.92	172	175	213	<1	7.98	<0.17	7.2	187	<10	0.12	<0.04	0.76
15...	<0.09	--	--	--	--	0.24	<0.17	<0.2	<10	<10	<0.10	<0.04	<0.06
FEB													
04...	--	172	172	210	<1	--	--	--	--	<10	0.15	<0.04	0.38
MAR													
05...	--	143	143	175	<1	--	--	--	--	<10	0.19	<0.04	0.92
APR													
08...	--	153	154	188	<1	--	--	--	--	<10	0.26	<0.04	0.19
MAY													
08...	2.99	113	113	138	<1	5.45	<0.17	6.0	149	71	0.66	<0.04	0.41
JUN													
09...	--	144	143	174	<1	--	--	--	--	<10	0.19	<0.04	0.22
JUL													
28...	<0.10	--	--	--	--	<0.20	<0.20	<0.2	<10	<10	<0.10	E.03	<0.06
28...	3.48	163	163	198	<1	6.14	<0.20	4.6	181	<10	0.12	<0.04	0.07
AUG													
07...	--	172	171	209	<1	--	--	--	--	<10	0.17	<0.04	<0.06
07...	--	--	--	--	--	--	--	--	--	<10	0.20	<0.04	<0.06
SEP													
05...	--	132	135	164	<1	--	--	--	--	<10	0.70	<0.04	0.53

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
01...	<0.008	<0.02	<0.04	<0.04	13k	6k	3k	--	--	--	--	--	--
NOV													
13...	E.007	<0.02	<0.04	<0.04	11k	5k	1k	<2	12	E.3	<0.04	<0.2	<6
DEC													
05...	<0.008	<0.02	<0.04	<0.04	1k	2k	<1b	--	--	--	--	--	--
JAN													
15...	E.004	<0.02	E.02	<0.04	1k	1k	4k	E1	29	0.3	<0.04	<0.2	<6
15...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	E1	<0.3	<0.04	<0.2	<6
FEB													
04...	E.006	<0.02	<0.04	<0.04	<1b	4k	3k	--	--	--	--	--	--
MAR													
05...	0.008	<0.02	<0.04	E.02	3k	21	6k	--	--	--	--	--	--
APR													
08...	<0.008	<0.02	<0.04	<0.04	17k	25	35	--	--	--	--	--	--
MAY													
08...	0.008	0.02	E.02	0.09	720	1,350	2,250	4	723	0.4	<0.04	<0.2	<6
JUN													
09...	E.005	<0.02	E.02	E.03	3k	8k	3k	--	--	--	--	--	--
JUL													
28...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<7
28...	<0.008	<0.02	E.02	<0.04	1k	8k	13k	2	34	0.6	<0.04	<0.2	<7
AUG													
07...	<0.008	<0.02	<0.04	<0.04	15k	8k	24	--	--	--	--	--	--
07...	<0.008	<0.02	<0.04	<0.04	5k	12k	21	--	--	--	--	--	--
SEP													
05...	0.010	<0.18d	0.06	0.11	58k	117k	400	--	--	--	--	--	--

06930800 GASCONADE RIVER ABOVE JEROME, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT								
01...	--	--	--	--	--	--	--	--
NOV								
13...	E6	<0.08	<1	5.2	<0.02	<0.5	M	2
DEC								
05...	--	--	--	--	--	--	--	--
JAN								
15...	<10	<0.08	<1	5.4	<0.02	<0.5	<1	<2
15...	<10	<0.08	<1	<2.0	<0.02	<0.5	<1	2
FEB								
04...	--	--	--	--	--	--	--	--
MAR								
05...	--	--	--	--	--	--	--	--
APR								
08...	--	--	--	--	--	--	--	--
MAY								
08...	21	<0.08	2	5.3	E.01	<0.5	<1	4
JUN								
09...	--	--	--	--	--	--	--	--
JUL								
28...	<8	<0.08	<1	<0.4	<0.02	<0.5	<1	<2
28...	11	E.05n	<1	18.1	<0.02	<0.5	1	<2
AUG								
07...	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--
SEP								
05...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

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 pier on downstream side of bridge on State Highway P and T at Newburg, and 2 mi upstream from Mill Creek.

DRAINAGE AREA.--200 mi^2.

PERIOD OF RECORD.--October 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 693.40 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1951, all gages at datum 3.0 ft higher. Prior to Nov. 21, 1963, nonrecording gage at site 100 ft downstream; Nov. 21, 1963 to May 9, 1966, nonrecording gage at present site.

REMARKS.--No estimated daily discharges. Records good. U.S.G.S satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, 16.7 ft, Aug. 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

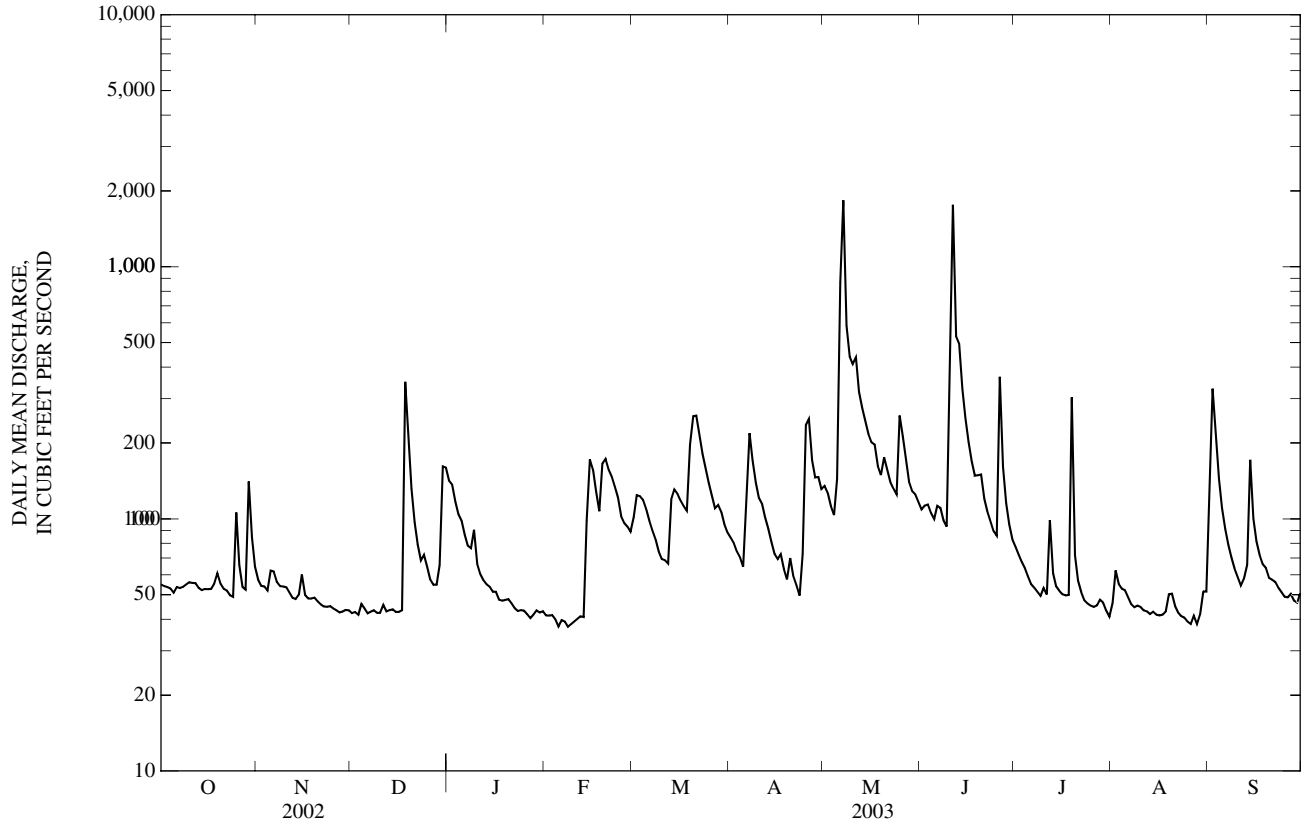
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	57	42	142	41	102	84	135	109	78	46	133
2	54	54	43	137	41	124	80	127	113	72	62	329
3	54	54	42	117	42	123	74	113	114	68	55	216
4	53	52	46	105	40	119	70	104	106	64	53	144
5	51	62	44	99	37	109	65	144	100	59	52	110
6	54	62	42	87	40	98	119	867	113	55	49	91
7	53	56	43	78	39	90	219	1,830	111	53	46	79
8	54	54	43	76	37	83	170	585	99	51	45	70
9	55	54	42	91	38	74	140	441	93	50	45	64
10	56	54	42	66	39	69	121	411	254	53	45	59
11	56	51	46	60	40	69	115	437	1,760	50	43	54
12	56	49	43	57	41	67	101	320	530	99	43	58
13	53	48	43	55	41	120	91	275	496	61	42	66
14	52	50	44	54	99	131	81	245	329	54	43	171
15	53	60	43	51	172	126	73	217	252	52	42	100
16	53	50	43	51	156	118	69	201	202	50	41	82
17	53	48	43	48	128	112	72	197	170	50	42	72
18	55	48	350	47	107	108	63	162	148	50	43	66
19	61	49	224	48	166	197	57	149	149	304	50	64
20	55	47	132	48	173	255	70	176	150	72	51	58
21	53	46	97	46	157	257	60	158	120	57	45	57
22	52	45	79	44	147	213	55	140	107	51	43	56
23	50	45	68	43	135	181	50	132	98	47	41	53
24	49	45	72	43	121	157	73	125	90	46	41	51
25	106	44	65	43	102	139	235	257	86	45	39	49
26	66	43	58	42	96	123	249	212	366	45	38	49
27	54	43	55	40	93	110	171	170	161	45	41	50
28	52	43	55	42	89	114	146	140	115	48	38	47
29	141	44	66	43	---	107	147	129	95	47	42	46
30	85	43	161	43	---	95	131	125	83	43	52	51
31	65	---	160	43	---	88	---	117	---	41	51	---
MEAN	60.0	50.0	76.6	64.2	87.8	125	108	285	224	63.2	45.5	86.5
MAX	141	62	350	142	173	257	249	1,830	1,760	304	62	329
MIN	49	43	42	40	37	67	50	104	83	41	38	46
IN.	0.35	0.28	0.44	0.37	0.46	0.72	0.60	1.64	1.25	0.36	0.26	0.48

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2003, BY WATER YEAR (WY)

MEAN	96.8	137	150	150	177	234	268	276	200	106	81.8	86.8
MAX	913	694	1,300	770	678	822	1,335	1,346	1,545	684	493	706
(WY)	(1950)	(1994)	(1983)	(1950)	(1985)	(1945)	(1945)	(2002)	(1935)	(1998)	(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)

06932000 LITTLE PINEY CREEK AT NEWBURG, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1929 - 2003	
ANNUAL MEAN	239		106		163	
HIGHEST ANNUAL MEAN					391	1985
LOWEST ANNUAL MEAN					47.0	1954
HIGHEST DAILY MEAN	6,980	May 17	1,830	May 7	19,600	Dec 3, 1982
LOWEST DAILY MEAN	42	Dec 1,3,6,9,10	37	Feb 5,8	24	1936,1954,1956
ANNUAL SEVEN-DAY MINIMUM	43	Nov 27	39	Feb 4	24	Aug 22, 1936
MAXIMUM PEAK FLOW	---		6,050	May 6	32,500	Aug 14, 1946
MAXIMUM PEAK STAGE	---		9.79	May 6	16.60	Jun 17, 1985
INSTANTANEOUS LOW FLOW	---		36	Feb 5,7,Aug 26-28	24	Several Years
ANNUAL RUNOFF (INCHES)	16.25		7.22		11.09	
10 PERCENT EXCEEDS	414		174		284	
50 PERCENT EXCEEDS	80		62		87	
90 PERCENT EXCEEDS	50		43		43	



06933500 GASCONADE RIVER AT JEROME, MO

LOCATION.--Lat 37°55'47", long 91°58'38", in NE 1/4 NE 1/4 SE 1/4 sec.13, T.37 N., R.10 W., Phelps County, Hydrologic Unit 10290203, on left bank at Jerome, 0.5 mi downstream from Little Piney Creek, and at mile 107.

DRAINAGE AREA.--2,840 mi^2.

PERIOD OF RECORD.--April 1903 to July 1906, January 1923 to current year. April 1903 to July 1906 published as "at Arlington". 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 the National Weather Service.

REVISED RECORDS.--WSP 172: 1904. WSP 566: Drainage area. WSP 1340: 1903-04, 1928(M).

GAGE.--Water-stage recorder. Datum of gage is 657.64 ft above National Geodetic Vertical Datum of 1929. Prior to July 26, 1904, nonrecording gage at site 0.8 mi downstream at different datum; July 26, 1904, to July 21, 1906, nonrecording gage at site 0.5 mi upstream from present site at datum about 0.85 ft higher than present gage; Jan. 3, 1923, to Sept. 29, 1928, nonrecording gage at site 400 ft downstream from present site at datum 0.14 ft lower than present datum; Sept. 30, 1928, to Jan. 17, 1939, nonrecording gage at present site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. National Weather Service gage-height and U.S.G.S. satellite telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 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 Aug. 20 and 22, 1915, discharge, 114,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	499	628	527	2,670	649	2,290	1,990	2,960	1,040	935	497	728
2	478	618	523	4,800	648	2,240	1,840	2,690	1,010	e883	555	1,500
3	481	605	524	4,160	651	2,280	1,710	3,280	998	e839	525	4,130
4	470	600	539	3,170	632	2,490	1,600	2,910	967	e802	501	4,350
5	438	647	544	2,600	620	2,640	1,490	2,870	956	e775	514	5,010
6	432	657	541	2,220	622	2,510	1,500	2,830	982	e741	558	2,990
7	427	630	541	1,940	623	2,310	2,080	7,820	983	e716	561	2,190
8	407	605	541	1,710	613	2,120	2,720	4,810	957	e696	569	1,740
9	395	594	541	1,540	613	1,890	3,700	3,410	937	e671	567	1,440
10	388	591	538	1,390	616	1,690	3,380	2,820	1,110	e663	552	1,220
11	388	576	537	1,260	613	1,550	2,790	2,710	3,490	e645	535	1,080
12	391	562	535	1,160	605	1,440	2,400	2,290	2,420	e692	522	991
13	389	552	539	1,080	603	1,550	2,130	2,080	2,550	e635	503	964
14	385	559	541	1,010	701	1,650	1,930	1,900	4,190	e611	495	1,090
15	385	600	541	938	889	1,690	1,730	1,730	5,200	e605	484	2,630
16	384	591	546	903	1,180	1,600	1,570	1,590	4,190	e600	478	2,100
17	383	573	557	862	1,770	1,530	1,500	1,550	3,120	e594	469	1,480
18	388	571	840	827	2,520	1,460	1,370	1,480	2,490	e575	464	1,340
19	425	574	933	792	2,420	1,590	1,290	1,450	2,170	e681	471	1,300
20	435	569	842	763	2,370	2,030	1,300	1,600	2,010	e668	480	1,120
21	421	564	877	770	2,980	2,650	1,250	1,700	1,670	e625	480	1,030
22	417	554	1,090	747	4,100	3,610	1,190	1,800	1,460	e627	459	989
23	414	552	1,220	719	3,670	3,610	1,130	1,810	1,310	e605	445	903
24	416	549	1,170	680	3,540	3,380	1,190	1,650	1,190	e556	428	834
25	577	548	1,100	676	3,490	2,750	1,480	1,740	1,090	e522	420	781
26	571	542	1,000	678	3,140	2,470	1,950	1,700	1,320	e499	415	737
27	517	541	947	676	2,740	2,220	2,740	1,490	1,290	e484	410	713
28	513	537	896	659	2,460	2,130	2,680	1,350	1,470	e473	406	679
29	699	535	869	659	---	2,110	2,480	1,250	1,170	456	424	654
30	674	536	962	655	---	2,060	4,200	1,170	1,020	446	465	664
31	621	---	1,120	648	---	2,020	---	1,100	---	452	513	---
MEAN	458	579	743	1,399	1,646	2,179	2,010	2,308	1,825	638	489	1,579
MAX	699	657	1,220	4,800	4,100	3,610	4,200	7,820	5,200	935	569	5,010
MIN	383	535	523	648	603	1,440	1,130	1,100	937	446	406	654
IN.	0.19	0.23	0.30	0.57	0.60	0.88	0.79	0.94	0.72	0.26	0.20	0.62

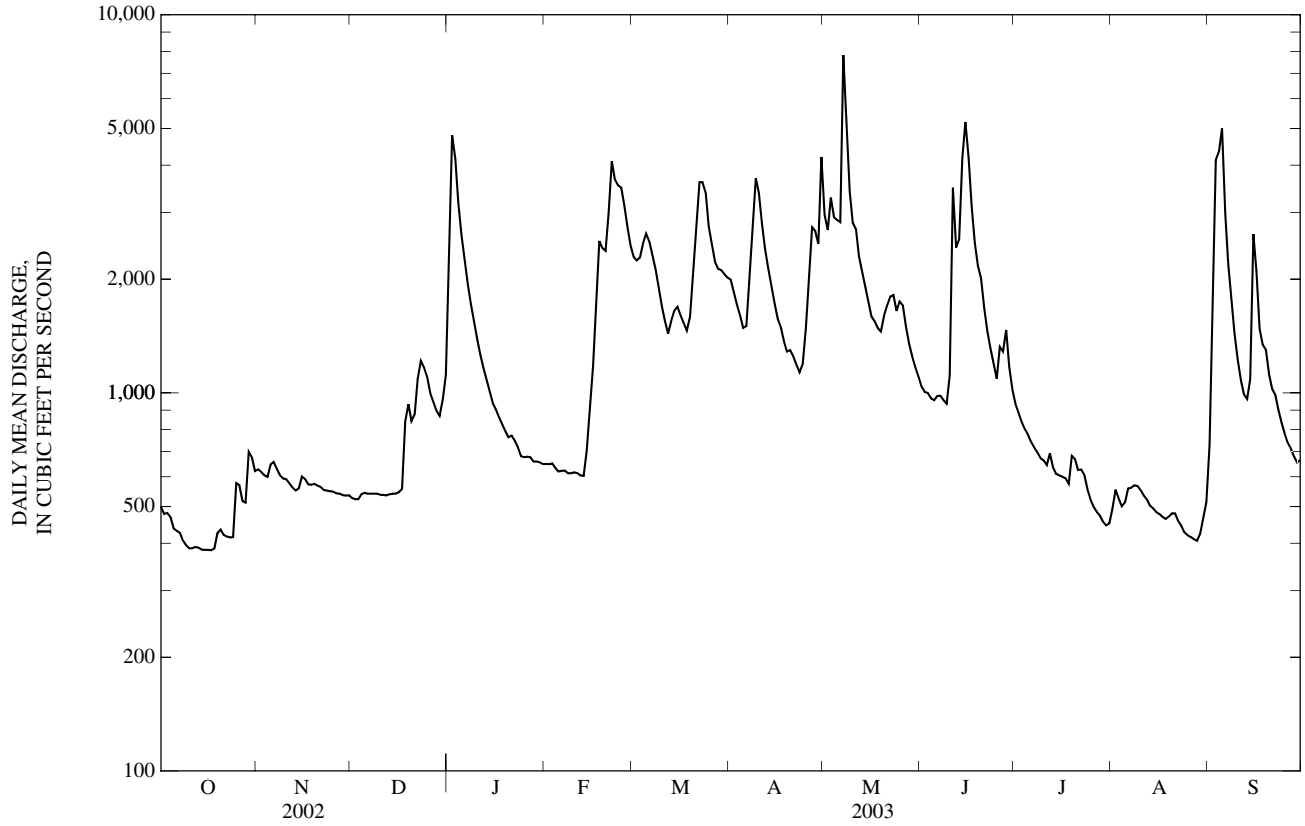
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	1,361	2,286	2,453	2,394	2,996	4,022	4,590	4,414	2,999	1,516	1,157	1,261
MAX	10,390	10,400	17,740	10,980	11,540	13,110	20,450	15,390	18,500	10,730	9,244	12,580
(WY)	(1950)	(1994)	(1983)	(1950)	(1985)	(1945)	(1945)	(1990)	(1935)	(1951)	(1927)	(1993)
MIN	289	368	392	368	491	597	504	532	518	339	324	293
(WY)	(1957)	(1957)	(1956)	(1956)	(1964)	(1956)	(1956)	(2000)	(1934)	(1934)	(1936)	(1956)

06933500 GASCONADE RIVER AT JEROME, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PEARIOD OF RECORD	
ANNUAL MEAN	2,982		1,316		2,608	
HIGHEST ANNUAL MEAN					6,491	1985
LOWEST ANNUAL MEAN					544	1954
HIGHEST DAILY MEAN	47,000	May 10	7,820	May 7	121,000	Dec 5, 1982
LOWEST DAILY MEAN	383	Oct 17	383	Oct 17	259	Sep 21, 1956
ANNUAL SEVEN-DAY MINIMUM	386	Oct 11	386	Oct 11	266	Sep 16, 1956
MAXIMUM PEAK FLOW	---		9,950	May 7	136,000	Dec 5, 1982
MAXIMUM PEAK STAGE	---		7.75	May 7	31.34	Dec 5, 1982
INSTANTANEOUS LOW FLOW	---		381	Oct 14-18	254	Sep 21, 1956
ANNUAL RUNOFF (INCHES)	14.25		6.29		12.48	
10 PERCENT EXCEEDS	5,950		2,740		5,460	
50 PERCENT EXCEEDS	866		903		1,220	
90 PERCENT EXCEEDS	515		472		512	

e Estimated



06934000 GASCONADE RIVER NEAR RICH FOUNTAIN, MO

LOCATION.--Lat 38°23'20", long 91°49'15", in SE 1/4 sec.16, T.41 N., R.8 W., Osage County, Hydrologic Unit 10290203, on downstream side of State Highway 89 bridge, 100 ft downstream from Brush Creek Slough, 800 ft upstream from Swan Creek, and 4 mi east of Rich Fountain.

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

PERIOD OF RECORD.--Nov. 1, 1921 to Sept. 30, 1959, Oct. 1, 1986 to current year. Annual peaks only for water years 1959 to 1986.

GAGE.--Water-stage recorder. Datum of gage 553.70 ft above National Geodetic Vertical Datum of 1929. 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. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

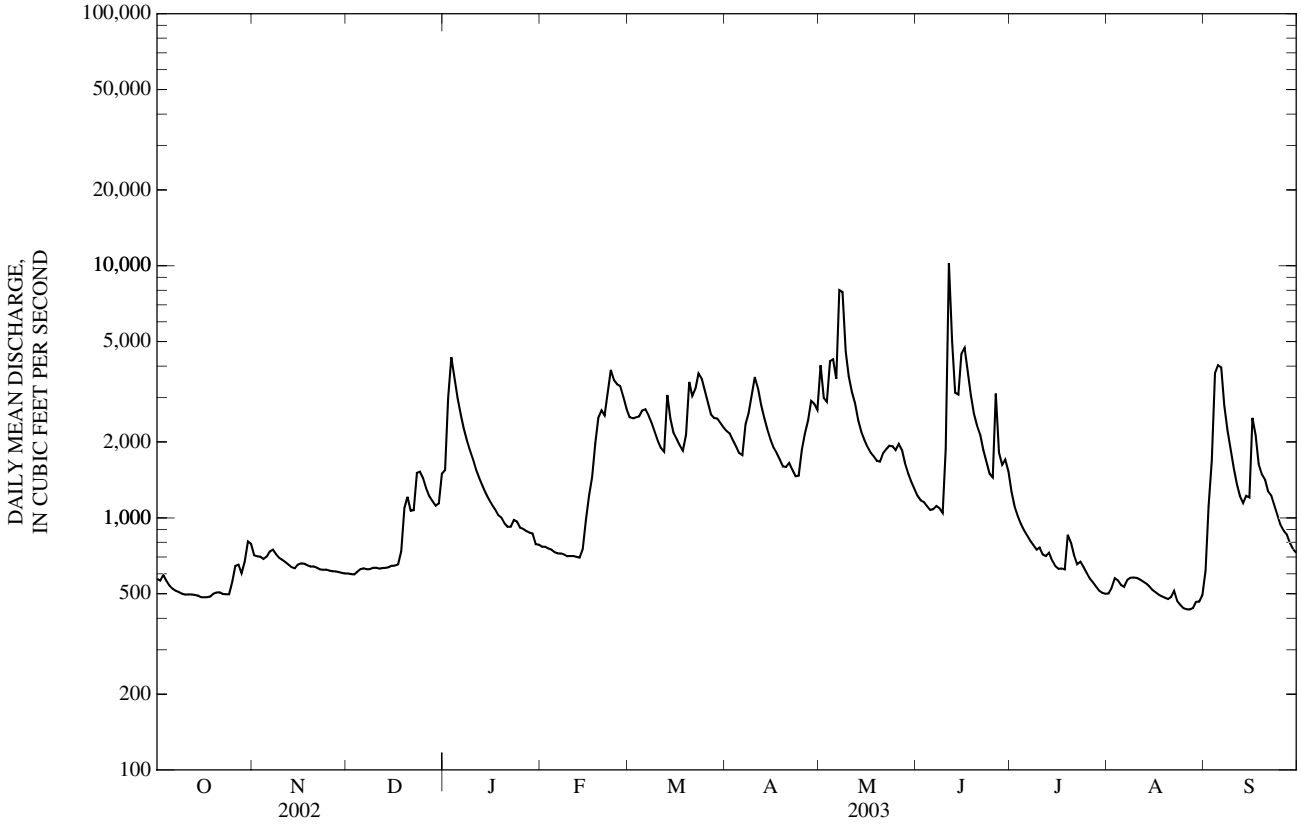
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	574	710	602	1,550	768	2,510	2,210	4,030	1,220	1,270	502	617
2	564	704	599	2,980	768	2,480	2,160	2,990	1,170	1,110	527	1,110
3	595	702	597	4,340	756	2,500	2,030	2,890	1,160	1,020	576	1,690
4	562	686	612	3,640	748	2,530	1,920	4,190	1,110	948	565	3,750
5	537	702	627	2,990	731	2,670	1,810	4,260	1,080	895	542	4,030
6	523	736	631	2,570	723	2,700	1,780	3,560	1,080	851	532	3,960
7	513	748	626	2,260	723	2,560	2,350	8,010	1,120	811	567	2,790
8	507	718	627	2,030	716	2,380	2,600	7,870	1,090	780	579	2,230
9	500	695	633	1,850	705	2,200	3,080	4,560	1,050	749	580	1,870
10	496	681	634	1,700	706	2,020	3,620	3,640	1,880	763	578	1,580
11	497	668	629	1,550	706	1,900	3,260	3,150	10,200	715	571	1,360
12	497	653	633	1,430	701	1,830	2,820	2,860	5,010	706	559	1,220
13	495	638	633	1,340	696	3,070	2,490	2,440	3,140	728	550	1,150
14	492	630	637	1,260	750	2,480	2,250	2,200	3,080	679	535	1,220
15	485	652	646	1,180	978	2,170	2,050	2,040	4,480	644	519	1,210
16	484	660	647	1,130	1,230	2,060	1,900	1,910	4,730	628	507	2,490
17	485	658	653	1,080	1,450	1,940	1,810	1,810	3,820	630	496	2,130
18	488	649	737	1,030	1,980	1,850	1,700	1,750	3,070	624	488	1,640
19	500	641	1,100	1,000	2,500	2,140	1,600	1,680	2,600	858	482	1,490
20	506	642	1,210	952	2,670	3,460	1,590	1,670	2,320	798	477	1,420
21	507	635	1,070	923	2,550	3,040	1,650	1,800	2,130	712	486	1,270
22	499	625	1,070	923	3,180	3,260	1,550	1,870	1,860	654	513	1,230
23	498	623	1,510	981	3,860	3,740	1,460	1,930	1,660	670	467	1,120
24	498	624	1,520	966	3,520	3,570	1,470	1,920	1,500	641	451	1,020
25	558	618	1,440	915	3,390	3,220	1,870	1,860	1,450	605	438	936
26	645	614	1,310	904	3,330	2,870	2,160	1,970	3,110	575	434	888
27	653	614	1,220	887	3,010	2,570	2,440	1,860	1,810	556	434	860
28	604	610	1,160	874	2,710	2,490	2,910	1,650	1,620	535	439	795
29	672	605	1,120	868	---	2,480	2,840	1,500	1,700	515	465	750
30	807	602	1,140	787	---	2,380	2,690	1,390	1,530	504	465	727
31	790	---	1,500	783	---	2,280	---	1,300	---	500	493	---
MEAN	549	658	896	1,538	1,663	2,560	2,202	2,792	2,426	731	510	1,618
MAX	807	748	1,520	4,340	3,860	3,740	3,620	8,010	10,200	1,270	580	4,030
MIN	484	602	597	783	696	1,830	1,460	1,300	1,050	500	434	617
IN.	0.20	0.23	0.32	0.56	0.54	0.93	0.77	1.01	0.85	0.27	0.19	0.57

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

MEAN	1,618	2,416	2,476	2,818	3,275	4,515	5,524	5,376	3,713	1,769	1,330	1,391
MAX	12,060	12,230	12,750	12,700	7,637	14,640	22,720	18,300	19,810	12,630	9,365	15,330
(WY)	(1950)	(1994)	(1988)	(1950)	(1949)	(1945)	(1945)	(1990)	(1935)	(1951)	(1927)	(1993)
MIN	288	394	403	374	558	620	531	670	647	385	334	295
(WY)	(1957)	(1957)	(1956)	(1956)	(1954)	(1956)	(1956)	(2000)	(1934)	(1954)	(1936)	(1954)

06934000 GASCONADE RIVER NEAR RICH FOUNTAIN, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	3,422		1,508		3,014	
HIGHEST ANNUAL MEAN					6,560	1927
LOWEST ANNUAL MEAN					629	1954
HIGHEST DAILY MEAN	47,900	May 11	10,200	Jun 11	101,000	Sep 28, 1993
LOWEST DAILY MEAN	484	Oct 16	434	Aug 26,27	275	Sep 19, 1954
ANNUAL SEVEN-DAY MINIMUM	489	Oct 12	447	Aug 24	279	Oct 6, 1956
MAXIMUM PEAK FLOW	---		13,800	Jun 11	134,000	Dec 6, 1982
MAXIMUM PEAK STAGE	---		10.33	Jun 11	33.27	Dec 6, 1982
INSTANTANEOUS LOW FLOW	---		425	Aug 26-28	275	Sep 19, 1954
ANNUAL RUNOFF (INCHES)	14.61		6.44		12.88	
10 PERCENT EXCEEDS	6,620		3,070		6,360	
50 PERCENT EXCEEDS	1,070		1,090		1,450	
90 PERCENT EXCEEDS	587		513		561	



06934500 MISSOURI RIVER AT HERMANN, MO

LOCATION.--Lat 38°42'36", long 91°26'21", in SW 1/4 sec.25, T.46 N., R.5 W., Montgomery County, Hydrologic Unit 10300200, on downstream side of third pier from right abutment of bridge on State Highway 19 at Hermann, and at mile 97.9.

DRAINAGE AREA.--522,500 mi^2. The 3,959 mi^2 in Great Divide basin are not included.

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 the National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area, WDR MO-98-1: Extreme outside period of record.

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 481.56 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 26, 1930, nonrecording gage at site 480 ft downstream at datum 0.07 ft lower; Sept. 26, 1930, to Mar. 27, 1932, nonrecording gage; Mar. 28, 1932, to June 12, 1945, water-stage recorder; June 13, 1945, to Apr. 2, 1946, May 13 to Sept. 30, 1978, nonrecording gage at present site and datum.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1844 reached a stage of 35.5 ft, discharge, about 700,000 ft^3/s, computed by the U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38,100	45,200	38,800	25,500	24,500	35,800	39,800	67,600	58,500	57,300	40,100	39,600
2	38,000	43,800	38,000	25,700	24,300	38,400	39,300	65,200	52,000	63,300	39,900	58,900
3	39,800	43,100	36,500	26,900	24,300	36,100	38,200	63,300	50,100	64,300	39,300	91,200
4	43,500	43,100	34,700	28,000	24,200	33,600	37,400	70,900	50,300	61,400	39,200	81,600
5	42,200	43,600	32,900	27,400	24,500	39,800	37,700	90,000	51,700	59,300	38,600	65,200
6	41,700	43,500	31,300	27,100	25,600	38,400	38,600	83,300	53,100	56,000	38,700	50,200
7	42,500	42,800	29,900	27,100	27,900	39,200	40,700	98,200	51,700	53,800	39,000	43,800
8	43,900	42,200	29,000	26,900	26,700	36,200	44,200	99,400	50,900	53,300	38,700	40,300
9	45,200	41,400	28,200	26,600	27,900	29,600	46,600	109,000	51,200	55,500	38,200	39,300
10	47,100	40,400	27,400	26,500	26,000	28,500	48,300	127,000	52,600	55,100	38,100	41,000
11	47,900	39,500	27,000	26,400	25,300	28,400	46,600	155,000	72,500	53,000	37,600	42,700
12	45,800	39,100	26,900	26,300	25,000	29,000	46,200	146,000	102,000	53,600	37,300	43,800
13	43,700	39,000	26,600	26,400	24,900	35,800	44,500	129,000	88,600	58,200	37,000	45,600
14	42,500	39,000	25,900	26,300	25,000	40,100	41,700	105,000	87,700	56,800	37,500	48,900
15	42,100	39,400	25,500	26,000	26,600	36,400	40,500	87,300	87,900	56,000	41,800	57,700
16	41,800	39,400	25,800	25,800	33,400	32,900	39,300	79,700	90,500	62,300	41,200	55,200
17	41,400	39,200	26,300	25,600	35,000	31,800	39,700	76,900	87,400	69,600	38,700	55,800
18	41,500	39,200	28,400	25,600	33,500	30,900	40,000	69,900	79,200	62,900	37,500	53,700
19	41,600	39,200	30,700	25,100	32,500	31,000	41,000	64,100	70,300	59,200	36,900	54,900
20	41,500	39,200	29,500	24,500	31,700	41,600	40,600	63,300	62,100	55,100	36,000	53,200
21	42,000	39,500	28,500	24,000	30,300	43,500	41,300	65,100	55,700	51,700	35,500	46,800
22	41,900	39,700	27,600	23,500	30,700	42,400	41,300	64,000	52,100	50,700	43,000	44,800
23	41,700	39,200	27,000	23,500	33,600	42,200	44,300	65,600	49,900	48,600	44,000	46,700
24	41,500	38,800	27,100	23,300	35,000	40,400	49,200	71,600	49,900	45,900	35,500	48,100
25	41,900	38,800	27,200	23,800	34,200	37,300	61,200	68,400	59,600	44,000	33,000	50,800
26	42,400	38,800	27,000	26,400	32,500	43,500	71,200	60,700	81,300	42,800	33,500	50,800
27	42,500	38,600	26,800	24,200	33,100	51,400	66,800	57,000	74,100	42,000	34,600	45,600
28	43,200	38,400	26,700	23,500	33,800	52,300	62,800	55,500	62,300	41,500	39,300	46,900
29	43,800	38,800	26,700	23,700	---	49,800	72,100	60,400	59,600	40,900	36,900	42,600
30	44,600	38,900	26,500	24,900	---	44,300	73,900	60,300	56,200	40,600	34,900	39,900
31	45,500	---	25,800	25,100	---	41,300	---	55,000	---	40,300	34,000	---
MEAN	42,670	40,360	28,910	25,540	29,000	38,130	47,170	81,730	65,030	53,390	37,920	50,850
MAX	47,900	45,200	38,800	28,000	35,000	52,300	73,900	155,000	102,000	69,600	44,000	91,200
MIN	38,000	38,400	25,500	23,300	24,200	28,400	37,400	55,000	49,900	40,300	33,000	39,300
IN.	0.09	0.09	0.06	0.06	0.06	0.08	0.10	0.18	0.14	0.12	0.08	0.11

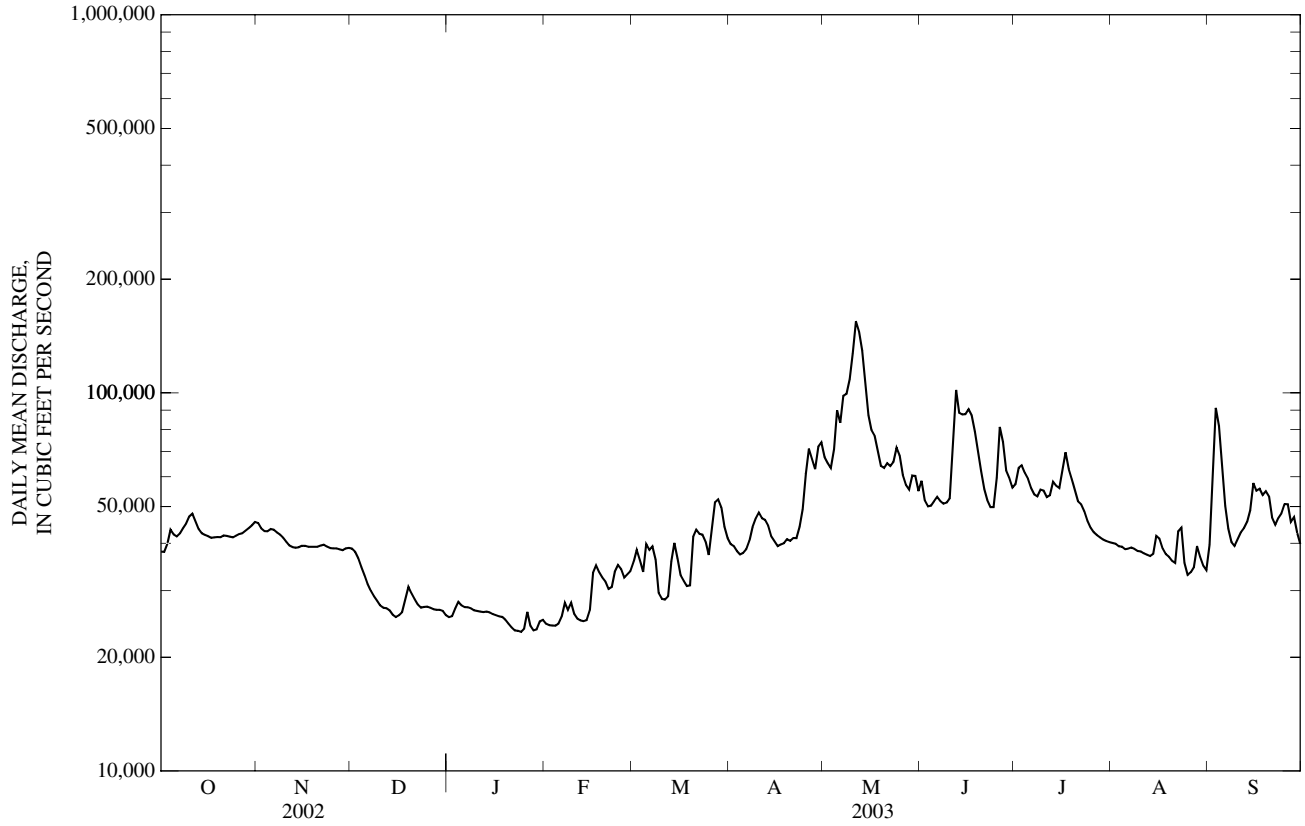
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003[a], BY WATER YEAR (WY)

MEAN	78,640	78,600	62,650	50,430	68,110	96,240	120,500	122,700	120,200	99,950	74,020	76,020
MAX	286,700	174,800	178,900	129,000	136,800	267,500	333,400	313,000	282,300	376,300	306,600	243,500
(WY)	(1987)	(1999)	(1983)	(1973)	(1982)	(1973)	(1973)	(1995)	(1995)	(1993)	(1993)	(1993)
MIN	36,680	29,400	17,060	17,350	19,250	22,810	45,800	47,710	46,150	44,010	37,920	37,800
(WY)	(1964)	(1991)	(1964)	(1963)	(1964)	(1964)	(1963)	(1989)	(1988)	(1988)	(2003)	(1963)

06934500 MISSOURI RIVER AT HERMANN, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1958 - 2003[a]	
ANNUAL MEAN	60,970		45,130		86,470	
HIGHEST ANNUAL MEAN					181,800	1993
LOWEST ANNUAL MEAN					44,980	1963
HIGHEST DAILY MEAN	345,000	May 14	155,000	May 11	739,000	Jul 31, 1993
LOWEST DAILY MEAN	25,500	Dec 15	23,300	Jan 24	6,210	Dec 23, 1963
ANNUAL SEVEN-DAY MINIMUM	26,300	Dec 11	24,000	Jan 19	7,400	Dec 20, 1963
MAXIMUM PEAK FLOW	---		158,000	May 11	750,000	Jul 31, 1993
MAXIMUM PEAK STAGE	---		18.78	May 11	36.97	Jul 31, 1993
INSTANTANEOUS LOW FLOW	---		23,000	Jan 25	602	Dec 23, 1963
ANNUAL RUNOFF (INCHES)	1.58		1.17		2.25	
10 PERCENT EXCEEDS	107,000		66,100		162,000	
50 PERCENT EXCEEDS	43,800		41,000		66,800	
90 PERCENT EXCEEDS	32,800		26,400		36,300	

[a] Post-regulation period.



06934500 MISSOURI RIVER AT HERMANN, MO—Continued
(National Stream-Quality Accounting Network)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1974 to September 1996.
WATER TEMPERATURE: October 1974 to September 1996.
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.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: (water years 1976 to 1996): Maximum daily, 2,150 microsiemens per centimeter, Dec. 9, 1978; minimum daily, 205 microsiemens per centimeter, Apr. 16, 1979.
WATER TEMPERATURE: (water years 1976 to 1996): Maximum daily, 32.5 °C, July 31, 1987; minimum daily, 0.0 °C on many days during winter period.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	UV absorbance, 254 nm, wat flt units /cm (50624)	UV absorbance, 280 nm, wat flt units /cm (61726)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)
OCT												
22...	1010	Environmental	41,900	E28	E.066	E.047	9.2	90	8.2	732	13.5	240
DEC												
11...	1210	Environmental	27,000	17	0.062	0.043	13.2	100	8.3	747	3.2	260
11...	1218	Blank	--	--	--	--	--	--	--	--	--	--
FEB												
13...	1105	Environmental	25,000	12	0.062	0.045	14.4	125	8.2	787	8.8	270
MAR												
03...	1220	Environmental	36,200	49	0.105	0.079	14.1	105	8.2	661	2.5	220
24...	1205	Environmental	40,500	38	0.099	0.073	9.9	97	8.2	616	13.4	200
24...	1213	Blank	--	--	0.004	0.003	--	--	--	--	--	--
APR												
09...	1140	Environmental	46,700	41	0.089	0.065	9.8	87	8.2	582	9.9	210
30...	1050	Environmental	73,800	190	0.136	0.101	7.6	82	7.6	540	17.5	190
MAY												
06...	0950	Environmental	80,600	140	0.153	0.115	9.1	98	8.0	527	17.7	190
09...	1150	Environmental	109,000	360	0.138	0.101	10.4	115	7.9	454	17.9	170
12...	1110	Environmental	145,000	1,200	0.174	0.131	4.7	50	7.8	365	18.3	130
JUN												
03...	0950	Environmental	50,000	51	0.084	0.059	7.3	83	8.3	707	20.0	240
13...	1100	Environmental	87,400	78	0.120	0.089	6.9	80	8.1	504	21.6	180
JUL												
08...	1005	Environmental	52,900	140	0.097	0.070	11.1	149	8.2	652	29.7	240
08...	1015	Replicate	--	--	--	--	--	--	--	--	--	240
AUG												
05...	1015	Environmental	38,700	32	0.075	0.053	8.1	107	8.1	763	28.1	260
SEP												
09...	1010	Environmental	39,200	37	0.090	0.064	6.6	81	8.3	677	24.6	220
09...	1018	Blank	--	--	--	--	--	--	--	--	--	--

06934500 MISSOURI RIVER AT HERMANN, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end field, mg/L as $CaCO_3$ (39036)	Alkalinity, wat flt inc tit field, mg/L as $CaCO_3$ (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)
OCT													
22...	59.1	22.2	5.65	66.5	171	172	210	<1	22.6	0.50	7.81	171	474
DEC													
11...	66.5	23.8	5.64	59.9	151	152	185	<1	26.5	0.40	11.5	151	514
11...	0.01	<0.008	--	<0.09	--	--	--	--	--	--	<0.13	--	--
FEB													
13...	70.8	23.0	5.67	67.1	210	213	242	9	37.8	0.49	12.8	152	520
MAR													
03...	56.8	19.6	6.23	49.9	171	172	210	<1	29.9	0.37	14.5	110	421
24...	52.0	18.1	6.03	40.4	162	162	198	<1	25.2	0.36	12.2	103	377
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	52.4	18.4	5.20	42.7	159	158	178	7	20.3	0.36	10.2	113	376
30...	48.5	15.9	5.06	38.6	131	132	161	<1	18.8	0.34	7.42	94.9	337
MAY													
06...	47.6	16.3	5.72	34.8	139	138	169	<1	18.3	0.34	8.16	94.4	338
09...	45.1	13.8	5.21	26.8	131	133	162	<1	15.9	0.30	6.91	75.6	303
12...	36.9	9.60	5.46	18.8	106	106	129	<1	12.3	0.29	7.35	53.0	233
JUN													
03...	62.4	21.4	5.98	50.0	183	185	216	5	22.2	0.50	8.44	137	454
13...	44.8	16.2	4.39	29.3	150	149	183	<1	14.8	0.30	5.37	76.6	305
JUL													
08...	61.6	20.9	6.78	46.7	165	168	205	<1	20.5	0.50	13.1	120	401
08...	62.3	20.9	6.85	47.2	--	--	--	--	20.4	0.50	13.2	120	404
AUG													
05...	63.8	23.4	7.32	60.2	188	189	230	<1	25.7	0.60	7.41	167	498
SEP													
09...	55.2	20.1	6.18	59.0	152	153	186	<1	22.2	0.50	6.03	145	426
09...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Particulate nitrogen, susp, water, mg/L (49570)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inorganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
OCT													
22...	E.19	E.69	<0.04	E.58	E.005	E.064	E.40	E.077	E.19	E2.9	<0.1	E2.9	E3.0
DEC													
11...	0.23	0.46	E.03	0.94	<0.008	0.049	0.22	0.059	0.133	1.9	<0.1	1.9	3.1
11...	--	--	<0.015	<0.022	<0.002	<0.007	--	--	--	--	--	--	--
FEB													
13...	0.22	0.58	<0.04	1.05	E.005	0.060	0.27	0.070	0.152	1.9	<0.1	1.9	2.9
MAR													
03...	0.40	0.89	0.10	1.34	0.017	0.091	0.30	0.106	0.24	2.0	<0.1	2.0	4.1
24...	0.34	0.68	E.02	1.28	0.017	0.099	0.39	0.114	0.23	3.0	<0.1	3.0	3.7
24...	--	--	--	--	--	--	0.05	--	--	<0.1	<0.1	<0.1	3.9
APR													
09...	0.28	0.59	<0.04	0.91	0.009	0.084	0.28	0.101	0.20	2.1	<0.1	2.1	3.4
30...	0.42	1.4	<0.04	0.86	0.018	0.068	0.69	0.085	0.48	5.5	0.1	5.4	4.9
MAY													
06...	0.45	1.4	<0.04	1.00	0.020	0.085	0.59	0.100	--	4.3	<0.1	4.2	4.9
09...	0.41	2.1	<0.04	1.24	0.013	0.087	0.84	0.105	0.72	8.0	<0.1	7.9	4.9
12...	0.45	5.3	<0.04	1.71	0.009	0.084	1.25	0.096	1.88	12.6	0.6	12.0	5.5
JUN													
03...	0.27	0.77	<0.04	1.81	0.008	0.116	0.41	0.126	0.25	3.2	<0.1	3.2	3.0
13...	0.31	0.88	<0.04	0.79	E.007	0.066	2.36	0.077	0.37	1.5	1.0	0.5	3.9
JUL													
08...	0.30	0.92	<0.04	2.77	<0.008	0.144	0.59	0.153	0.42	5.3	0.2	5.1	3.6
08...	0.33	1.0	<0.04	2.77	<0.008	0.141	0.58	0.152	0.40	5.5	0.1	5.4	3.5
AUG													
05...	0.26	0.75	<0.04	1.04	0.008	0.105	0.35	0.119	0.22	2.5	<0.1	2.5	3.1
SEP													
09...	0.26	0.80	<0.04	0.21	E.006n	0.080	0.58	0.099	0.24	4.2	0.1	4.0	3.5
09...	--	--	--	--	--	--	--	--	--	--	--	--	--

06934500 MISSOURI RIVER AT HERMANN, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pheo-phytin a, phyto-plank-ton, ug/L (62360)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Chloro-phyll a phyto-plank-ton, fluoro, µg/L (70953)	Alum-inum, water, fltrd, µg/L (01106)	Anti-mony, water, fltrd, µg/L (01095)	Arsenic water, fltrd, µg/L (01000)	Barium, water, fltrd, µg/L (01005)	Beryll-ium, water, fltrd, µg/L (01010)	Boron, water, fltrd, µg/L (01020)	Cadmium water, fltrd, µg/L (01025)	Chrom-ium, water, fltrd, µg/L (01030)
OCT													
22...	17.5	140	240	67	33.7	--	--	2.8	--	--	117	--	--
DEC													
11...	6.5	8k	41	10k	29.1	--	--	2.0	--	--	126	--	--
11...	--	--	--	--	--	<2	<0.30	<0.3	M	<0.06	<7	<0.04	<0.8
FEB													
13...	6.1	25	60k	24	30.8	--	--	2.3	--	--	113	--	--
MAR													
03...	E4.0	10k	160	74	15.4	E2	E.29	2.4	85	<0.06	98	E.03	<0.8
24...	E5.9	35k	48	43k	7.2	--	--	2.8	--	--	82	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	9.7	240	210	218	19.1	2	0.32	2.7	77	<0.06	82	E.03	<0.8
30...	E19.1	1,000	1,700	1,850	22.3	--	--	1.9	--	--	69	--	--
MAY													
06...	11.2	1,300	1,800	3,200	15.7	--	--	2.2	--	--	71	--	--
09...	9.8	400	800	1,280	6.2	5	0.34	2.1	88	<0.06	65	E.03	<0.8
12...	36.1	2,600	3,800	3,800	18.5	--	--	1.8	--	--	50	--	--
JUN													
03...	10.3	38k	48	96	18.3	--	--	3.5	--	--	97	--	--
13...	19.3	160	180	460	17.1	--	--	2.1	--	--	61	--	--
JUL													
08...	8.6	140	230	42	8.4	4	0.51	3.6	104	<0.06	81	<0.04	<0.8
08...	9.0	--	--	--	10.4	4	0.50	3.8	103	<0.06	80	<0.04	<0.8
AUG													
05...	<0.1	9k	25	9k	155	--	--	4.7	--	--	124	--	--
SEP													
09...	25.9	71	62k	32	45.3	--	--	2.9	--	--	123	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Cobalt water, fltrd, µg/L (01035)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lithium water, fltrd, µg/L (01130)	Mangan-ese, water, fltrd, µg/L (01056)	Molyb-denum, water, fltrd, µg/L (01060)	Nickel, water, fltrd, µg/L (01065)	Selen-ium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Stront-ium, water, fltrd, µg/L (01080)	Vanad-ium, water, fltrd, µg/L (01085)	Zinc, water, fltrd, µg/L (01090)
OCT													
22...	--	--	E5	--	39.5	--	--	--	1.9	--	477	2.7	--
DEC													
11...	--	--	<10	--	39.7	--	--	--	2.0	--	523	1.9	--
11...	<0.01	<0.2	<10	0.08	<0.5	0.3	E.2	0.04	<0.5	<0.20	<0.20	<0.1	<1
FEB													
13...	--	--	E7	--	35.4	--	--	--	1.9	--	552	2.3	--
MAR													
03...	0.35	2.4	E8	<0.08	30.1	6.5	2.7	5.38	1.9	<0.20	424	2.3	1
24...	--	--	<10	--	25.1	--	--	--	2.2	--	370	5.1	--
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	0.31	2.4	<10	<0.08	25.2	3.5	2.9	2.72	1.5	<0.20	376	2.8	1
30...	--	--	<10	--	21.3	--	--	--	1.4	--	326	3.3	--
MAY													
06...	--	--	10	--	20.6	--	--	--	1.2	--	328	3.1	--
09...	0.20	2.1	<10	<0.08	18.0	1.4	2.3	3.58	1.3	<0.20	287	3.2	1
12...	--	--	12	--	12.3	--	--	--	1.4	--	223	3.1	--
JUN													
03...	--	--	<8	--	30.6	--	--	--	2.7	--	423	4.3	--
13...	--	--	E5	--	19.9	--	--	--	1.2	--	265	3.1	--
JUL													
08...	0.20	2.0	<8	<0.08	30.9	0.5	3.9	2.61	2.4	<0.20	441	5.5	Mn
08...	0.20	2.3	<8	<0.08	30.3	0.5	3.9	2.42	2.3	<0.20	439	5.6	Mn
AUG													
05...	--	--	<8	--	41.7	--	--	--	2.6	--	492	7.0	--
SEP													
09...	--	--	<8	--	36.6	--	--	--	1.4	--	399	4.0	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--

06934500 MISSOURI RIVER AT HERMANN, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	2,6-Diethylaniline water fltrd 0.7µ GF µg/L (82660)	CIAT, water, fltrd, µg/L (04040)	Acetochlor, water, fltrd, µg/L (49260)	Alachlor, water, fltrd, µg/L (46342)	alpha-HCH, water, fltrd, µg/L (34253)	Atrazine, water, fltrd, µg/L (39632)	Azinphosmethyl, water, fltrd 0.7µ GF µg/L (82686)	Benflurralin, water, fltrd 0.7µ GF µg/L (82673)	Butylate, water, fltrd, µg/L (04028)	Carbaryl, water, fltrd 0.7µ GF µg/L (82680)	Carbofuran, water, fltrd 0.7µ GF µg/L (82674)	Chlorpyrifos water, fltrd, µg/L (38933)	cis-Permethrin water fltrd 0.7µ GF µg/L (82687)
OCT													
22...	<0.006	E.020	<0.006	<0.004	<0.005	0.078	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
DEC													
11...	<0.006	E.013	0.007	<0.004	<0.005	0.073	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
13...	<0.006	E.013	<0.006	<0.004	<0.005	0.070	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
MAR													
03...	<0.006	E.018	E.006n	<0.004	<0.005	0.121	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
24...	<0.006	E.008	E.006n	<0.004	<0.005	0.067	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	<0.006	E.013	0.011	<0.004	<0.005	0.100	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
30...	<0.006	E.052	0.509	0.041	<0.005	3.65	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
MAY													
06...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
09...	<0.006	E.065	1.56	0.051	<0.005	3.30	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
12...	<0.006	E.208	1.85	0.084	<0.005	8.60	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
JUN													
03...	<0.006	E.057	0.102	<0.004	<0.005	0.990	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
13...	<0.006	E.052	0.057	0.019	<0.005	1.18	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
JUL													
08...	<0.006	E.111	0.085	0.013	<0.005	1.30	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
08...	<0.006	E.152	0.085	0.013	<0.005	1.33	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
AUG													
05...	<0.006	E.047	0.010	0.005	<0.005	0.179	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
SEP													
09...	<0.006	E.027	0.008	E.004n	<0.005	0.226	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
09...	<0.006	<0.006	<0.006	<0.004	<0.005	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006

Date	Cyanazine, water, fltrd, µg/L (04041)	DCPA, water fltrd 0.7µ GF µg/L (82682)	Diazinon, water, fltrd, µg/L (39572)	Dieldrin, water, fltrd, µg/L (39381)	Disulfoton, water, fltrd 0.7µ GF µg/L (82677)	EPTC, water, fltrd 0.7µ GF µg/L (82668)	Ethalfluralin, water, fltrd 0.7µ GF µg/L (82663)	Ethoprop, water, fltrd 0.7µ GF µg/L (82672)	Fonofos water, fltrd, µg/L (04095)	Lindane water, fltrd, µg/L (39341)	Linuron water fltrd 0.7µ GF µg/L (82666)	Malathion, water, fltrd, µg/L (39532)	Methyl parathion, water, fltrd 0.7µ GF µg/L (82667)
OCT													
22...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
DEC													
11...	<0.018	<0.003	<0.005	<0.005	<0.02	0.009	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
13...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
MAR													
03...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
24...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
30...	<0.018	<0.003	E.005n	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
MAY													
06...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
09...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
12...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
JUN													
03...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
13...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
JUL													
08...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
08...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
AUG													
05...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
SEP													
09...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
09...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006

06934500 MISSOURI RIVER AT HERMANN, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Metolachlor, water, fltrd, µg/L (39415)	Metribuzin, water, fltrd, µg/L (82630)	Molinate, water, fltrd 0.7µ GF µg/L (82671)	Napropamide, water, fltrd 0.7µ GF µg/L (82684)	p,p-' DDE, water, fltrd, µg/L (34653)	Parathion, water, fltrd, µg/L (39542)	Pebulate, water, fltrd 0.7µ GF µg/L (82669)	Pendimethalin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water fltrd 0.7µ GF µg/L (82664)	Prometon, water, fltrd, µg/L (04037)	Pronamide, water, fltrd 0.7µ GF µg/L (82676)	Propachlor, water, fltrd, µg/L (04024)	Propanil, water, fltrd 0.7µ GF µg/L (82679)
OCT													
22...	0.020	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011
DEC													
11...	0.026	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	Mn	<0.004	<0.010	<0.011
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
13...	0.023	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011
MAR													
03...	0.051	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011
24...	0.021	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	Mn	<0.004	<0.010	<0.011
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	0.014	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011
30...	0.516	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	E.01n	<0.004	<0.010	<0.011
MAY													
06...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
09...	0.921	0.012	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	E.01n	<0.004	<0.010	<0.011
12...	2.13	0.031	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	E.01n	<0.004	<0.010	<0.011
JUN													
03...	0.182	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011
13...	0.180	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011
JUL													
08...	0.334	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	0.02	<0.004	<0.010	<0.011
08...	0.348	0.007	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	E.01n	<0.004	<0.010	<0.011
AUG													
05...	0.119	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011
SEP													
09...	0.040	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	E.01n	<0.004	<0.010	<0.011
09...	<0.013	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011

06934500 MISSOURI RIVER AT HERMANN, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Propar-gite, water, fltrd 0.7µ GF µg/L (82685)	Sima-zine, water, fltrd, µg/L (04035)	Tebu-thiuron water fltrd 0.7µ GF µg/L (82670)	Terba-cil, water, fltrd 0.7µ GF µg/L (82665)	Terbu-fos, water, fltrd 0.7µ GF µg/L (82675)	Thio-bencarb water fltrd 0.7µ GF µg/L (82681)	Tri-allate, water, fltrd 0.7µ GF µg/L (82678)	Tri-flur-alin, water, fltrd 0.7µ GF µg/L (82661)	Uranium natural water, fltrd, µg/L (22703)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)
OCT											
22...	<0.02	<0.010	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	63	91
DEC											
11...	<0.02	0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	<0.02	50	56
11...	--	--	--	--	--	--	--	--		--	--
FEB											
13...	<0.02	<0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	67	38
MAR											
03...	<0.02	0.010	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	3.88	55	133
24...	<0.02	0.014	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	66	116
24...	--	--	--	--	--	--	--	--	--	--	--
APR											
09...	<0.02	0.008	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	3.74	61	128
30...	<0.02	0.134	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	84	392
MAY											
06...	--r	--r	--r	--r	--r	--r	--r	--r	--	75	661
09...	<0.02	0.038	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	2.80	76	337
12...	<0.02	0.123	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	91	2,150
JUN											
03...	<0.02	<0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	19	23
13...	<0.02	<0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	76	190
JUL											
08...	<0.02	0.013	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	4.20	90	249
08...	<0.02	0.013	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	4.16	82	275
AUG											
05...	<0.02	<0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	82	72
SEP											
09...	<0.02	0.133	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	91	94
09...	<0.02	<0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
r -- Sample ruined in preparation

06935755 BONHOMME CREEK NEAR ELLISVILLE, MO

LOCATION.--Lat 38°36'35", long 90°40'20", St. Louis County, Hydrologic Unit 10300200, on right downstream side of Rieger Road bridge, 0.14 mi southwest of State Road 109, 1.56 mi north of State Road 100 (Manchester Road), 1.25 mi west of St. Louis County Highway C, and 9.55 mi upstream of Missouri River.

DRAINAGE AREA.--4.44 mi^2.

PERIOD OF RECORD.--September 1997 to current year. Annual peaks only for 1972-1974 water years published in WRD MO 1974.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 568.56 ft above National Geodetic Vertical Datum of 1929. Prior to September 1997, at datum of 570.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except estimated daily discharges and discharges below 0.5 ft^3/s and above 500 ft^3/s, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 23, 1973 reached a stage of 8.64 ft, former datum, discharge, 2,640 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.25	e0.45	0.30	0.58	0.33	1.5	1.3	1.8	1.2	0.74	0.09	37
2	2.7	e0.36	0.29	0.68	0.26	2.6	1.2	1.5	1.4	0.65	0.09	39
3	61	e1.0	0.28	0.78	0.25	2.5	1.1	1.4	1.9	0.55	0.11	2.2
4	1.00	e0.60	0.28	1.3	0.23	3.2	1.1	21	1.1	0.43	0.05	0.32
5	0.60	e1.6	0.30	0.80	0.27	2.6	0.89	23	0.93	0.38	0.04	0.14
6	0.43	0.95	0.25	0.75	0.31	1.8	2.1	5.0	1.3	0.35	0.03	0.10
7	0.43	0.69	0.29	0.62	0.27	1.7	3.2	7.8	1.1	0.29	0.02	0.09
8	0.24	0.57	0.30	0.63	0.25	1.8	1.6	3.2	0.81	0.26	0.02	0.08
9	0.20	0.52	0.27	0.61	0.28	1.5	1.4	3.3	0.72	0.26	0.02	0.09
10	0.15	0.51	0.26	0.64	0.30	1.3	1.2	20	27	0.85	0.02	0.11
11	0.16	0.46	0.24	0.34	0.29	6.3	1.1	4.4	53	0.36	0.02	0.09
12	0.16	0.38	0.24	0.64	0.27	25	1.1	2.9	15	0.29	0.01	0.05
13	0.17	0.36	0.26	0.40	0.26	34	1.1	2.2	14	0.21	0.03	0.08
14	0.23	0.41	0.25	0.34	1.7	5.5	0.97	2.1	3.6	0.15	0.11	0.06
15	0.18	0.92	0.25	0.30	2.6	3.9	0.95	2.3	1.8	0.14	0.04	0.04
16	0.16	0.65	0.26	0.30	1.2	2.8	3.4	2.0	1.3	0.11	0.04	0.03
17	0.18	0.48	0.24	0.22	0.86	2.1	2.9	1.9	1.0	0.10	0.03	0.02
18	0.25	0.42	55	0.20	1.7	1.9	1.1	1.8	0.90	4.1	0.03	0.01
19	e1.0	0.41	2.3	0.25	17	62	0.96	1.7	0.85	0.79	0.02	0.02
20	e0.33	0.37	1.0	0.26	3.5	42	2.0	1.7	0.72	0.25	0.02	0.02
21	e0.27	0.37	0.73	0.17	2.4	7.6	1.1	1.3	0.68	0.18	0.02	0.31
22	e0.15	0.36	0.49	0.19	2.1	3.9	0.92	1.2	0.64	0.12	0.02	0.33
23	e0.11	0.35	0.39	0.28	1.7	3.0	0.83	1.3	0.58	0.10	0.01	0.04
24	e0.13	0.35	0.40	0.18	1.4	2.4	15	0.97	0.58	0.10	0.02	0.02
25	e3.0	0.32	0.42	0.21	1.2	4.9	26	16	20	0.06	0.01	0.03
26	e0.74	0.30	0.32	0.17	1.2	2.7	6.3	1.8	59	0.06	0.00	7.4
27	e0.33	0.28	0.33	0.13	1.1	2.0	3.1	1.4	1.9	0.06	0.01	1.8
28	e0.28	0.32	0.36	0.21	1.1	2.2	6.8	1.2	1.2	0.07	0.00	0.25
29	e20	0.36	0.70	0.20	---	1.8	2.9	1.2	0.90	0.07	0.02	0.14
30	e2.1	0.35	0.68	0.33	---	1.5	2.2	1.1	0.75	0.05	0.05	0.14
31	e0.84	---	0.72	0.40	---	1.4	---	0.93	---	0.04	1.7	---
MEAN	3.15	0.52	2.21	0.42	1.58	7.72	3.19	4.50	7.20	0.39	0.087	3.00
MAX	61	1.6	55	1.3	17	62	26	23	59	4.1	1.7	39
MIN	0.11	0.28	0.24	0.13	0.23	1.3	0.83	0.93	0.58	0.04	0.00	0.01
IN.	0.82	0.13	0.57	0.11	0.37	2.01	0.80	1.17	1.81	0.10	0.02	0.75

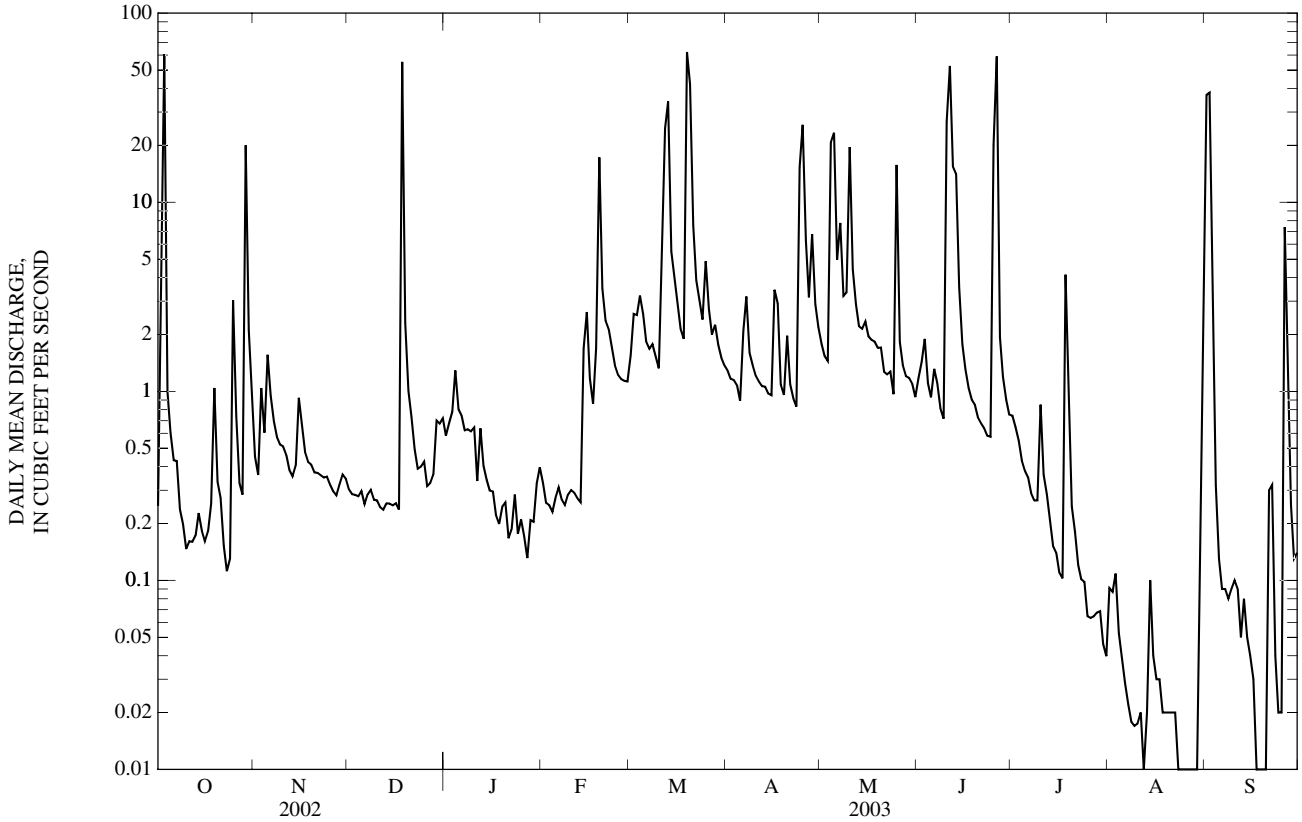
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	1.34	1.21	1.82	3.68	4.62	5.52	3.00	5.71	5.89	1.32	0.43	0.88
MAX	3.21	2.74	5.87	11.2	11.2	13.2	4.47	13.5	13.7	3.95	1.07	3.00
(WY)	(2002)	(1999)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(1998)	(1998)	(1998)	(2003)
MIN	0.22	0.13	0.36	0.13	1.58	1.03	0.39	1.29	0.71	0.26	0.09	0.01
(WY)	(2000)	(2000)	(2001)	(2000)	(2003)	(2000)	(2000)	(1999)	(1999)	(2001)	(2003)	(1999)

06935755 BONHOMME CREEK NEAR ELLISVILLE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	3.52		2.83		2.95	
HIGHEST ANNUAL MEAN					4.35	1998
LOWEST ANNUAL MEAN					1.11	2001
HIGHEST DAILY MEAN	119	Jan 31	62	Mar 19	246	May 7, 2000
LOWEST DAILY MEAN	0.04	Sep 16	0.00	Aug 26,28	0.00	1999,2001-2003
ANNUAL SEVEN-DAY MINIMUM	0.06	Sep 10	0.01	Aug 22	0.00	Sep 6, 1999
MAXIMUM PEAK FLOW	---		885[a]	Dec 18	Unknown	Jun 24, 2000
MAXIMUM PEAK STAGE	---		6.00	Dec 18	9.11	Jun 24, 2000
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	1999,2001-2003
ANNUAL RUNOFF (INCHES)	10.77		8.67		9.02	
10 PERCENT EXCEEDS	5.4		3.5		4.3	
50 PERCENT EXCEEDS	0.54		0.58		0.49	
90 PERCENT EXCEEDS	0.17		0.05		0.08	

e Estimated
[a] From rating extended above 243 ft^3/s.



06935770 BONHOMME CREEK NEAR CLARKSON VALLEY, MO

LOCATION.--Lat 38°39'28", long 90°37'10", St. Louis County, Hydrologic Unit 10300200, on right downstream wingwall of Highway CC Bridge, 0.96 mi south of U.S. Highway 40, 3.3 mi west of State Highway 340, 1.48 mi east of County Highway C, and 1.48 mi upstream from Missouri River.

DRAINAGE AREA.--11.3 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1997 to current year. Annual peaks only for 1972-1974 water years published in WRD MO 1974.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 449.19 ft above National Geodetic Vertical Datum of 1929. Prior to June 1997, at datum 450.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair except for the period Nov. 3 to Dec. 18, estimated daily discharges and discharges above 1,300 ft^3/s, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 11, 1979 reached a stage of 20.10 ft, former datum, discharge 5,620 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.74	1.0	1.5	5.0	2.3	4.6	4.9	6.8	2.9	4.1	1.7	70
2	7.5	0.97	1.6	5.7	1.7	6.4	4.7	5.8	4.1	5.0	2.5	66
3	172	2.0	1.5	6.0	1.4	5.6	4.4	5.0	6.9	3.2	1.8	6.3
4	2.2	1.6	1.6	5.5	1.1	6.4	4.8	40	3.6	2.9	1.3	2.0
5	0.78	5.1	1.8	6.1	0.72	6.9	4.3	52	3.0	2.7	1.1	1.1
6	0.90	3.1	1.7	6.9	0.72	5.2	7.5	15	4.0	2.5	0.90	0.77
7	0.48	1.4	1.6	5.8	0.90	4.6	13	25	4.0	2.2	0.81	0.53
8	0.41	1.2	1.6	5.3	0.95	4.2	7.1	11	2.9	2.1	0.79	0.51
9	0.45	1.1	1.6	5.2	1.0	3.8	5.8	9.1	2.6	1.9	0.72	0.45
10	0.54	1.7	1.5	4.7	1.4	3.5	5.2	64	57	7.8	0.67	0.46
11	0.69	2.0	1.5	4.0	1.7	6.2	4.9	16	95	2.5	0.59	0.49
12	0.82	1.7	1.5	3.3	2.0	61	4.7	9.6	15	1.9	0.57	0.75
13	0.73	1.6	1.5	3.0	2.1	66	4.5	7.7	26	1.7	0.87	0.91
14	0.70	2.0	1.4	3.0	9.3	15	4.3	6.7	9.1	1.7	1.4	0.98
15	0.73	3.3	1.4	2.6	15	11	4.1	7.3	6.4	1.7	0.65	0.77
16	0.75	2.4	1.3	2.3	e7.1	8.6	7.1	5.6	4.9	1.5	0.70	0.66
17	0.82	1.9	1.2	2.2	4.3	7.3	12	5.1	4.1	1.5	0.80	0.64
18	1.6	1.8	171	2.1	6.8	6.4	5.3	4.8	3.6	20	0.85	0.64
19	3.5	2.0	12	1.8	37	109	4.6	4.6	3.7	8.6	0.73	0.64
20	1.2	2.0	5.2	1.7	14	133	7.1	5.3	3.1	2.5	0.62	0.60
21	0.94	1.9	3.7	1.7	7.9	23	5.2	4.0	2.7	1.7	0.57	1.5
22	0.55	1.7	3.1	1.6	7.0	13	4.5	3.5	2.5	1.4	0.42	1.6
23	0.44	1.9	2.8	1.5	5.8	11	3.9	3.3	2.4	1.3	0.31	1.1
24	0.51	2.0	2.9	1.4	e4.9	8.8	30	3.3	2.3	1.2	0.29	0.75
25	18	2.0	3.3	1.2	e4.3	9.7	56	30	31	1.2	0.32	0.86
26	3.1	1.9	3.0	0.89	e3.7	7.8	22	6.1	306	1.1	0.33	32
27	1.2	1.8	2.8	0.80	3.6	6.7	12	4.2	10	1.1	0.30	18
28	0.79	1.7	3.2	0.76	3.7	7.1	13	3.6	6.1	1.3	0.35	1.8
29	46	1.7	3.9	0.93	---	6.4	10	3.3	4.6	1.3	0.98	0.90
30	4.2	1.7	5.0	0.79	---	5.3	7.7	3.4	3.8	1.2	1.2	1.2
31	1.7	---	5.6	2.4	---	5.0	---	3.2	---	1.1	4.4	---
MEAN	8.87	1.94	8.17	3.10	5.44	18.7	9.49	12.1	21.1	2.96	0.95	7.16
MAX	172	5.1	171	6.9	37	133	56	64	306	20	4.4	70
MIN	0.41	0.97	1.2	0.76	0.72	3.5	3.9	3.2	2.3	1.1	0.29	0.45
IN.	0.91	0.19	0.83	0.32	0.50	1.90	0.94	1.23	2.08	0.30	0.10	0.71

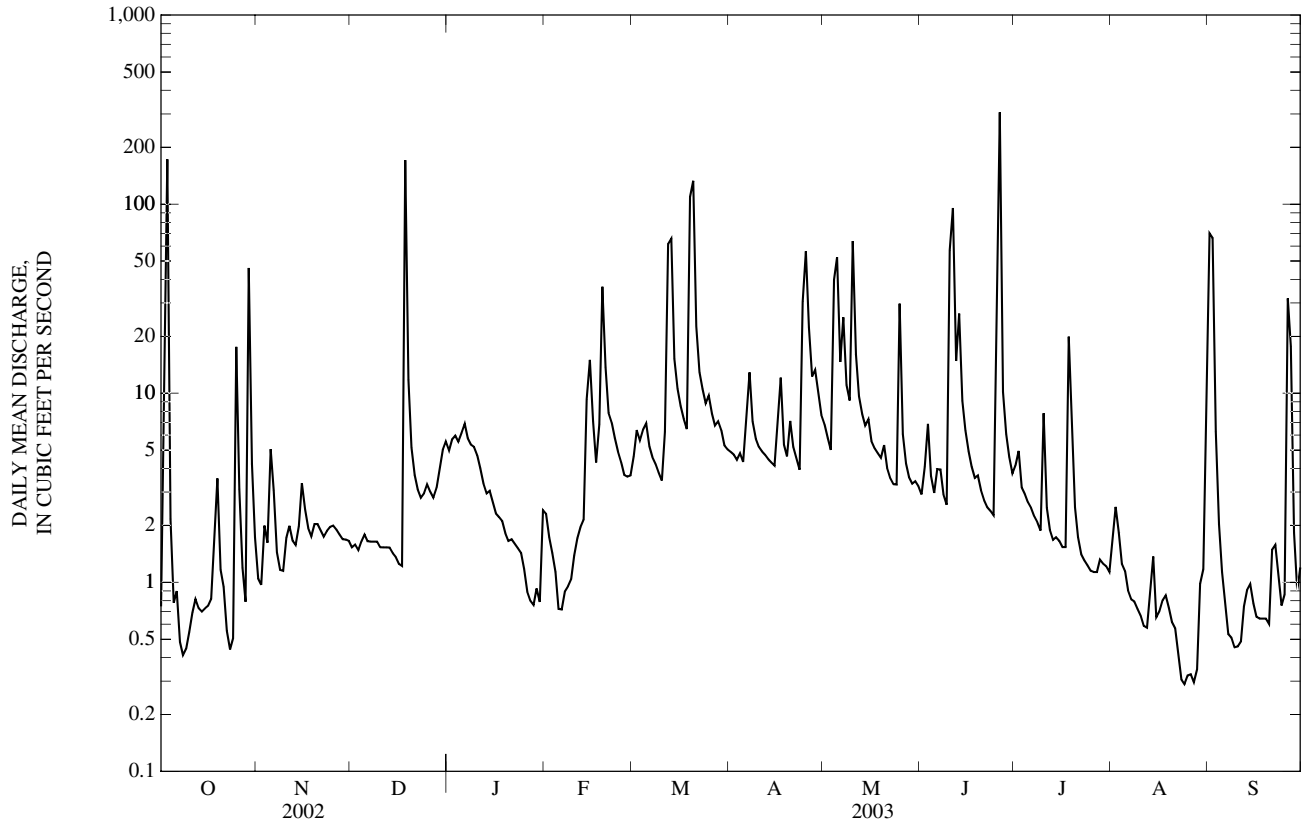
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	3.58	3.28	5.05	9.15	15.6	15.1	9.04	18.3	16.6	3.88	1.99	2.94
MAX	8.87	6.11	12.8	18.8	36.6	40.9	14.5	45.7	28.9	8.51	3.25	7.16
(WY)	(2003)	(1998)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(2000)	(1998)	(2000)	(2003)
MIN	0.79	0.96	0.63	0.96	5.44	3.09	1.72	4.13	3.31	1.08	0.95	0.69
(WY)	(2000)	(2000)	(2001)	(2000)	(2003)	(2000)	(2000)	(2001)	(1999)	(1997)	(2003)	(1999)

06935770 BONHOMME CREEK NEAR CLARKSON VALLEY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	11.5		8.33		8.70	
HIGHEST ANNUAL MEAN					12.3	1998
LOWEST ANNUAL MEAN					3.54	2001
HIGHEST DAILY MEAN	414	Jan 31	306	Jun 26	932	May 7, 2000
LOWEST DAILY MEAN	0.24	Sep 12,13	0.29	Aug 24	0.14	Oct 4, 2001
ANNUAL SEVEN-DAY MINIMUM	0.28	Sep 8	0.33	Aug 22	0.22	Sep 14, 2000
MAXIMUM PEAK FLOW	---		1,490[a]	Jun 26	Unknown	Jun 24, 2000
MAXIMUM PEAK STAGE	---		14.89	Jun 26	19.62	Jun 24, 2000
INSTANTANEOUS LOW FLOW	---		0.24	Aug 23,25-27	0.14	Oct 3-5, 2001
ANNUAL RUNOFF (INCHES)	13.78		10.01		10.46	
10 PERCENT EXCEEDS	14		13		13	
50 PERCENT EXCEEDS	2.8		2.8		2.2	
90 PERCENT EXCEEDS	0.65		0.73		0.59	

e Estimated
[a] From rating extended above 631 ft^3/s.



06935770 BONHOMME CREEK NEAR CLARKSON VALLEY, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
02...	2330	Environmental	128	--	7.1	81	7.1	203	21.0	100	30.0	7.20
DEC												
16...	1100	Environmental	1.3	12	13.5	105	7.7	764	4.0	290	88.0	18.0
16...	1101	Replicate	--	--	--	--	--	--	--	290	88.0	17.0
FEB												
03...	1200	Environmental	1.5	7.9	13.9	109	7.6	714	3.6	220	65.0	13.0
03...	1201	Replicate	--	--	--	--	--	--	--	210	64.0	13.0
MAR												
13...	0414	Environmental	88	3.6	8.9	82	7.7	495	10.6	130	38.0	7.40
JUN												
25...	1450	Environmental	2.3	7.7	8.7	109	7.8	613	25.6	260	80.0	14.0
AUG												
11...	1025	Environmental	0.64	12	7.6	89	7.5	676	22.3	290	90.0	17.0
11...	1026	Replicate	--	--	--	--	--	--	--	300	90.0	18.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
02...	56	56	69	<1	--	2,420	3.7	0.08	1.10	0.06	0.310	2.10	19
DEC													
16...	324	328	400	<1	79.0	4	0.30	0.04	0.310	<0.01	0.020	0.04	6
16...	--	--	--	--	78.0	4	0.30	0.03	0.310	<0.01	0.010	0.03	6
FEB													
03...	158	160	195	<1	100	5	0.20	0.02	0.340	<0.01	0.020	0.02	7
03...	--	--	--	--	100	5	0.20	0.03	0.340	<0.01	0.010	<0.02	7
MAR													
13...	94	92	112	<1	--	297	1.3	0.10	0.800	0.03	0.150	0.47	16
JUN													
25...	223	226	276	<1	--	8	0.30	0.06	0.420	0.01	0.040	0.05	<5
AUG													
11...	182	185	226	<1	--	33	0.40	0.06	0.280	<0.01	0.030	0.05	10
11...	--	--	--	--	--	30	0.30	0.06	0.290	<0.01	0.030	0.06	10

06935770 BONHOMME CREEK NEAR CLARKSON VALLEY, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryll-ium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chrom-ium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover-able, µg/L (71900)
OCT													
02...	36,000	27,600k	48,000	7	2	<1	<1.0	1.4	2.9	5	<1	9	<0.1
DEC													
16...	<4b	4k	8k	<3	<1	<1	<1.0	8.6	<1.0	21	<1	142	<0.1
16...	<4b	10k	4k	<3	<1	<1	<1.0	7.9	<1.0	19	<1	140	<0.1
FEB													
03...	<2b	17k	46	<3	<1	<1	<1.0	2.4	<1.0	8	<1	295	<0.1
03...	<2b	22k	52	<3	<1	<1	<1.0	2.5	<1.0	9	<1	294	<0.1
MAR													
13...	600k	667k	2,500k	4	1	<1	<1.0	<1.0	1.8	30	<1	97	<0.1
JUN													
25...	90k	108	28k	<3	2	<1	<1.0	1.7	<1.0	6	<1	252	<0.1
AUG													
11...	90	158k	118	<3	2	<1	<1.0	4.8	<1.0	4	<1	198	<0.1
11...	98	143k	116	<3	2	<1	<1.0	4.8	2.5	4	<1	200	<0.1

Date	Nickel, water, fltrd, µg/L (01065)	Selen-ium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Di-phenyl-hydra-zine, water, unfltrd µg/L (82626)	2,4,6-Tri-chloro-phenol, water, unfltrd µg/L (34621)	2,4-Di-chloro-phenol, water, unfltrd µg/L (34601)	2,4-Di-methyl-phenol, water, unfltrd µg/L (34606)	2,4-Di-nitro-phenol, water, unfltrd µg/L (34616)	2,4-Di-nitro-toluene water unfltrd µg/L (34611)	2,6-Di-nitro-toluene water unfltrd µg/L (34626)	2-Chloro-naphth-alene, water, unfltrd µg/L (34581)
OCT													
02...	2.9	<1	<1.0	<2	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
16...	3.6	<1	<1.0	<2	--	--	--	--	--	--	--	--	--
16...	3.2	<1	<1.0	<2	--	--	--	--	--	--	--	--	--
FEB													
03...	3.4	<1	<1.0	5	--	--	--	--	--	--	--	--	--
03...	3.0	<1	<1.0	6	--	--	--	--	--	--	--	--	--
MAR													
13...	2.2	<1	<1.0	2	<7	<1	<3	M	<2.0	E1	<3	<2	<2
JUN													
25...	3.4	<1	<1.0	<2	--	--	--	--	--	--	--	--	--
AUG													
11...	3.1	<1	<1.0	<2	--	--	--	--	--	--	--	--	--
11...	3.1	<1	<1.0	3	--	--	--	--	--	--	--	--	--

Date	2-chloro-phenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-di-nitro-phenol, wat unf µg/L (34657)	2-nitro-phenol, water unfltrd µg/L (34591)	3,3-Di' chloro-benzi-dine, water, unfltrd µg/L (34631)	4-Bromo-phenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methyl-phenol, wat unf µg/L (34452)	4-Chloro-phenyl phenyl ether, wat unf µg/L (34641)	4-Nitro-phenol, water, unfltrd µg/L (34646)	9H-Fluor-ene, water, unfltrd µg/L (34381)	Ace-naphth-ene, water, unfltrd µg/L (34205)	Ace-naphth-ylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endo-sulfan, water, unfltrd µg/L (39388)
OCT													
02...	<2	<2	<1	<0.9	<2	<3	<2	<4	<2	<2	<2	<0.01	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
13...	<2	M	<1	<0.9	<2	<3	<2	<4	M	M	<2	<0.01	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

06935770 BONHOMME CREEK NEAR CLARKSON VALLEY, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo-[a]-anthracene, water, unfltrd µg/L (34526)	Benzo-[a]-pyrene, water, unfltrd µg/L (34247)	Benzo-[b]-fluoranthene water unfltrd µg/L (34230)	Benzo-[g,h,i]-perylene, water, unfltrd µg/L (34521)	Benzo-[k]-fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
02...	<2	<1,000	<2	<1	<2	<2	<1	<2	<3	<2	<2	E5	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
13...	M	<1,000	<2	M	M	M	M	<2	<3	<2	<2	<2	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
02...	<0.1	<0.01	<3	<0.02	<1	E.002	E1	M	<2	<2	<0.10	<0.02	<0.01
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
13...	<0.1	<0.01	M	<0.02	<1	<0.017	<2	<1	<2	<2	<0.10	<0.02	<0.01
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
02...	M	<0.01	<0.009	<0.01	<2	<1	<3	M	<0.014	E.01	<0.01	<0.012	<1
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
13...	M	<0.01	<0.009	<0.01	<2	<1	M	M	<0.014	<0.10	<0.02	<0.012	<1
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

06935770 BONHOMME CREEK NEAR CLARKSON VALLEY, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	N-NItroso-di-methyl-amine, wat unf µg/L (34438)	N-NItroso-di-n-propyl-amine, wat unf µg/L (34428)	N-NItroso-di-phenyl-amine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Meth-oxy-chlor, water, unfltrd µg/L (39480)	Para-thion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Penta-chloro-phenol, water, unfltrd µg/L (39032)	Phenan-threne, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
02...	<3	<2	<2	E.003	<0.014	<0.009	<0.020	<0.01	<0.1	M	<2	E.4	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
13...	<3	<2	<2	<0.016	<0.014	<0.009	<0.020	<0.01	<0.1	M	M	E.1	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Pyrene, water, unfltrd µg/L (34469)	Toxa-phene, water, unfltrd µg/L (39400)	Tribu-phos, water, unfltrd µg/L (39040)	1,2,4-Tri-chloro-benzene water unfltrd µg/L (34551)	1,2-Di-chloro-benzene water unfltrd µg/L (34536)	1,3-Di-chloro-benzene water unfltrd µg/L (34566)	1,4-Di-chloro-benzene water unfltrd µg/L (34571)	Hexa-chloro-buta-diene, water, unfltrd µg/L (39702)	Hexa-chloro-ethane, water, unfltrd µg/L (34396)	Naphth-alene, water, unfltrd µg/L (34696)
OCT										
02...	M	<1	<0.02	<2	<2	<2	<1	<1	<2	<2
DEC										
16...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
FEB										
03...	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
MAR										
13...	M	<1	<0.02	<2	<2	<2	<1	<1	<2	<2
JUN										
25...	--	--	--	--	--	--	--	--	--	--
AUG										
11...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range

06935830 CAULKS CREEK AT CHESTERFIELD, MO

LOCATION.--Lat 38°39'16", long 90°35'42", St. Louis County, Hydrologic Unit 10300200, on downstream side of middle pier of Highway CC bridge, 2.0 mi west of State Highway 340, 1.1 mi south of U.S. Route 40, and 1.09 mi upstream of Bonhomme Creek.

DRAINAGE AREA.--17.1 mi^2.

PERIOD OF RECORD.--July 1996 to current year. Annual peaks only for the 1972-1974 water years published in WRD MO 1974.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 453.98 ft above National Geodetic Vertical Datum of 1929. Prior to July 1996, at datum 450.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges and discharges above 1,100 ft^3/s, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 11, 1979 reached a stage of 19.97 ft, former datum, discharge 7,940 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e6.9	11	6.4	e11	e7.4	10	10	15	11	e13	8.4	258
2	e24	10	6.6	e12	6.1	14	10	14	12	e13	9.2	460
3	e399	15	e6.2	e13	e5.8	13	10	12	27	10	11	60
4	e33	13	e6.5	e12	e5.4	14	9.7	87	13	9.7	8.1	26
5	e7.7	23	e6.8	e13	5.2	14	9.5	90	11	9.4	7.6	15
6	e8.2	17	6.4	e15	e5.1	10	13	35	14	9.1	7.4	12
7	e7.4	12	6.3	e13	e5.2	9.7	25	50	14	8.9	7.0	11
8	e7.1	11	6.2	e12	5.3	9.3	12	25	11	8.6	6.8	9.8
9	e7.5	10	6.0	e12	e5.5	e8.9	10	21	10	8.5	6.7	9.4
10	e7.9	9.6	6.1	e11	5.3	8.5	9.8	100	123	21	6.6	9.0
11	e8.4	8.8	6.1	e10	5.3	9.7	9.5	44	162	11	6.7	8.8
12	e8.7	8.5	6.0	e9.4	5.1	103	9.4	24	43	9.3	6.6	8.8
13	e8.6	7.8	6.2	e8.2	5.3	110	9.3	18	62	8.7	6.9	9.1
14	e8.4	8.2	6.1	e9.1	17	36	9.4	16	29	8.5	9.1	8.6
15	e8.4	14	5.9	e7.8	e21	22	8.9	18	18	8.3	7.2	8.1
16	8.1	10	5.9	e7.3	e12	16	11	14	14	8.0	6.9	7.9
17	7.9	8.9	5.9	e7.3	e8.2	14	45	13	12	7.9	6.8	7.6
18	8.1	8.3	204	e6.9	9.9	12	15	12	11	59	6.5	7.6
19	17	7.9	31	e6.5	61	89	11	12	11	37	6.4	7.5
20	11	7.8	12	e6.5	35	152	18	12	11	13	6.3	7.3
21	9.3	7.5	8.7	e6.6	16	48	12	11	10	10	6.3	7.8
22	8.6	7.2	7.5	e6.3	13	28	10	11	9.5	9.2	6.3	9.7
23	8.5	7.2	e7.9	e6.1	e12	20	9.8	11	9.3	8.5	6.1	8.3
24	8.0	7.3	e9.0	e5.8	e10	17	63	10	9.3	8.1	6.1	7.7
25	54	7.0	e9.0	e5.7	e9.4	18	71	82	e86	7.8	6.1	7.2
26	23	6.8	e8.7	e5.5	e8.7	15	45	23	e815	7.6	6.2	35
27	13	6.8	e8.0	e5.4	e8.7	13	24	15	e29	7.6	6.1	42
28	11	6.8	e8.3	5.3	9.0	13	25	13	e19	8.2	6.1	13
29	115	7.0	e8.9	e5.2	---	13	24	12	e14	7.8	6.8	9.7
30	28	6.6	e11	e6.9	---	11	17	12	e12	7.4	9.3	9.1
31	15	---	e13	e8.1	---	10	---	12	---	7.3	19	---
MEAN	28.9	9.73	14.6	8.71	11.5	28.4	18.9	27.2	54.4	12.0	7.50	36.7
MAX	399	23	204	15	61	152	71	100	815	59	19	460
MIN	6.9	6.6	5.9	5.2	5.1	8.5	8.9	10	9.3	7.3	6.1	7.2
IN.	1.95	0.64	0.98	0.59	0.70	1.92	1.23	1.84	3.55	0.81	0.51	2.40

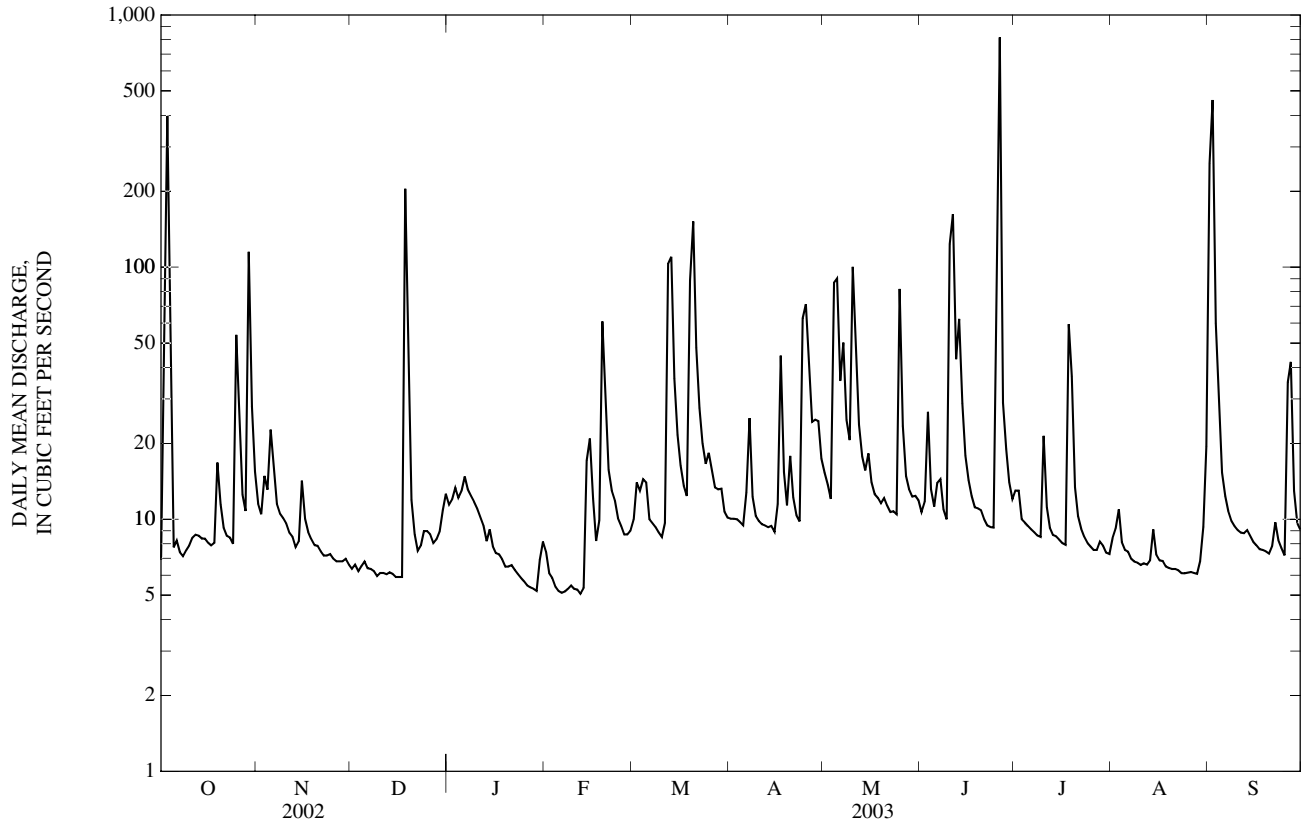
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)

MEAN	15.1	19.3	12.8	18.8	37.0	29.5	19.4	35.7	39.7	14.7	11.7	13.7
MAX	28.9	62.0	27.7	34.4	72.6	78.1	29.2	82.9	59.3	35.4	20.2	36.7
(WY)	(2003)	(1997)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(1998)	(1998)	(1996)	(2003)
MIN	8.15	6.33	5.76	5.33	11.5	9.70	6.64	12.5	8.40	7.52	7.11	4.33
(WY)	(2000)	(2000)	(1999)	(2000)	(2003)	(2000)	(2000)	(1999)	(1999)	(2002)	(2002)	(1999)

06935830 CAULKS CREEK AT CHESTERFIELD, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1996 - 2003	
ANNUAL MEAN	25.6		21.5		22.0	
HIGHEST ANNUAL MEAN					30.4	1998
LOWEST ANNUAL MEAN					13.2	2001
HIGHEST DAILY MEAN	1,030	Jun 12	815	Jun 26	1,920	May 7, 2000
LOWEST DAILY MEAN	4.5	Aug 9,Sep 12	5.1	Feb 6,12	1.9	Sep 1, 2001
ANNUAL SEVEN-DAY MINIMUM	4.7	Sep 8	5.3	Feb 6	3.7	Sep 21, 1999
MAXIMUM PEAK FLOW	---		Unknown	Jun 26	Unknown	Jun 24, 2000
MAXIMUM PEAK STAGE	---		10.99	Jun 26	14.95	Jun 24, 2000
INSTANTANEOUS LOW FLOW	---		5.1	Feb 5,8,11-13	0.61[a]	Sep 4, 2001
ANNUAL RUNOFF (INCHES)	20.33		17.10		17.45	
10 PERCENT EXCEEDS	42		34		34	
50 PERCENT EXCEEDS	8.7		9.7		9.0	
90 PERCENT EXCEEDS	5.2		6.3		5.2	

e Estimated
[a] Occurred during period of construction upstream. Verified by field visit.



06935830 CAULKS CREEK AT CHESTERFIELD, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 2002 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
29...	0602	Environmental	474	4.8	8.7	83	7.8	543	12.4	180	56.0	10.0
DEC												
16...	1215	Environmental	5.9	14	12.2	106	7.6	1,060	8.7	310	95.0	18.0
FEB												
03...	1305	Environmental	5.7	65	7.4	71	6.6	1,710	11.5	340	104	19.0
MAR												
19...	1156	Environmental	85	6.1	8.7	86	7.6	725	12.8	170	53.0	10.0
JUN												
25...	1400	Environmental	8.3	16	8.2	92	7.5	881	20.1	300	94.0	17.0
AUG												
11...	1115	Environmental	6.6	20	8.3	91	7.3	871	18.7	330	102	18.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
29...	150	150	183	<1	--	346	1.1	0.03	1.70	0.02	0.210	0.38	8
DEC													
16...	284	285	348	<1	160	4	0.30	0.02	1.60	<0.01	0.030	0.04	7
FEB													
03...	143	145	177	<1	380	6	0.30	0.04	1.60	0.01	0.040	0.05	19
MAR													
19...	123	124	151	<1	--	638	1.9	0.14	1.50	0.02	0.170	0.63	15
JUN													
25...	234	234	286	<1	--	120	0.50	0.03	1.90	0.01	0.050	0.14	<5
AUG													
11...	224	226	276	<1	--	14	0.30	0.02	1.70	<0.01	0.030	0.04	8

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
29...	3,000k	3,000k	4,500k	<3	<1	<1	<1.0	<1.0	<1.0	11	<1	61	<0.1
DEC													
16...	4k	10k	4k	<3	<1	<1	<1.0	9.1	1.1	4	<1	63	<0.1
FEB													
03...	4k	46	50	<3	<1	<1	<1.0	3.3	1.5	4	<1	149	<0.1
MAR													
19...	3,900	5,600	5,200	4	2	<1	<1.0	1.9	1.6	13	<1	85	<0.1
JUN													
25...	1,200k	450	1,090k	<3	<1	<1	<1.0	<1.0	1.1	<2	<1	124	<0.1
AUG													
11...	110	228	152	<3	<1	<1	<1.0	4.8	<1.0	3	<1	115	<0.1

06935830 CAULKS CREEK AT CHESTERFIELD, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
29...	1.0	<1	<1.0	<2	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
16...	4.2	<1	<1.0	<2	--	--	--	--	--	--	--	--	--
FEB													
03...	4.2	1	<1.0	<2	--	--	--	--	--	--	--	--	--
MAR													
19...	2.4	<1	<1.0	<2	<7	<1	<3	M	<2.0	<3	<3	<2	<2
JUN													
25...	4.0	1	<1.0	4	--	--	--	--	--	--	--	--	--
AUG													
11...	3.1	1	<1.0	<2	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
29...	<2	<2	<1	<0.9	<2	<3	<2	<4	<2	<2	<2	<0.01	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<2	<2	<1	<0.9	<2	<3	<2	<4	<2	M	<2	<0.01	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo[a]anthracene, water, unfltrd µg/L (34526)	Benzo[a]pyrene, water, unfltrd µg/L (34247)	Benzo[b]fluoranthene water unfltrd µg/L (34230)	Benzo[g,h,i]perylene, water, unfltrd µg/L (34521)	Benzo[k]fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
29...	<2	<1,000	M	M	<2	<2	<1	<2	<3	<2	<2	<2	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<2	<1,000	<2	M	M	<2	M	<2	<3	<2	<2	<2	<0.06
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

06935830 CAULKS CREEK AT CHESTERFIELD, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
29...	<0.1	<0.01	M	E.01	<1	<0.017	<2	<1	<2	<2	<0.10	<0.02	<0.01
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<0.1	<0.04	M	E.04	<1	<0.017	<2	<1	<2	<2	<0.30	<0.02	<0.04
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
29...	M	<0.01	<0.009	<0.01	<2	<1	<3	M	<0.014	<0.10	<0.01	<0.012	<1
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	M	<0.04	<0.009	<0.01	<2	<1	<3	M	<0.014	<0.30	<0.04	<0.012	<1
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
29...	<3	<2	<2	<0.016	<0.014	<0.009	<0.020	<0.01	<0.1	<2	M	<3.0	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<3	<2	<2	<0.016	<0.014	<0.009	<0.020	<0.04	<0.1	<2	M	<3.0	<0.06
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

06935830 CAULKS CREEK AT CHESTERFIELD, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tributphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
29...	M	<1	<0.02	<2	<2	<2	<1	<1	<2	<2
DEC										
16...	--	--	--	--	--	--	--	--	--	--
FEB										
03...	--	--	--	--	--	--	--	--	--	--
MAR										
19...	M	<1	<0.06	<2	<2	<2	<1	<1	<2	<2
JUN										
25...	--	--	--	--	--	--	--	--	--	--
AUG										
11...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range

06935850 CREVE COEUR CREEK AT CHESTERFIELD, MO

LOCATION.--Lat 38°38'47", long 90°31'35", in SW ¼ NW ¼ NW ¼ sec.13, T.45 N., R.4 E., St. Louis County, Hydrologic Unit 10300200, on left downstream abutment of Highway 40 bridge, 3.71 mi north of State Highway 100 (Manchester Road), 0.75 mi west of State Highway 141, and 10.33 mi upstream of Missouri River.

DRAINAGE AREA.--5.62 mi^2.

PERIOD OF RECORD.--June 1997 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 495.20 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated daily discharges and discharges above 600 ft^3/s and below 1 ft^3/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.40	1.0	0.85	1.3	1.3	4.5	1.2	2.5	0.94	3.6	1.0	156
2	7.3	2.2	0.84	4.0	0.89	5.4	1.0	1.4	7.7	1.7	15	220
3	166	7.6	1.3	2.2	0.85	3.1	1.1	1.1	7.3	1.3	4.7	5.4
4	2.2	2.5	0.88	1.3	0.71	2.8	1.1	57	1.3	0.99	0.41	1.1
5	0.70	10	1.7	2.0	0.45	2.7	0.99	32	0.91	0.86	0.23	0.42
6	2.2	1.7	1.6	2.2	0.52	1.6	9.4	6.9	7.6	0.92	0.16	0.48
7	0.82	1.2	1.5	1.2	0.78	1.3	6.9	15	1.7	1.2	0.11	0.16
8	0.55	e0.92	1.4	1.00	0.41	1.5	1.8	3.2	1.1	1.2	0.13	0.22
9	0.37	e0.79	0.92	0.83	0.43	1.6	1.5	2.1	0.87	0.87	0.18	0.65
10	0.29	e0.72	0.83	1.3	0.45	1.5	1.1	53	124	24	0.17	1.1
11	0.48	e0.68	0.94	0.79	0.49	15	0.99	5.6	64	1.2	0.21	1.1
12	0.89	e0.65	0.71	0.48	0.39	45	1.1	2.6	16	0.63	0.24	2.9
13	1.5	e0.62	0.84	0.46	0.32	55	1.0	1.9	67	0.46	0.34	0.43
14	0.41	e0.60	0.92	0.45	15	4.9	0.99	1.6	4.2	0.64	0.36	0.43
15	0.30	7.2	0.75	0.38	10	2.5	0.98	5.4	2.3	0.70	0.25	0.46
16	0.27	0.84	0.66	0.41	2.6	1.9	18	1.5	1.7	0.79	0.18	0.69
17	0.29	0.53	0.66	0.42	1.4	1.5	13	1.7	1.5	0.83	0.18	0.62
18	1.9	0.48	89	0.36	5.2	1.4	1.7	1.6	1.2	63	0.16	0.50
19	7.3	0.45	4.2	0.41	30	42	1.2	1.2	3.2	6.4	0.15	0.59
20	0.74	0.41	1.2	0.69	4.5	41	9.3	2.5	1.2	1.0	0.14	0.46
21	0.53	0.45	1.0	0.51	2.0	5.7	1.5	1.1	0.83	0.49	0.17	0.76
22	0.38	0.51	1.2	0.43	5.1	2.6	1.1	0.93	0.69	0.34	0.16	1.5
23	0.33	0.62	0.87	0.55	2.1	2.5	0.85	0.87	0.74	0.35	0.12	0.68
24	0.25	0.62	0.95	0.62	2.8	1.7	44	1.2	0.77	0.33	0.22	0.67
25	33	0.88	1.6	0.62	1.4	4.2	36	43	44	0.31	0.21	0.93
26	1.6	1.1	1.5	0.58	1.1	1.7	5.7	2.1	e206	0.30	0.11	43
27	0.71	0.75	1.5	0.47	1.3	1.5	2.2	1.5	4.0	0.29	0.07	9.0
28	0.96	0.65	2.3	0.55	2.2	3.9	9.4	1.3	1.9	1.00	0.25	1.5
29	60	0.76	2.5	0.72	---	1.8	2.7	0.89	1.3	0.80	1.5	0.58
30	2.4	0.87	2.7	0.59	---	1.2	1.6	2.0	13	0.69	0.39	2.0
31	1.0	---	4.9	3.3	---	1.1	---	1.1	---	0.24	15	---
MEAN	9.55	1.61	4.28	1.00	3.38	8.52	5.98	8.25	19.6	3.79	1.37	15.1
MAX	166	10	89	4.0	30	55	44	57	206	63	15	220
MIN	0.25	0.41	0.66	0.36	0.32	1.1	0.85	0.87	0.69	0.24	0.07	0.16
IN.	1.96	0.32	0.88	0.21	0.63	1.75	1.19	1.69	3.90	0.78	0.28	3.01

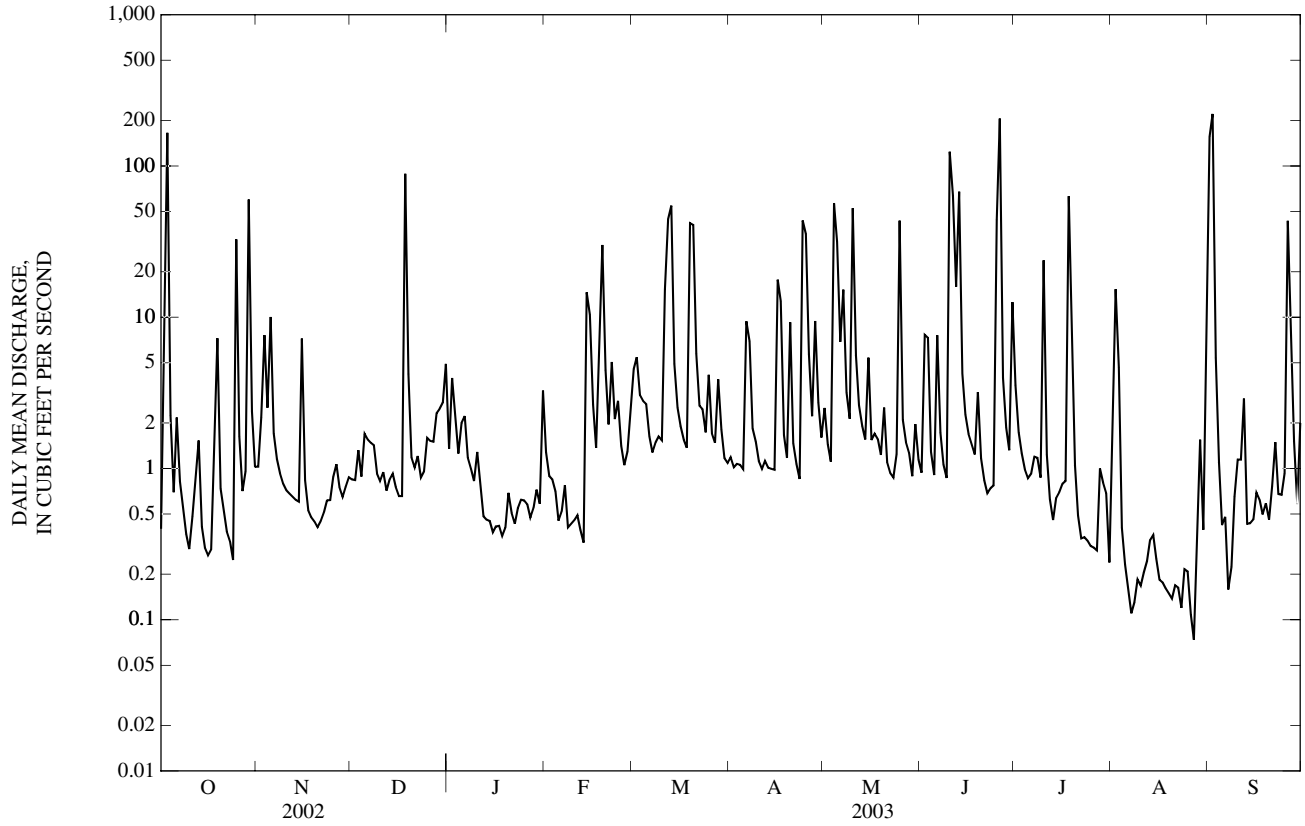
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	5.28	4.65	3.79	4.93	7.49	7.55	6.06	12.0	13.8	4.49	2.50	3.62
MAX	9.55	7.82	10.3	10.3	14.9	15.5	8.84	24.2	20.5	10.5	5.45	15.1
(WY)	(2003)	(2002)	(2002)	(1999)	(1998)	(1998)	(1999)	(2002)	(2000)	(1998)	(1998)	(2003)
MIN	2.14	0.77	0.93	0.85	3.38	3.49	1.62	4.36	3.13	0.54	0.44	0.33
(WY)	(1998)	(2000)	(2001)	(2000)	(2003)	(2000)	(2000)	(1998)	(1999)	(2002)	(2001)	(1999)

06935850 CREVE COEUR CREEK AT CHESTERFIELD, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	7.05		6.86		6.39	
HIGHEST ANNUAL MEAN					8.03	1998
LOWEST ANNUAL MEAN					4.54	2001
HIGHEST DAILY MEAN	251	Jun 12	220	Sep 2	480	May 7, 2000
LOWEST DAILY MEAN	0.21	Aug 9,10	0.07	Aug 27	0.02	Sep 17, 1999
ANNUAL SEVEN-DAY MINIMUM	0.25	Jul 30	0.15	Aug 21	0.05	Sep 28, 2001
MAXIMUM PEAK FLOW	---		Unknown	Jun 26	Unknown	Jun 24, 2000
MAXIMUM PEAK STAGE	---		14.19	Jun 26	15.88	Jun 24, 2000
INSTANTANEOUS LOW FLOW	---		0.07	Aug 27	0.02	Sep 24, 1999
ANNUAL RUNOFF (INCHES)	17.03		16.58		15.45	
10 PERCENT EXCEEDS	10		9.6		12	
50 PERCENT EXCEEDS	1.1		1.1		1.2	
90 PERCENT EXCEEDS	0.33		0.34		0.30	

e Estimated



06935890 CREVE COEUR CREEK NEAR CREVE COEUR, MO

LOCATION.--Lat 38°40'55", long 90°29'18", St. Louis County, Hydrologic Unit 10300200, 200 ft downstream of Highway 340 bridge, 2.10 mi west of Interstate 270, 2.95 mi north U.S. Route 40, and 5.80 mi upstream of Missouri River.

DRAINAGE AREA.--22.0 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1997 to current year. Annual peaks only for 1972-1974 water years published in WRD MO 1974.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 449.43 ft above National Geodetic Vertical Datum of 1929. Prior to June 1997, at datum 451.10 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair except for estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in April 11, 1979 reached a stage of 14.78 ft, former datum, discharge 4,820 ft^3/s.

REVISIONS.--Revised maximum discharges for water years 1997-2002 and revised daily discharges for high-water periods in these years, are given below. They supersede figures published in the reports of 1998-2002.

Water Year	Date	Maximum Discharge (ft^3/s)	Gage height (ft)	Water Year	Date	Maximum Discharge (ft^3/s)	Gage height (ft)
1997	June 17, 1997	994[a]	8.34	2000	June 24, 2000	6,560[a]	16.43
1998	Feb. 27, 1998	2,430[a]	12.27	2001	Feb. 24, 2001	1,780[a]	10.69
1999	Feb. 7, 1999	4,440[a]	14.89	2002	June 12, 2002	3,780[a]	14.30

Water Year	Daily Mean Date	Discharge	Date	Discharge	Monthly Mean Discharge	
1998	Feb. 27, 1998	515	March 20, 1998	939	February - 48.3	March - 102
	June 4, 1998	591	June 14, 1998	490	June - 97.3	
1999	Jan. 31, 1999	822	Feb. 7, 1999	1,660	January - 70.8	February - 77.7
	May 12, 1999	592			May - 35.1	
2000	Feb. 18, 2000	947	May 7, 2000	1,700	February - 38.0	May - 72.0
	June 24, 2000	2,050			June - 98.9	
2001	May 31, 2001	295			May - 30.0	
2002	Nov. 24, 2001	422	Jan. 31, 2002	644	November - 24.9	January - 37.3
	May 7, 2002	49	May 13, 2002	698	May - 10.0	
	June 12,2002	1,140			June - 73.6	

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	4.8	2.3	7.7	7.5	15	7.2	11	5.6	21	4.2	e477
2	8.4	4.0	2.5	13	4.4	21	7.2	9.7	15	13	64	e939
3	608	19	2.4	12	4.2	14	5.7	7.0	42	8.9	64	e31
4	16	11	2.7	7.0	3.6	12	5.5	202	9.1	7.4	7.2	e4.8
5	6.9	32	3.4	7.8	2.5	11	5.0	111	7.8	6.7	5.0	e2.0
6	9.7	11	3.5	10	2.6	11	28	21	22	5.8	4.1	e2.1
7	8.1	5.5	3.3	6.9	3.8	14	30	76	12	5.9	3.7	e1.7
8	3.9	4.6	3.5	5.7	2.5	6.2	9.6	16	6.9	6.9	3.2	e1.8
9	3.5	5.3	3.1	5.1	2.4	5.5	8.1	13	5.8	5.1	2.9	e3.0
10	3.5	5.6	2.9	5.0	2.5	7.8	6.6	166	590	106	5.1	4.6
11	2.6	5.3	2.7	4.5	2.6	21	6.4	29	345	9.5	3.0	3.6
12	2.6	5.4	2.8	3.3	2.3	210	6.0	12	209	6.2	2.7	16
13	6.3	4.5	3.1	3.1	2.1	237	5.2	9.4	437	5.0	2.8	7.3
14	3.5	5.8	3.1	3.5	49	25	4.5	8.5	28	4.7	3.0	4.2
15	2.7	28	2.9	3.4	35	15	4.7	31	15	4.5	2.7	3.4
16	2.4	6.5	2.8	3.1	13	12	94	11	12	4.4	2.5	2.8
17	2.0	3.9	2.9	2.8	7.1	11	85	8.9	10	4.5	2.7	3.1
18	3.1	3.3	337	2.2	14	9.0	12	9.0	9.0	369	2.2	2.9
19	36	3.3	23	2.3	108	90	8.2	7.9	14	50	2.2	2.6
20	5.6	3.2	7.7	2.7	22	126	50	11	9.5	11	2.3	2.4
21	3.1	3.1	5.1	2.8	11	27	11	8.4	7.2	7.8	1.9	2.7
22	2.6	2.7	4.4	2.5	25	13	7.5	7.0	6.6	6.2	3.2	4.0
23	2.2	2.7	4.0	2.2	13	13	6.3	6.2	6.6	5.3	1.6	3.2
24	2.0	2.8	3.9	2.0	11	13	165	6.0	6.4	5.0	1.5	2.7
25	116	3.0	4.8	2.4	9.0	16	90	134	47	4.3	1.6	2.6
26	12	2.9	4.6	2.7	6.2	11	27	14	1,060	4.0	1.6	272
27	5.2	2.8	4.5	2.3	6.5	9.0	13	9.0	23	3.9	1.4	85
28	4.8	2.6	5.9	3.1	10	17	40	7.9	12	4.8	1.8	9.4
29	215	2.6	10	3.6	---	14	17	6.3	9.1	5.0	4.0	5.0
30	16	2.6	9.8	2.8	---	8.1	9.7	9.1	103	4.4	8.7	7.4
31	7.8	---	16	9.5	---	7.4	---	7.9	---	4.1	50	---
MEAN	36.2	6.66	15.8	4.74	13.7	33.0	25.8	31.8	103	22.9	8.61	63.6
MAX	608	32	337	13	108	237	165	202	1,060	369	64	939
MIN	1.8	2.6	2.3	2.0	2.1	5.5	4.5	6.0	5.6	3.9	1.4	1.7
IN.	1.90	0.34	0.83	0.25	0.65	1.73	1.31	1.67	5.22	1.20	0.45	3.23

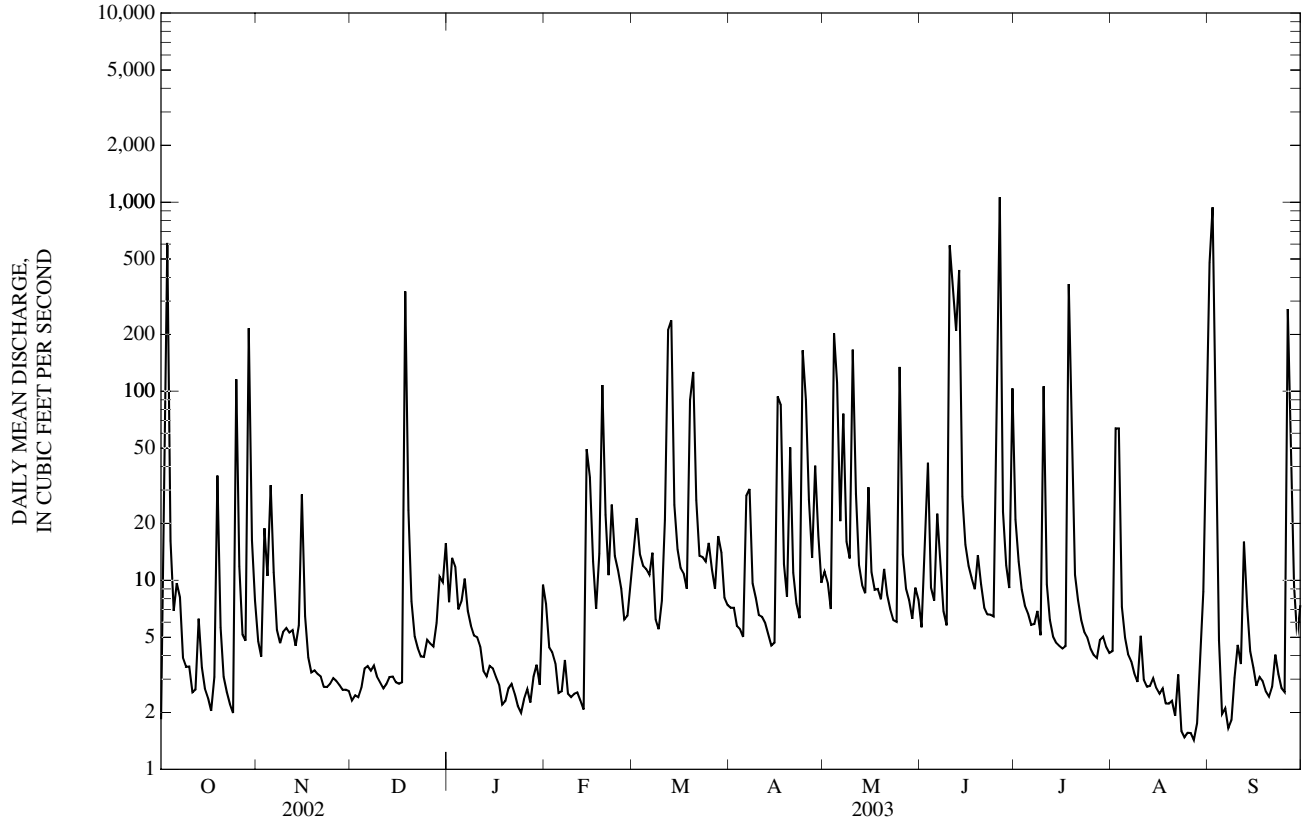
06935890 CREVE COEUR CREEK NEAR CREVE COEUR, MO—Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)												
MEAN	17.1	14.0	13.2	24.5	36.4	36.5	25.4	49.0	68.3	14.4	11.0	15.3
MAX	36.2	24.9	35.3	70.8	77.7	102	48.2	105	103	22.9	28.6	63.6
(WY)	(2003)	(2002)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(2003)	(2003)	(1998)	(2003)
MIN	6.51	4.16	5.43	3.40	10.3	9.31	6.56	20.3	15.8	4.05	1.70	1.16
(WY)	(1998)	(2000)	(1999)	(2000)	(2002)	(2000)	(2000)	(1998)	(2001)	(1997)	(2001)	(1999)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	30.8		30.4		27.2	
HIGHEST ANNUAL MEAN					35.3	1998
LOWEST ANNUAL MEAN					13.5	2001
HIGHEST DAILY MEAN	1,140	Jun 12	1,060	Jun 26	2,050	Jun 24, 2000
LOWEST DAILY MEAN	1.1	Sep 6,14,15	1.4	Aug 27	0.20	Sep 17, 1999
ANNUAL SEVEN-DAY MINIMUM	1.4	Sep 5	1.8	Aug 22	0.30	Sep 15, 1999
MAXIMUM PEAK FLOW	---		3,830[b]	Jun 26	6,560[ac]	Jun 24, 2000
MAXIMUM PEAK STAGE	---		14.35	Jun 26	16.43	Jun 24, 2000
INSTANTANEOUS LOW FLOW	---		1.3	Aug 27	0.16	Sep 17, 1999
ANNUAL RUNOFF (INCHES)	19.03		18.77		16.79	
10 PERCENT EXCEEDS	35		48		39	
50 PERCENT EXCEEDS	5.4		6.3		5.5	
90 PERCENT EXCEEDS	2.0		2.5		1.9	

e Estimated
[a] From rating extended above 588 ft^3/s on basis of indirect measurement of peak flow.
[b] Discharge determined by indirect measurement of peak flow.
[c] Revised.



06935890 CREVE COEUR CREEK NEAR CREVE COEUR, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
02...	2330	Environmental	113	--	6.2	73	7.4	256	21.9	98	28.0	6.80
DEC												
16...	1305	Environmental	2.7	8.3	10.4	81	7.9	1,880	3.6	420	119	29.0
FEB												
03...	1405	Environmental	4.1	6.7	11.8	89	7.7	2,780	2.2	350	99.0	25.0
MAR												
19...	1144	Environmental	117	3.6	9.1	92	8.0	1,360	13.8	250	69.0	18.0
JUN												
24...	1525	Environmental	6.8	7.1	7.2	88	7.8	1,050	24.7	360	104	24.0
AUG												
11...	1240	Environmental	2.7	11	5.6	68	7.5	850	23.7	320	93.0	21.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
02...	58	57	69	<1	--	944	2.7	0.13	0.710	0.04	0.250	1.10	17
DEC													
16...	340	343	419	<1	390	3	0.70	0.08	0.110	<0.01	0.060	0.10	11
FEB													
03...	186	188	230	<1	690	11	0.70	0.19	0.390	0.02	0.030	0.09	18
MAR													
19...	171	172	210	<1	--	495	2.0	0.20	0.560	0.03	0.070	0.42	16
JUN													
24...	248	252	308	<1	--	45	0.70	0.09	1.30	0.13	0.080	0.15	10
AUG													
11...	196	199	243	<1	--	22	0.60	0.04	0.580	0.01	0.080	0.11	17

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
02...	12,000	12,700	24,000	<3	2	<1	1.5	1.3	2.3	15	<1	133	<0.1
DEC													
16...	4k	4k	10k	<3	1	<1	<1.0	8.0	1.8	55	<1	273	<0.1
FEB													
03...	54	620	152	<3	<1	<1	<1.0	2.8	2.8	20	<1	444	<0.1
MAR													
19...	800k	917k	1440k	3	2	<1	<1.0	1.1	2.4	8	<1	265	<0.1
JUN													
24...	43k	164	140	<3	3	<1	<1.0	2.8	1.4	9	<1	230	<0.1
AUG													
11...	120	277k	100	<3	3	<1	<1.0	3.7	1.4	4	<1	172	<0.1

06935890 CREVE COEUR CREEK NEAR CREVE COEUR, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
02...	3.1	<1	<1.0	2	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
16...	5.2	<1	<1.0	<2	--	--	--	--	--	--	--	--	--
FEB													
03...	4.8	1	<1.0	3	--	--	--	--	--	--	--	--	--
MAR													
19...	3.2	1	<1.0	<2	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
JUN													
24...	5.0	1	<1.0	2	--	--	--	--	--	--	--	--	--
AUG													
11...	3.6	1	<1.0	2	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
02...	<2	<2	<1	<0.9	<2	<3	<2	<4	M	M	M	<0.01	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<2	<2	<1	<0.9	<2	<3	<2	<4	M	M	M	<0.01	<0.02
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo-[a]-anthracene, water, unfltrd µg/L (34526)	Benzo-[a]-pyrene, water, unfltrd µg/L (34247)	Benzo-[b]-fluoranthene water unfltrd µg/L (34230)	Benzo-[g,h,i]-perylene, water, unfltrd µg/L (34521)	Benzo-[k]-fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
02...	M	<1,000	M	M	M	M	M	<2	<3	<2	<2	E2	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	M	<1,000	M	M	M	M	M	<2	<3	<2	<2	<2	<0.02
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

06935890 CREVE COEUR CREEK NEAR CREVE COEUR, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
02...	E.1	<0.01	M	0.06	M	E.001	M	M	<2	<2	<0.10	<0.02	<0.01
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<0.1	<0.01	M	<0.02	M	<0.017	<2	M	<2	<2	<0.10	<0.02	<0.01
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
02...	M	<0.01	<0.009	<0.01	<2	<1	M	M	<0.014	E.01	<0.01	<0.012	<1
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	M	<0.01	<0.009	<0.01	<2	<1	M	M	<0.014	<0.10	<0.02	<0.012	<1
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
02...	<3	<2	<2	E.002	E.001	<0.009	<0.020	<0.01	<0.1	M	M	<3.0	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<3	<2	<2	<0.016	<0.014	<0.009	<0.020	<0.01	<0.1	<2	M	<3.0	<0.02
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

06935890 CREVE COEUR CREEK NEAR CREVE COEUR, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tributphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
02...	M	<1	<0.02	<2	<2	<2	M	<1	<2	<2
DEC										
16...	--	--	--	--	--	--	--	--	--	--
FEB										
03...	--	--	--	--	--	--	--	--	--	--
MAR										
19...	M	<1	<0.02	<2	<2	<2	<1	<1	<2	<2
JUN										
24...	--	--	--	--	--	--	--	--	--	--
AUG										
11...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range

06935955 FEE FEE CREEK NEAR BRIDGETON, MO

LOCATION.--Lat 38°43'39", long 90°26'52", St. Louis County, Hydrologic Unit 10300200, on left abutment of old bridge at McKelvey Road, 0.17 mi west of Interstate 270, 0.92 mi north of Dorsett Road, and 0.65 mi upstream of Creve Coeur Creek.

DRAINAGE AREA.--11.7 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1996 to current year. Annual peaks only for 1972-1974 water years published in WRD MO 1974.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 451.99 ft above National Geodetic Vertical Datum of 1929. Prior to 1996 datum of gage 450.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 11, 1979 reached a stage of 21.62 ft, former datum, discharge 3,810 ft^3/s.

REVISIONS.--Revised maximum discharges for water years 1996-2002 are given below. They supersede figures published in the reports of 1998-2002.

Water Year	Date	Maximum Discharge (ft^3/s)	Gage height (ft)	Water Year	Date	Maximum Discharge (ft^3/s)	Gage height (ft)
1996	Aug. 23, 1996	2,760[a]	15.87	2000	June 24, 2000	3,380[a]	17.45
1997	Nov. 6, 1996	1,490[a]	11.97	2001	Feb. 24, 2001	1,300[a]	11.28
1998	April 29, 1998	1,700[a]	12.71	2002	June 12, 2002	2,340[a]	14.71
1999	Feb. 7, 1999	2,510[a]	15.17				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.1	1.8	3.2	2.8	10	2.0	6.5	1.8	e8.0	3.3	359
2	56	3.2	e2.4	11	2.0	7.1	2.1	3.3	26	e10	89	120
3	201	19	e2.5	7.6	2.3	4.0	2.2	2.7	18	5.5	15	8.3
4	10	4.2	2.4	4.9	2.1	3.7	2.5	85	3.0	3.8	2.3	3.4
5	2.5	26	3.7	7.6	1.3	4.4	2.3	41	2.8	3.1	1.8	2.3
6	11	4.6	e2.7	7.4	3.0	2.9	28	26	18	3.0	1.8	2.0
7	2.2	2.7	e2.8	4.3	e2.6	2.1	14	32	4.4	2.6	2.3	1.7
8	1.4	2.4	3.1	3.5	1.6	1.8	6.1	5.3	2.4	2.3	2.7	1.5
9	1.3	2.5	1.8	2.7	1.7	1.7	3.2	4.3	2.0	2.3	e0.80	1.4
10	1.3	2.7	1.5	1.9	2.4	1.6	2.3	e100	305	106	e0.50	1.3
11	1.2	2.6	1.3	1.6	2.2	28	e3.5	e37	122	3.9	0.82	1.4
12	4.3	2.5	1.2	1.4	2.0	48	2.2	e14	71	2.5	2.9	17
13	5.1	2.4	1.4	1.4	1.9	125	2.0	e7.3	212	2.1	1.0	2.9
14	1.2	9.9	1.6	1.4	40	7.2	1.8	e5.4	8.8	2.0	1.1	1.7
15	1.1	20	1.3	1.3	27	4.7	1.8	e7.3	4.6	2.0	1.1	1.2
16	1.3	2.6	1.2	1.4	e4.8	4.0	123	e4.8	3.4	2.1	1.7	1.0
17	1.5	2.0	1.1	1.5	e2.8	4.0	31	e12	2.8	9.3	1.0	1.1
18	18	1.8	164	1.3	17	3.5	4.8	e7.0	2.6	154	0.91	1.3
19	24	2.1	e8.1	1.3	49	107	3.5	e4.1	18	11	2.2	1.5
20	2.1	2.1	e5.9	2.4	7.5	70	34	e8.8	3.0	3.5	0.95	0.89
21	1.5	2.0	e3.8	e7.1	4.6	12	4.0	e5.6	2.0	2.6	0.79	1.2
22	1.4	1.7	e2.9	e5.3	18	6.2	3.0	e3.0	1.8	2.0	0.72	2.7
23	1.3	1.7	e2.1	e3.8	5.1	5.1	2.5	e2.8	2.1	1.5	0.68	1.0
24	1.8	1.9	e2.4	e2.7	7.9	4.2	91	e5.1	1.8	0.56	0.69	1.2
25	75	3.0	e2.6	e5.6	e4.0	4.8	34	49	103	2.9	0.96	2.2
26	4.7	2.1	e3.6	e9.0	2.8	3.4	8.4	3.3	e500	1.6	0.76	198
27	2.3	1.7	e6.6	e8.0	3.8	2.6	4.3	2.2	11	1.5	10	20
28	3.3	1.7	10	e4.7	6.8	18	35	2.3	5.5	3.8	2.2	3.1
29	92	1.8	6.7	2.5	---	4.3	7.9	2.6	4.2	1.9	7.8	1.8
30	4.8	1.7	5.9	2.0	---	2.6	5.8	14	e80	1.5	3.3	7.5
31	2.7	---	13	13	---	2.3	---	2.7	---	1.6	70	---
MEAN	17.4	4.56	8.75	4.28	8.18	16.3	15.6	16.3	51.4	11.6	7.45	25.7
MAX	201	26	164	13	49	125	123	100	500	154	89	359
MIN	1.1	1.7	1.1	1.3	1.3	1.6	1.8	2.2	1.8	0.56	0.50	0.89
IN.	1.71	0.43	0.86	0.42	0.73	1.61	1.49	1.61	4.91	1.15	0.73	2.45

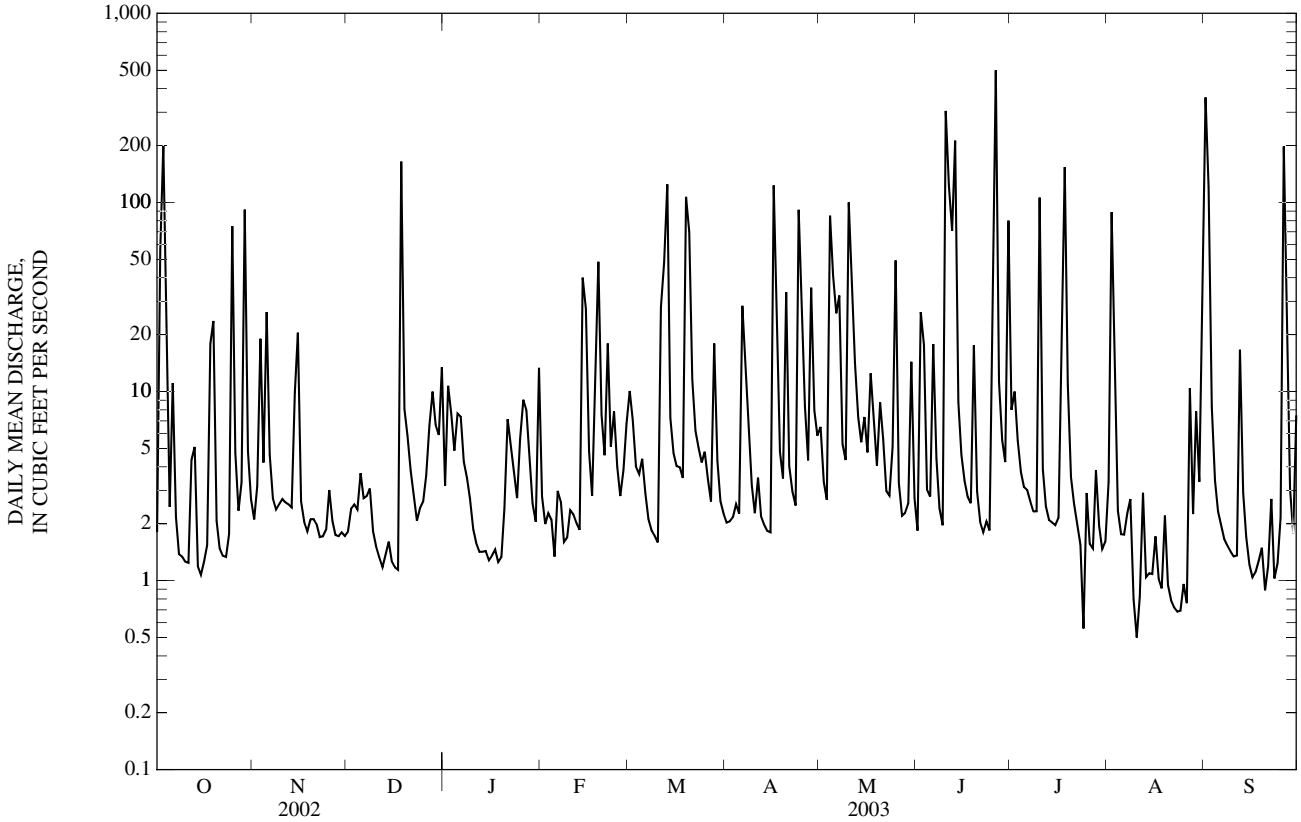
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)

MEAN	11.1	14.7	7.51	13.8	20.1	16.7	16.2	20.5	26.9	9.30	9.02	9.93
MAX	20.2	49.1	17.4	25.7	39.6	34.2	26.6	51.6	51.4	20.3	15.7	25.7
(WY)	(2002)	(1997)	(2002)	(1999)	(1997)	(1998)	(1998)	(2002)	(2003)	(1998)	(1997)	(2003)
MIN	1.86	1.47	3.09	2.99	5.15	6.58	5.30	9.41	9.32	2.83	2.53	1.53
(WY)	(2000)	(2000)	(1999)	(2000)	(2002)	(2000)	(2000)	(1999)	(2001)	(2000)	(2001)	(1999)

06935955 FEE FEE CREEK NEAR BRIDGETON, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1996 - 2003	
ANNUAL MEAN	17.2		15.6		14.5	
HIGHEST ANNUAL MEAN					18.9	2002
LOWEST ANNUAL MEAN					8.31	2000
HIGHEST DAILY MEAN	391	Jun 11	500	Jun 26	665	Feb 7, 1999
LOWEST DAILY MEAN	0.56	Sep 13,25-28,30,Oct 1	0.50	Aug 10	0.28	Sep 22, 1999
ANNUAL SEVEN-DAY MINIMUM	0.75	Sep 1	0.79	Aug 20	0.30	Sep 21, 1999
MAXIMUM PEAK FLOW	---		3,730[b]	Jun 26	3,730[b]	Jun 26, 2003
MAXIMUM PEAK STAGE	---		18.30	Jun 26	18.30	Jun 26, 2003
INSTANTANEOUS LOW FLOW	---		0.26	Aug 11,12	0.26	Aug 11, 2003
ANNUAL RUNOFF (INCHES)	19.94		18.10		16.79	
10 PERCENT EXCEEDS	28		31		29	
50 PERCENT EXCEEDS	3.0		2.9		2.7	
90 PERCENT EXCEEDS	1.2		1.3		0.90	

e Estimated
[a] From rating extended above 1,130 ft^3/s on basis of indirect measurement of peak flow.
[b] Discharge determined by indirect measurement of peak flow.



06935955 FEE FEE CREEK NEAR BRIDGETON, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1996 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
18...	2103	Environmental	59	5.3	7.8	80	7.7	393	15.3	250	68.0	19.0
DEC												
16...	1635	Environmental	1.2	2.5	16.7	136	8.2	3,160	5.1	430	118	33.0
FEB												
04...	0800	Environmental	2.5	5.9	8.5	63	7.7	3,000	1.9	370	104	26.0
APR												
06...	0838	Environmental	4.0	4.6	9.8	83	7.8	787	7.4	330	89.0	27.0
JUN												
24...	1335	Environmental	1.9	7.3	7.3	89	7.8	1,300	24.7	400	110	31.0
AUG												
12...	0750	Environmental	1.3	6.7	5.2	61	7.6	1,100	22.9	330	90.0	26.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
18...	148	144	176	<1	--	127	1.2	0.10	0.400	0.02	0.120	0.29	21
DEC													
16...	187	189	231	<1	820	3	1.8	0.15	0.430	0.03	0.070	0.17	21
FEB													
04...	159	157	194	<1	810	7	0.60	0.14	0.690	0.03	0.050	0.07	16
APR													
06...	153	153	187	<1	--	143	1.0	0.03	0.220	0.02	0.060	0.20	23
JUN													
24...	217	220	268	<1	--	28	0.60	0.08	0.680	0.03	0.080	0.14	10
AUG													
12...	148	148	181	<1	--	48	0.70	0.10	0.470	0.02	0.080	0.14	15

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
18...	6,600	7,000	10,800	31	<1	<1	<1.0	1.0	2.8	54	<1	124	<0.1
DEC													
16...	10k	10k	20k	<3	1	<1	<1.0	4.0	2.7	76	<1	792	<0.1
FEB													
04...	360	1,300	250	<3	<1	<1	<1.0	1.8	3.7	28	<1	953	<0.1
APR													
06...	2,900	4,400	1,750	<3	7	<1	<1.0	2.3	2.3	25	<1	310	<0.1
JUN													
24...	88	277k	132	<3	4	<1	<1.0	3.9	1.8	9	<1	302	<0.1
AUG													
12...	920	1,640k	1,740	4	4	<1	<1.0	3.7	1.8	6	<1	274	<0.1

06935955 FEE FEE CREEK NEAR BRIDGETON, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
18...	2.8	<1	<1.0	14	E3n	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
16...	5.7	1	<1.0	5	--	--	--	--	--	--	--	--	--
FEB													
04...	6.3	2	<1.0	11	--	--	--	--	--	--	--	--	--
APR													
06...	6.4	2	<1.0	8	<7	<1	<3	M	<2.0	<3	<3	<2	<2
JUN													
24...	6.0	2	<1.0	2	--	--	--	--	--	--	--	--	--
AUG													
12...	4.6	2	<1.0	2	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
18...	<2	<2	<1	<0.9	<2	<3	<2	<4	M	M	M	<0.01	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	<2	<2	M	<0.9	<2	<3	<2	M	M	M	M	E.001	<0.002
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo[a]anthracene, water, unfltrd µg/L (34526)	Benzo[a]pyrene, water, unfltrd µg/L (34247)	Benzo[b]fluoranthene water unfltrd µg/L (34230)	Benzo[g,h,i]perylene, water, unfltrd µg/L (34521)	Benzo[k]fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
18...	M	<1,000	M	M	M	M	M	<2	<3	<2	M	E5	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	M	<1,000	M	M	M	M	M	M	<3	<2	<2	M	<0.02
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

06935955 FEE FEE CREEK NEAR BRIDGETON, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
18...	<0.1	<0.01	M	0.03	M	E.003	E1	M	M	<2	<0.10	<0.02	<0.01
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	M	<0.01	M	E.02n	M	0.005	<2	M	M	<2	<0.10	E.001	<0.01
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
18...	M	<0.01	<0.009	<0.01	<2	<1	M	M	E.001	E.03	<0.01	<0.012	<1
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	E1	<0.01	<0.003	<0.002	<2	<1	M	M	0.002	<0.10	<0.01	<0.002	<1
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
18...	<3	<2	<2	E.002	E.001	E.002	E.003	<0.01	<0.1	M	M	E.3	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	<3	<2	<2	0.006	E.002n	0.003	<0.003	<0.01	<0.1	M	M	<3.0	<0.02
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

06935955 FEE FEE CREEK NEAR BRIDGETON, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tributphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
18...	M	<1	<0.02	<2	<2	<2	<1	<1	<2	<2
DEC										
16...	--	--	--	--	--	--	--	--	--	--
FEB										
04...	--	--	--	--	--	--	--	--	--	--
APR										
06...	M	<1	<0.02	<2	<2	<2	<1	<1	<2	<2
JUN										
24...	--	--	--	--	--	--	--	--	--	--
AUG										
12...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the the LT-MDL

06935965 MISSOURI RIVER AT ST. CHARLES, MO

LOCATION.--Lat 38°47'08", long 90°28'19", SE 1/4 sec. 29, T.47 N., R.5 E., St. Louis County, Hydrologic Unit 10300200, on right bank approximately 0.25 mi downstream from State Highway A, on the St. Charles Sand Company property, and at mile 27.9.

DRAINAGE AREA.--524,000 mi^2. The 3,959 mi^2 in Great Divide basin are not included.

PERIOD OF RECORD.--April 1, 2000 to current year. April 15, 1932 to October 1944 recording gage; Feb. 16, 1984 to Sept. 30, 1997 stage only operated by U.S.G.S.; Oct. 1, 1997 to April 1, 2000, stage only operated by U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage 413.472 ft above North American Vertical Datum of 1988. Prior to March 4, 1994 datum of gage was 413.585 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are fair. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 2-3, 1993 reached a stage of 40.04 ft. by levels of good highwater mark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38,800	45,900	38,800	25,800	24,800	33,900	42,500	74,800	57,300	57,600	40,500	35,400
2	38,400	45,700	38,700	25,500	24,300	35,600	40,700	68,500	59,300	59,200	40,300	41,500
3	41,100	44,600	37,900	25,400	23,900	38,500	40,000	66,100	54,000	64,600	40,500	64,800
4	40,900	43,700	36,500	26,300	23,900	36,900	39,400	65,400	51,300	65,000	39,500	92,000
5	43,400	43,800	34,600	27,600	23,800	34,300	e39,200	88,400	51,100	62,100	39,300	78,900
6	42,900	44,200	32,700	27,500	24,100	38,800	e39,400	94,300	52,700	59,900	38,800	63,200
7	42,200	43,900	31,000	27,100	24,900	39,200	40,300	94,200	53,900	56,700	38,800	50,900
8	42,800	43,100	29,700	27,000	27,000	39,300	42,200	105,000	52,400	54,600	39,100	44,400
9	44,200	42,400	28,600	26,800	26,700	36,900	45,500	106,000	51,600	54,100	38,800	40,600
10	45,500	41,700	27,800	26,500	27,300	30,400	47,800	117,000	53,000	56,700	38,400	39,300
11	47,300	40,600	27,000	26,300	26,300	28,400	49,000	146,000	60,000	55,700	38,200	40,600
12	48,200	39,700	26,500	26,200	25,200	29,200	47,700	152,000	85,600	53,600	37,900	42,300
13	46,400	39,100	26,300	26,100	24,700	31,100	46,800	139,000	101,000	54,600	37,500	43,600
14	44,100	39,100	26,100	26,200	24,800	38,900	45,500	120,000	88,800	58,600	37,400	45,100
15	42,900	39,400	25,500	26,000	25,100	42,100	42,600	100,000	87,900	57,400	37,900	49,100
16	42,500	39,600	25,000	25,800	26,600	38,200	41,300	85,000	87,700	57,000	41,500	56,800
17	42,200	39,600	25,100	25,600	32,600	34,100	40,800	80,800	90,300	64,100	41,500	55,200
18	41,700	39,200	27,600	25,400	35,300	32,300	40,700	76,200	85,200	70,200	39,400	55,500
19	42,100	39,200	30,300	25,200	34,700	32,400	40,900	69,100	77,400	63,800	37,900	54,000
20	42,000	39,100	30,600	24,900	33,900	40,200	41,900	64,600	68,700	59,800	37,200	54,800
21	42,000	39,000	29,900	24,400	32,800	47,700	41,600	65,000	61,400	55,800	36,500	52,800
22	42,300	39,400	28,500	23,700	31,100	46,500	42,000	66,900	56,500	52,500	e36,200	47,400
23	42,200	39,500	27,500	23,200	30,800	44,400	42,100	65,700	53,000	51,200	42,000	45,100
24	41,900	39,200	26,900	23,300	33,400	43,600	45,400	68,700	50,900	49,100	43,900	46,600
25	42,400	38,900	26,900	23,100	35,100	41,700	51,700	75,200	51,500	46,400	36,700	48,100
26	42,700	38,800	27,000	22,900	34,600	38,700	64,900	69,500	69,200	44,400	32,600	51,300
27	42,800	38,700	26,700	25,700	32,900	43,400	72,500	62,400	87,300	43,200	32,700	51,600
28	42,900	38,600	26,500	24,200	33,100	52,200	68,300	58,900	72,800	42,400	33,800	46,400
29	44,500	38,400	26,300	23,100	---	54,100	67,800	58,000	63,700	41,800	38,000	46,600
30	44,800	38,700	26,400	23,100	---	50,600	75,300	62,400	60,900	41,200	36,900	43,000
31	45,200	---	26,300	24,100	---	46,500	---	61,400	---	40,700	34,900	---
MEAN	43,010	40,760	29,200	25,290	28,700	39,360	47,530	84,730	66,550	54,650	38,210	50,900
MAX	48,200	45,900	38,800	27,600	35,300	54,100	75,300	152,000	101,000	70,200	43,900	92,000
MIN	38,400	38,400	25,000	22,900	23,800	28,400	39,200	58,000	50,900	40,700	32,600	35,400
IN.	0.09	0.09	0.06	0.06	0.06	0.09	0.10	0.19	0.14	0.12	0.08	0.11

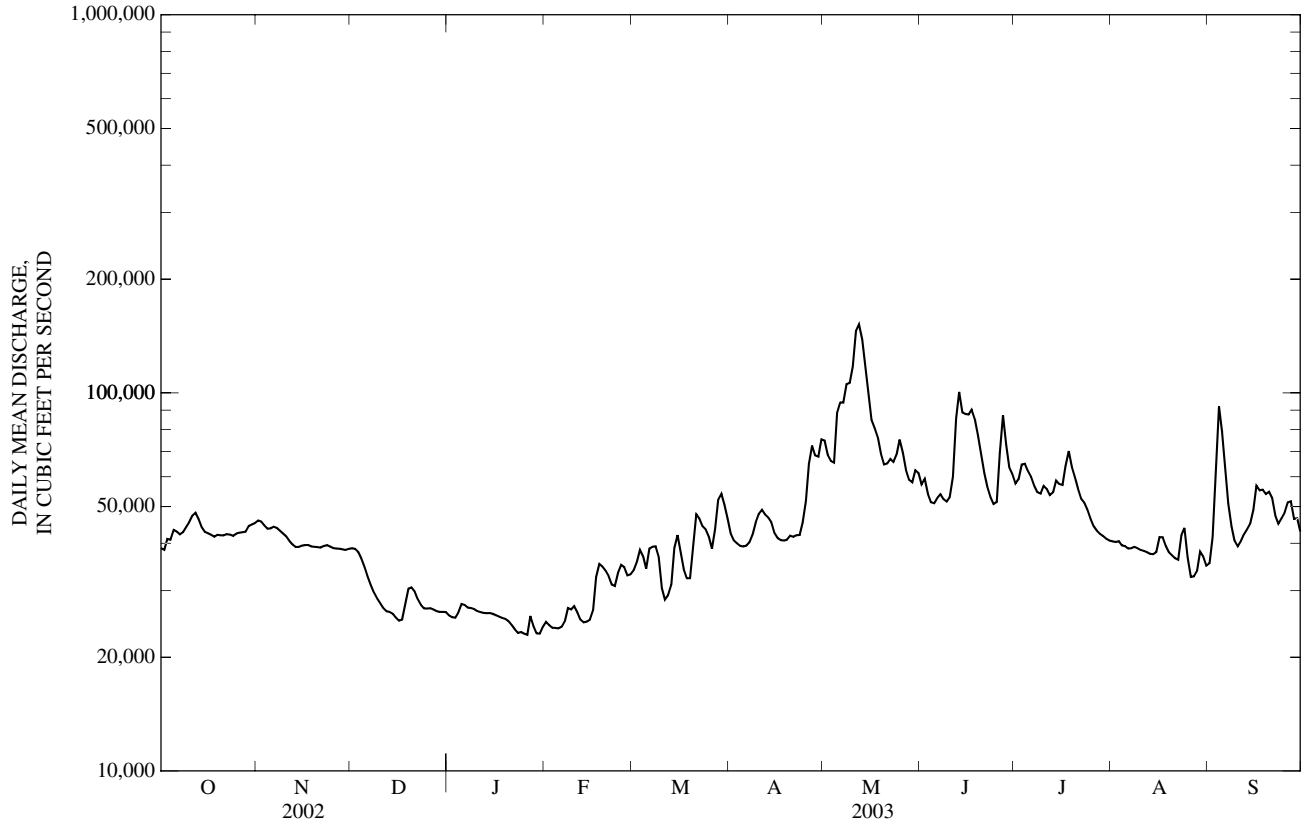
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

MEAN	50,650	45,800	35,880	30,530	57,480	71,740	72,270	115,300	113,600	71,310	52,060	50,570
MAX	60,810	50,230	46,870	34,290	84,820	129,000	121,100	196,100	202,100	104,600	65,550	62,060
(WY)	(2002)	(2001)	(2002)	(2002)	(2001)	(2001)	(2001)	(2002)	(2001)	(2001)	(2001)	(2001)
MIN	43,010	40,760	29,200	25,290	28,700	39,360	47,530	59,440	66,550	51,100	38,210	43,620
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2000)	(2003)	(2002)	(2003)	(2002)

06935965 MISSOURI RIVER AT ST. CHARLES, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL MEAN	63,800		45,820		66,860	
HIGHEST ANNUAL MEAN					87,470	2001
LOWEST ANNUAL MEAN					45,820	2003
HIGHEST DAILY MEAN	347,000	May 15	152,000	May 12	347,000	May 15, 2002
LOWEST DAILY MEAN	25,000	Dec 16	22,900	Jan 26	22,900	Jan 26, 2003
ANNUAL SEVEN-DAY MINIMUM	25,900	Dec 11	23,600	Jan 24	23,600	Jan 24, 2003
MAXIMUM PEAK FLOW	---		156,000	May 12	350,000	May 15, 2002
MAXIMUM PEAK STAGE	---		21.24	May 12	31.69	May 15, 2002
INSTANTANEOUS LOW FLOW	---		22,500	Jan 26	22,500	Jan 26, 2003
ANNUAL RUNOFF (INCHES)	1.65		1.19		1.73	
10 PERCENT EXCEEDS	115,000		68,600		129,000	
50 PERCENT EXCEEDS	44,800		41,700		49,100	
90 PERCENT EXCEEDS	33,500		26,200		30,300	

e Estimated



06935980 COWMIRE CREEK AT BRIDGETON, MO

LOCATION.--Lat 38°45'50", long 90°25'59", St. Louis County, Hydrologic Unit 10300200, on left bank of bridge at Kirchner Brick Co., 1.11 mi west of Interstate 70 and 270 interchange, 1.7 mi south of State Highway 370, 0.16 mi north of County Highway A (St Charles Rock Road), and 6.29 mi upstream of the Missouri River.

DRAINAGE AREA.--3.74 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1997 to current year. Annual peaks only for 1972-1974 water years published in WRD MO 1974.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 464.46 ft above National Geodetic Vertical Datum of 1929. Prior to May 1997, at datum 464.55 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair except for estimated daily discharges and discharges below 0.5 ft^3/s, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 11, 1979 reached a stage of 13.86 ft, former datum, discharge, 2,500 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.28	0.62	0.37	0.84	0.68	2.0	0.83	2.0	0.55	1.5	0.96	89
2	94	1.4	0.46	3.2	0.57	1.5	0.78	1.2	10	0.89	30	13
3	36	4.4	0.41	2.0	0.60	1.0	0.76	1.0	3.0	0.97	3.4	1.4
4	3.9	0.83	e0.50	1.4	0.47	0.98	3.4	22	0.78	0.90	1.0	0.89
5	0.62	9.6	e1.3	2.6	0.44	1.3	0.85	13	0.61	0.75	0.59	0.72
6	4.4	1.1	e0.90	2.0	1.0	1.00	12	11	5.0	0.60	0.60	0.64
7	0.58	0.56	e1.1	1.2	e0.70	0.98	3.9	5.1	0.87	1.1	0.49	0.62
8	0.60	0.48	0.68	1.3	0.48	0.95	2.9	1.5	0.61	0.54	0.45	0.49
9	0.35	0.50	0.50	0.89	0.46	0.85	1.1	1.4	0.63	0.50	0.44	0.44
10	0.50	0.66	0.48	0.68	0.64	0.79	0.91	38	211	59	0.44	0.57
11	0.53	0.49	0.48	0.59	0.58	6.1	0.90	2.1	52	1.2	0.42	0.42
12	0.84	0.45	0.48	0.56	0.54	5.2	0.81	1.5	27	1.0	0.35	4.3
13	0.72	0.46	0.51	0.57	0.50	34	1.1	1.3	49	0.90	1.4	0.64
14	0.54	3.6	0.55	0.59	12	1.8	0.76	1.2	2.1	0.85	0.54	0.55
15	0.49	4.4	0.53	0.59	6.3	1.3	0.67	1.2	1.1	0.85	0.43	0.41
16	0.40	0.57	0.53	0.68	1.4	1.1	46	1.6	0.93	1.4	0.38	0.36
17	0.33	0.47	0.53	0.79	1.4	1.3	39	1.3	0.81	0.74	0.35	0.32
18	6.7	0.45	69	0.74	3.7	0.97	2.0	0.90	0.76	33	0.34	0.30
19	3.6	0.49	2.3	0.73	8.5	29	1.6	0.73	5.8	1.9	0.30	0.35
20	0.46	0.47	1.0	e1.0	1.4	22	8.1	2.1	0.76	1.0	0.33	0.32
21	0.36	0.49	0.98	e3.4	1.1	3.7	1.5	0.76	0.71	0.98	0.32	0.48
22	0.36	0.51	0.69	e1.9	2.8	1.6	1.3	0.69	0.67	0.81	0.26	0.51
23	0.33	0.48	0.63	e1.0	1.1	1.2	1.5	0.68	0.66	0.70	0.25	0.29
24	0.32	0.48	0.65	e0.68	2.1	1.1	26	1.5	0.63	1.0	0.26	0.29
25	23	0.81	0.99	e3.0	e1.2	1.1	15	17	79	0.56	0.33	0.36
26	0.80	0.50	1.1	e5.0	e0.80	0.86	2.4	0.81	121	0.57	0.34	48
27	0.59	0.40	1.1	e4.1	e1.5	0.82	1.5	0.66	2.0	0.63	0.56	3.3
28	0.62	0.37	2.2	e2.2	e1.4	4.3	11	0.60	1.5	1.5	0.46	0.90
29	26	0.41	1.8	0.72	---	1.1	1.9	0.79	1.2	0.73	5.1	0.64
30	1.1	0.38	1.9	0.60	---	0.86	1.3	6.4	13	0.59	0.85	2.9
31	0.82	---	2.6	4.1	---	1.3	---	0.71	---	0.60	36	---
MEAN	6.78	1.23	3.14	1.60	1.94	4.26	6.39	4.54	19.8	3.81	2.84	5.78
MAX	94	9.6	69	5.0	12	34	46	38	211	59	36	89
MIN	0.28	0.37	0.37	0.56	0.44	0.79	0.67	0.60	0.55	0.50	0.25	0.29
IN.	2.09	0.37	0.97	0.49	0.54	1.31	1.91	1.40	5.91	1.18	0.87	1.72

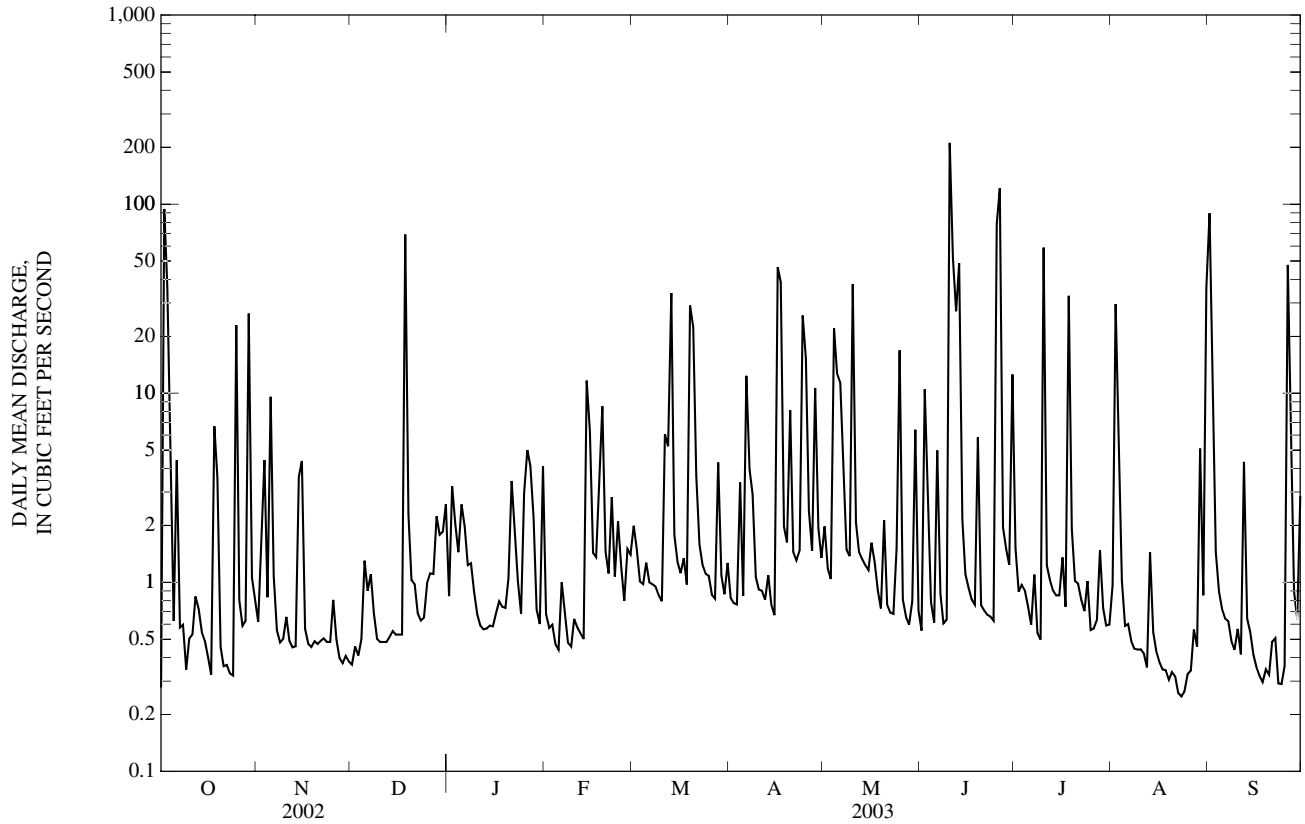
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	3.37	2.34	2.22	3.61	5.07	4.26	6.32	6.50	9.66	4.16	2.99	2.74
MAX	6.78	4.26	4.75	8.86	11.3	9.35	12.9	13.2	19.8	10.4	7.23	5.78
(WY)	(2003)	(2002)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(2003)	(1998)	(2002)	(2003)
MIN	1.44	0.84	0.75	0.84	1.46	1.57	1.66	2.45	3.48	0.73	1.14	0.57
(WY)	(1998)	(2000)	(1999)	(2000)	(2002)	(2001)	(2000)	(2001)	(1997)	(2002)	(1999)	(1999)

06935980 COWMIRE CREEK AT BRIDGETON, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	5.62		5.17		4.56	
HIGHEST ANNUAL MEAN					5.91	2002
LOWEST ANNUAL MEAN					2.63	2001
HIGHEST DAILY MEAN	173	Aug 6	211	Jun 10	240	Feb 7, 1999
LOWEST DAILY MEAN	0.15	Sep 11	0.25	Aug 23	0.05	Aug 19, 2001
ANNUAL SEVEN-DAY MINIMUM	0.20	Jul 29	0.29	Aug 19	0.07	Oct 27, 1999
MAXIMUM PEAK FLOW	---		3,490[a]	Jun 10	3,490[a]	Jun 10, 2003
MAXIMUM PEAK STAGE	---		16.04	Jun 10	16.04	Jun 10, 2003
INSTANTANEOUS LOW FLOW	---		0.19	Oct 2,Aug 23-25	0.04	Sep 6, 2001
ANNUAL RUNOFF (INCHES)	20.39		18.76		16.55	
10 PERCENT EXCEEDS	7.5		8.9		7.7	
50 PERCENT EXCEEDS	0.93		0.86		0.73	
90 PERCENT EXCEEDS	0.36		0.42		0.18	

e Estimated
[a] Discharge determined by indirect measurement of peak flow.



06935980 COWMIRE CREEK AT BRIDGETON, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
18...	2036	Environmental	59	4.0	8.6	88	7.7	368	15.5	190	45.0	19.0
DEC												
17...	1110	Environmental	0.53	7.4	10.9	92	7.9	2,500	6.3	590	137	59.0
FEB												
04...	1210	Environmental	0.48	6.7	11.5	88	7.9	2,270	3.3	540	133	51.0
MAR												
28...	1300	Environmental	29	3.0	10.0	90	8.1	767	10.0	360	86.0	35.0
JUN												
09...	1730	Environmental	0.53	7.7	9.2	106	7.8	1,450	21.2	520	120	53.0
AUG												
11...	1620	Environmental	0.53	7.3	6.2	75	7.8	1,300	23.7	510	113	55.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
18...	115	116	141	<1	--	579	2.4	0.11	0.430	0.02	0.090	0.72	29
DEC													
17...	277	280	341	<1	590	1	0.80	0.16	0.170	0.02	0.070	0.11	26
FEB													
04...	268	269	328	<1	550	15	0.50	0.02	0.490	0.03	0.030	0.08	29
MAR													
28...	205	206	251	<1	--	147	1.6	0.06	0.570	0.05	0.050	0.24	32
JUN													
09...	253	255	311	<1	--	2	0.40	0.04	0.520	0.04	0.090	0.10	20
AUG													
11...	218	224	273	<1	--	9	0.40	0.05	0.120	<0.01	0.060	0.08	12

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
18...	4,300k	86,000	12,400	5	1	<1	<1.0	<1.0	2.4	13	<1	165	<0.1
DEC													
17...	57k	93k	152	<3	1	<1	<1.0	7.9	2.7	85	<1	743	<0.1
FEB													
04...	150	307k	60k	<3	7	<1	<1.0	2.2	3.2	54	<1	945	<0.1
MAR													
28...	4,400k	10,800k	4,600	25	2	<1	<1.0	8.4	4.4	20	<1	432	<0.1
JUN													
09...	520	840	196	3	3	<1	<1.0	4.7	1.6	23	<1	156	<0.1
AUG													
11...	500	960	440	<3	3	<1	<1.0	3.7	1.4	11	<1	204	<0.1

06935980 COWMIRE CREEK AT BRIDGETON, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
18...	2.1	1	<1.0	8	E4n	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
17...	5.9	2	<1.0	10	--	--	--	--	--	--	--	--	--
FEB													
04...	6.1	2	<1.0	10	--	--	--	--	--	--	--	--	--
MAR													
28...	5.4	2	<1.0	14	<7	<1	<3	M	<2.0	<3	<3	<2	<2
JUN													
09...	5.6	2	<1.0	<2	--	--	--	--	--	--	--	--	--
AUG													
11...	4.0	2	<1.0	<2	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
18...	<2	<2	<1	<0.9	<2	<3	<2	<4	M	M	M	<0.01	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	<2	<2	<1	<0.9	<2	<3	<2	E2	M	M	<2	<0.002	<0.002
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo[a]anthracene, water, unfltrd µg/L (34526)	Benzo[a]pyrene, water, unfltrd µg/L (34247)	Benzo[b]fluoranthene water unfltrd µg/L (34230)	Benzo[g,h,i]perylene, water, unfltrd µg/L (34521)	Benzo[k]fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
18...	M	<1,000	M	E1	E3	M	M	M	<3	<2	<2	E18	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	M	<1,000	M	M	E2	M	M	<2	<3	<2	<2	E2	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

06935980 COWMIRE CREEK AT BRIDGETON, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
18...	<0.1	<0.01	E2	0.04	M	E.001	E1	M	M	M	<0.10	<0.02	<0.01
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	<0.1	<0.01	E1	E.01	M	<0.002	M	M	M	<2	<0.10	<0.002	<0.01
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
18...	3	<0.01	<0.009	<0.01	M	<1	E1	M	<0.014	E.07	<0.01	<0.012	<1
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	3	<0.01	<0.003	<0.002	<2	<1	M	M	<0.002	E.01	<0.01	<0.002	<1
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
18...	<3	<2	<2	E.002	E.001	E.002	E.002	<0.01	<0.1	M	E2	E.3	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	<3	<2	<2	<0.002	<0.002	<0.002	<0.003	<0.01	<0.1	M	M	E.4	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

06935980 COWMIRE CREEK AT BRIDGETON, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tributphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
18...	3	<1	<0.02	<2	<2	M	<1	<1	<2	M
DEC										
17...	--	--	--	--	--	--	--	--	--	--
FEB										
04...	--	--	--	--	--	--	--	--	--	--
MAR										
28...	E2	<1	<0.02	<2	<2	<2	<1	<1	<2	<2
JUN										
09...	--	--	--	--	--	--	--	--	--	--
AUG										
11...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

06935997 MILL CREEK NEAR FLORISSANT, MO

LOCATION.--Lat 38°50'54", long 90°17'10", St. Louis County, Hydrologic Unit 10300200, on right downstream wingwall of Old Jamestown Road bridge, 2.50 mi west of U.S. 367 and 67 (Lewis and Clark Blvd.), 2.08 mi north of U.S. Route 67 (Lindbergh Blvd.), and 1.70 mi upstream of the Missouri River.

DRAINAGE AREA.--2.12 mi^2.

PERIOD OF RECORD.--May 1997 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 432.34 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.10	0.23	0.27	0.24	0.48	e1.1	0.67	0.82	1.0	1.0	0.22	e12
2	2.6	0.23	0.28	0.62	0.37	e1.0	0.59	0.56	3.5	0.98	0.72	e5.9
3	7.2	0.62	0.34	0.51	0.34	e0.71	0.56	0.51	3.5	0.85	0.81	e0.90
4	0.77	0.41	0.23	0.42	0.21	e0.72	2.4	5.7	1.5	0.75	0.42	e0.90
5	0.30	1.9	0.30	0.68	0.22	e0.80	0.87	6.9	1.1	0.62	0.24	e0.44
6	0.98	0.46	0.30	0.76	e0.39	e0.62	3.2	2.6	2.6	0.60	0.22	e0.38
7	0.30	0.37	0.27	0.56	e0.43	e0.55	2.5	3.8	1.3	0.60	0.17	e0.35
8	0.24	0.46	0.29	0.48	e0.29	e0.51	0.94	1.8	0.93	0.56	0.16	e0.25
9	0.24	0.58	0.21	0.36	e0.30	e0.48	0.70	1.4	0.78	0.50	0.15	e0.21
10	0.24	0.46	0.20	0.28	e0.40	e0.44	0.57	16	19	2.9	0.14	e0.20
11	0.25	0.33	0.19	0.24	e0.36	e1.0	0.54	3.2	3.3	0.88	0.14	e0.18
12	0.30	0.28	0.27	0.24	e0.32	e2.1	0.54	1.7	1.7	0.72	e0.18	e1.2
13	0.38	0.29	0.34	0.30	e0.30	e4.3	0.48	1.3	16	0.70	e0.17	e0.52
14	0.24	0.42	0.44	0.28	e2.9	1.2	0.44	1.2	1.7	0.62	e0.18	e0.34
15	0.21	1.0	0.37	0.26	e3.6	0.92	0.36	1.1	1.1	0.58	e0.18	e0.30
16	0.20	0.39	0.30	0.30	e1.1	0.77	4.6	1.0	0.93	0.51	e0.18	e0.25
17	0.17	0.33	0.44	0.24	e0.82	0.64	4.6	1.8	0.82	0.40	e0.17	e0.25
18	0.38	0.34	13	0.25	e1.7	0.65	1.0	1.4	0.76	1.5	e0.17	e0.25
19	1.4	0.34	0.92	0.31	e4.2	4.7	0.77	1.0	2.0	0.82	e0.16	e0.27
20	0.23	0.33	0.44	0.33	e1.6	4.5	2.3	1.2	1.0	0.58	e0.16	e0.27
21	0.20	0.32	0.34	0.30	e1.1	1.7	0.73	0.81	0.94	0.50	e0.17	e0.28
22	0.17	0.33	0.27	0.22	e1.8	1.1	0.57	0.81	0.75	0.57	e0.17	e0.31
23	0.18	0.32	0.24	0.20	e0.95	0.86	0.47	0.87	0.79	0.46	e0.17	e0.32
24	0.22	0.24	0.25	0.21	e1.3	0.79	4.5	1.2	0.76	0.34	e0.18	e0.35
25	3.7	0.29	0.36	0.25	e0.95	0.76	5.6	8.3	11	0.30	e0.17	e0.43
26	0.29	0.24	0.27	0.28	e0.71	0.66	1.8	1.5	72	0.29	e0.33	e3.3
27	0.24	0.24	0.27	0.28	e0.76	0.70	0.91	1.1	1.8	0.26	e0.24	e1.3
28	0.24	0.22	0.37	0.35	e0.94	1.7	1.8	0.94	1.4	0.55	e0.16	e0.38
29	3.9	0.28	0.48	0.33	---	0.84	1.0	0.74	1.2	0.32	e0.19	e0.26
30	0.45	0.28	0.41	0.31	---	0.65	0.83	2.1	1.1	0.25	e0.47	e0.48
31	0.29	---	0.45	0.94	---	0.65	---	1.2	---	0.23	e3.3	---
MEAN	0.86	0.42	0.75	0.37	1.03	1.23	1.56	2.41	5.21	0.67	0.34	1.09
MAX	7.2	1.9	13	0.94	4.2	4.7	5.6	16	72	2.9	3.3	12
MIN	0.10	0.22	0.19	0.20	0.21	0.44	0.36	0.51	0.75	0.23	0.14	0.18
IN.	0.47	0.22	0.41	0.20	0.51	0.67	0.82	1.31	2.74	0.36	0.18	0.58

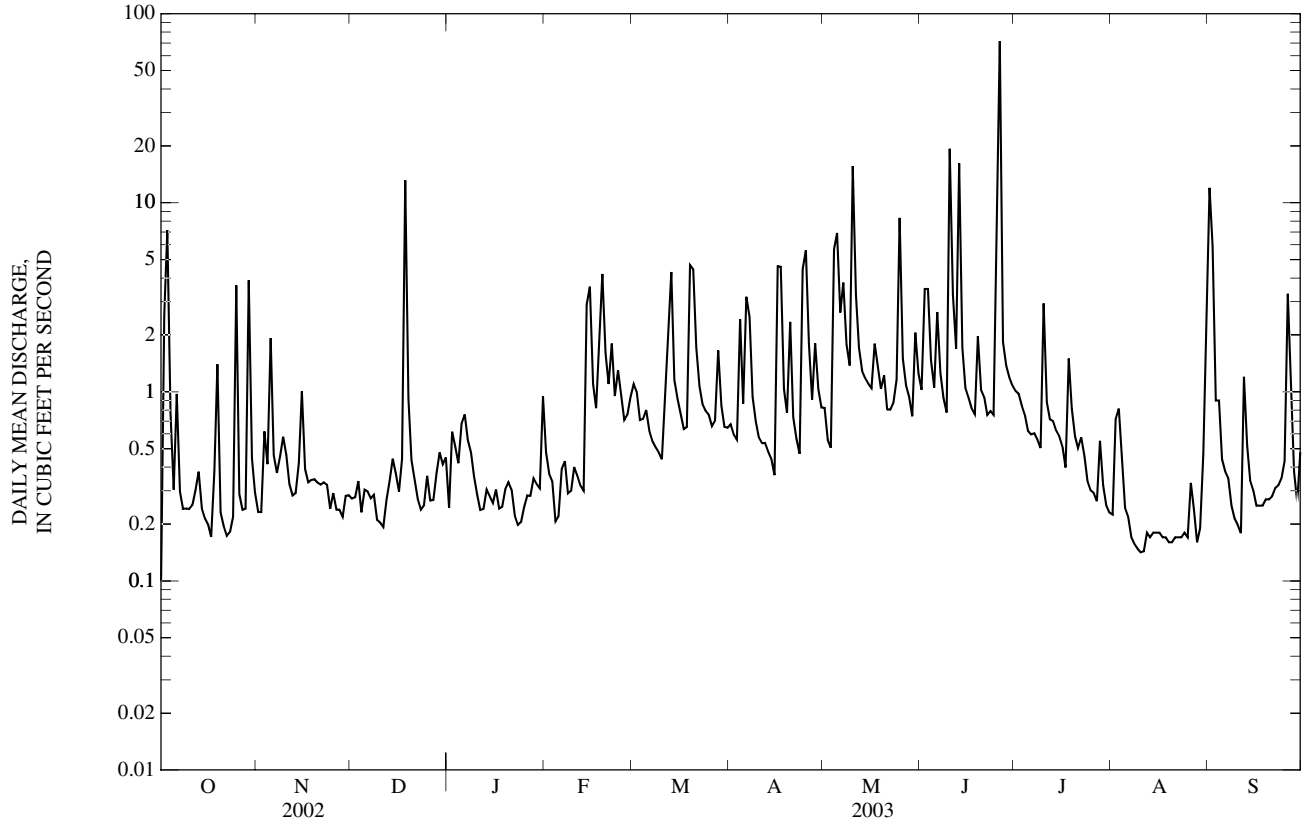
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	1.14	0.91	0.75	1.40	2.29	1.73	2.31	4.50	3.23	1.26	0.98	0.80
MAX	3.05	2.34	1.83	3.70	6.73	4.56	5.02	11.3	5.92	3.28	1.72	1.11
(WY)	(2001)	(2002)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(1998)	(1998)	(1998)	(2002)
MIN	0.24	0.32	0.42	0.30	1.03	0.57	0.52	0.46	0.72	0.47	0.34	0.33
(WY)	(1998)	(2000)	(2001)	(2000)	(2003)	(2000)	(2000)	(2001)	(2001)	(2002)	(2003)	(1998)

06935997 MILL CREEK NEAR FLORISSANT, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	2.06		1.32		1.77	
HIGHEST ANNUAL MEAN					2.65	1998
LOWEST ANNUAL MEAN					1.18	2001
HIGHEST DAILY MEAN	176	May 12	72	Jun 26	215	Jun 11, 1999
LOWEST DAILY MEAN	0.10	Sep 10	0.10	Oct 1	0.03	Aug 1,6-8, 2001
ANNUAL SEVEN-DAY MINIMUM	0.10	Sep 25	0.16	Aug 7	0.05	Jul 26, 2001
MAXIMUM PEAK FLOW	---		827[a]	Jun 26	Unknown	Jun 11, 1999
MAXIMUM PEAK STAGE	---		6.34	Jun 26	10.53	Jun 11, 1999
INSTANTANEOUS LOW FLOW	---		0.08	Oct 1,2	0.02	Aug 6,8, 2001
ANNUAL RUNOFF (INCHES)	13.19		8.46		11.37	
10 PERCENT EXCEEDS	2.4		2.5		2.5	
50 PERCENT EXCEEDS	0.50		0.50		0.46	
90 PERCENT EXCEEDS	0.20		0.21		0.16	

e Estimated
[a] From rating extended above 80.2 ft^3/s on basis of indirect measurement of peak flow.



06936475 COLDWATER CREEK NEAR BLACK JACK, MO

LOCATION.--Lat 38°49'04", long 90°15'04", in NE ¼ SE ¼ NW ¼ sec.17, T.47 N., R.7 E., St. Louis County, Hydrologic Unit 10300200, on right downstream abutment of Old Jamestown Road bridge, 0.36 mi south of U.S. Route 67 (Lindbergh Blvd.), 1.1 mi west of Highway 367 (Lewis and Clark Blvd.), and 3.8 mi upstream of the Missouri River.

DRAINAGE AREA.--40.4 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1996 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage unknown.

REMARKS.--Water-discharge records fair except for estimated daily discharges and discharges below 5 ft^3/s, which are poor.

REVISIONS.--Revised maximum discharges for water years 1997-2002 and revised daily discharges for high-water periods in these years, are given below. They supersede figures published in the reports of 1998-2002.

Water Year	Date	Maximum Discharge (ft^3/s)	Gage height (ft)	Water Year	Date	Maximum Discharge (ft^3/s)	Gage height (ft)
1997	Nov. 6, 1996	2,990[a]	7.77	2000	May 7, 2000	6,360[a]	11.46
1998	July 30,1998	5,600[a]	10.74	2001	April 11, 2001	5,530[a]	10.67
1999	Feb. 7, 1999	6,190[a]	11.30	2002	June 12, 2002	3,960[a]	9.02

Water Year	Daily Mean Date	Discharge	Date	Discharge	Monthly Mean Discharge	
1998	July 30, 1998	1320	Aug. 18, 1998	583	July -- 78.3	Aug. -- 37.2
1999	Jan. 31, 1999	1,060	Feb. 7, 1999	2,240	Jan. -- 64.3	Feb. -- 109
	June 12, 1999	921	July 1, 1999	668	June -- 76.0	July -- 46.3
2000	Feb. 18, 2000	1,010	May 7, 2000	1,680	Feb. -- 44.5	May -- 91.7
	June 24, 2000	1,480			June -- 93.6	
2001	April 10, 2001	407	April 11, 2001	581	April -- 51.3	
2002	May 12, 2002	1,030	May 13, 2002	834	May -- 167	
	June 11, 2002	709	June 12, 2002	1,070	June -- 86.0	
	Aug. 6, 2002	637			Aug. -- 35.5	

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	7.4	3.6	11	13	21	8.5	27	9.2	39	5.2	801
2	74	9.6	4.1	24	6.8	21	7.8	20	52	22	12	107
3	472	37	4.2	24	6.3	13	7.8	16	91	21	80	25
4	36	12	4.4	14	6.8	13	19	220	14	11	25	13
5	9.7	69	7.5	17	5.2	15	13	170	10	9.6	4.9	12
6	34	16	9.7	21	e6.6	12	72	35	53	8.4	17	9.5
7	8.8	8.3	6.1	13	e6.6	10	50	171	19	8.1	5.7	5.8
8	3.1	5.6	7.3	11	e5.9	9.8	15	30	9.9	7.2	8.3	3.7
9	2.3	5.9	4.5	10	5.5	8.8	12	23	8.0	6.9	4.2	3.4
10	1.9	8.5	3.9	7.4	7.3	7.6	8.9	389	979	316	3.1	3.9
11	1.6	8.0	4.0	6.0	8.0	8.4	8.4	45	442	14	2.7	3.6
12	1.8	6.9	4.4	5.1	5.9	89	7.6	24	230	8.7	2.6	34
13	12	6.5	4.5	5.0	5.1	265	6.8	19	888	7.2	3.0	13
14	2.9	7.2	5.6	5.2	109	19	6.8	17	45	7.2	3.1	4.7
15	1.4	64	4.2	4.6	98	14	7.0	19	29	7.9	3.2	3.6
16	1.2	8.6	3.7	4.8	19	12	162	15	22	6.9	2.6	3.1
17	1.2	5.2	3.8	4.8	14	10	222	27	21	7.0	2.6	2.9
18	1.8	4.3	407	4.5	39	11	20	16	17	135	2.3	2.8
19	89	4.4	25	4.2	114	186	16	13	98	30	2.5	2.8
20	5.3	4.7	11	4.2	29	159	122	20	20	8.6	2.1	2.8
21	2.3	4.8	7.0	11	18	36	17	12	14	6.1	2.6	2.6
22	2.1	4.5	5.4	e7.7	38	18	14	10	11	6.2	2.9	4.2
23	1.7	4.4	4.9	e5.8	19	15	12	10	10	17	3.0	3.8
24	1.6	4.4	5.3	e4.3	26	13	241	15	11	5.3	2.8	2.8
25	187	6.8	5.7	e8.8	19	13	170	299	54	5.3	2.4	2.9
26	14	6.2	8.9	e13	13	12	40	18	2,450	4.8	3.0	186
27	7.2	4.9	11	e15	13	9.8	21	13	42	5.0	9.1	110
28	5.4	4.8	18	e8.6	21	49	73	11	24	22	8.6	10
29	200	4.7	22	9.0	---	18	114	10	18	8.3	5.7	5.1
30	17	3.9	20	7.1	---	9.4	77	44	326	5.1	18	5.1
31	13	---	35	37	---	8.2	---	16	---	5.0	249	---
MEAN	39.1	11.6	21.7	10.6	24.2	35.7	52.4	57.2	201	24.9	16.1	46.3
MAX	472	69	407	37	114	265	241	389	2,450	316	249	801
MIN	1.2	3.9	3.6	4.2	5.1	7.6	6.8	10	8.0	4.8	2.1	2.6
IN.	1.12	0.32	0.62	0.30	0.62	1.02	1.45	1.63	5.54	0.71	0.46	1.28

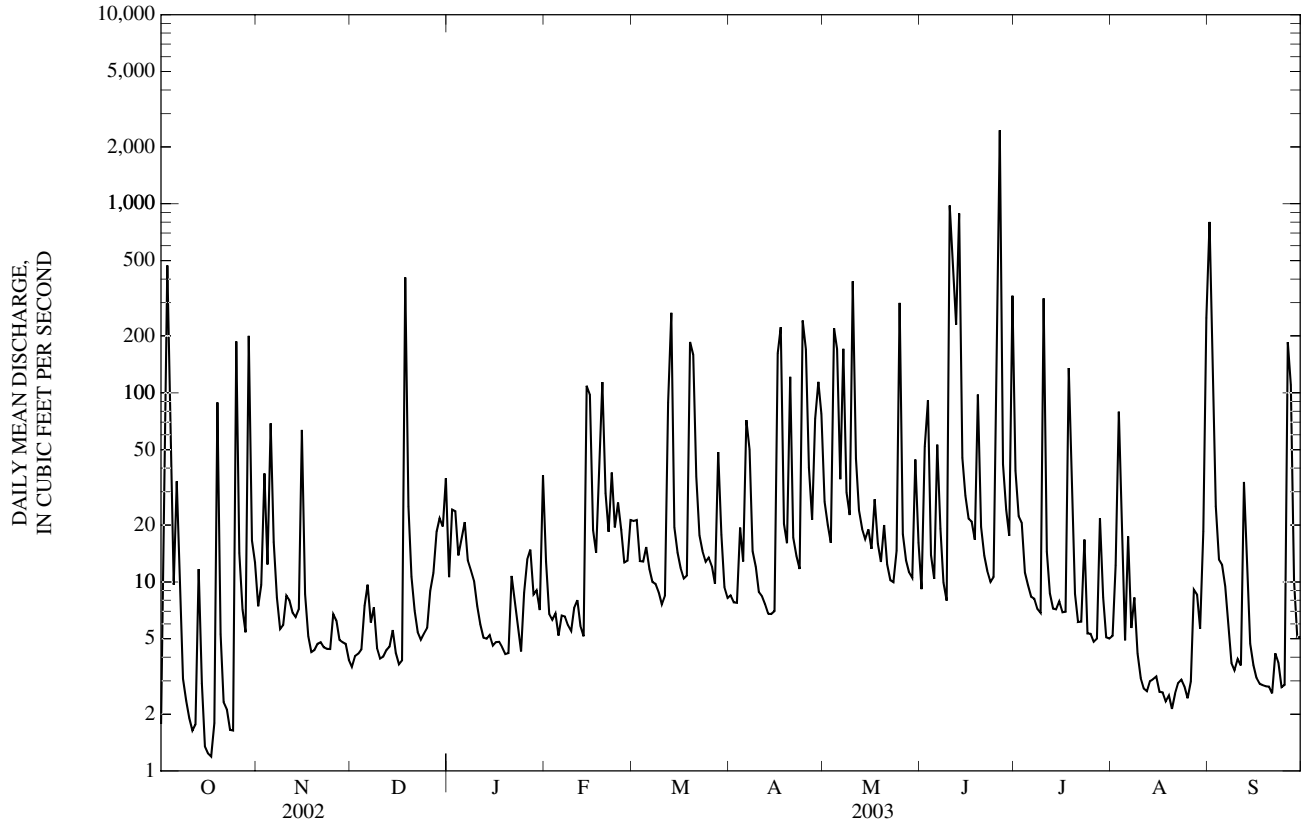
06936475 COLDWATER CREEK NEAR BLACK JACK, MO—Continued

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)												
MEAN	32.1	34.1	21.2	35.3	65.8	46.0	52.3	75.2	98.6	39.3	27.5	23.7
MAX	60.6	95.6	57.6	79.3	173	118	82.3	185	201	109	44.5	46.3
(WY)	(2002)	(1997)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(2003)	(1998)	(1998)	(2003)
MIN	14.8	7.37	8.59	8.25	18.6	14.9	17.3	27.0	23.2	10.6	16.1	6.60
(WY)	(2000)	(2000)	(1999)	(2000)	(2002)	(2000)	(2000)	(2001)	(1997)	(2002)	(2003)	(1999)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1996 - 2003	
ANNUAL MEAN	52.1		44.8		45.8	
HIGHEST ANNUAL MEAN					59.7	2002
LOWEST ANNUAL MEAN					30.3	2001
HIGHEST DAILY MEAN	1,470	Jun 12	2,450	Jun 26	2,450	Jun 26, 2003
LOWEST DAILY MEAN	1.2	Oct 16	1.2	Oct 16	1.2	Oct 16, 2002
ANNUAL SEVEN-DAY MINIMUM	1.8	Sep 4	2.5	Aug 16	1.8	Sep 4, 2002
MAXIMUM PEAK FLOW	---		7,670[b]	Jun 26	7,670[b]	Jun 26, 2003
MAXIMUM PEAK STAGE	---		12.59	Jun 26	12.59	Jun 26, 2003
INSTANTANEOUS LOW FLOW	---		0.82	Oct 18	0.75	Sep 29, 1997
ANNUAL RUNOFF (INCHES)	17.52		15.07		15.41	
10 PERCENT EXCEEDS	74		90		86	
50 PERCENT EXCEEDS	9.2		9.9		8.6	
90 PERCENT EXCEEDS	2.7		3.1		3.1	

e Estimated
[a] From rating extended above 1,250 ft^3/s, on basis of indirect measurement of peak flow.
[b] Discharge determined by indirect measurement of peak flow.



06936475 COLDWATER CREEK NEAR BLACK JACK, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1996 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
29...	0714	Environmental	641	3.8	7.6	71	7.7	423	11.4	130	35.0	11.0
29...	0715	Replicate	--	--	--	--	--	--	--	130	34.0	11.0
DEC												
16...	1530	Environmental	3.6	11	6.5	50	7.8	3,510	3.1	400	104	34.0
FEB												
03...	1645	Environmental	6.3	7.9	4.9	36	7.5	1,520	1.5	190	46.0	18.0
MAR												
19...	1247	Environmental	761	3.9	5.0	49	7.7	619	13.1	120	32.0	10.0
JUN												
09...	1200	Blank	--	--	--	--	--	--	--	--	0.03	<0.03
09...	1215	Environmental	7.9	7.2	5.9	70	7.5	520	22.6	160	41.0	13.0
AUG												
11...	1520	Environmental	2.7	3.7	8.4	109	7.8	596	27.5	200	52.0	16.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
29...	95	94	115	<1	--	409	1.4	0.01	0.800	0.02	0.180	0.54	16
29...	--	--	--	--	--	386	1.3	<0.01	0.790	0.02	0.180	0.53	15
DEC													
16...	376	440	537	<1	1,400	12	4.4	0.58	<0.020	<0.01	0.040	0.06	530
FEB													
03...	124	124	152	<1	550	20	2.1	0.59	0.530	0.10	0.030	0.14	50
MAR													
19...	104	108	131	<1	--	611	2.9	0.26	0.740	0.09	0.060	0.68	33
JUN													
09...	--	--	--	--	--	<1	<0.20	<0.01	<0.020	<0.01	<0.010	<0.02	<5
09...	112	111	135	<1	--	5	0.50	0.11	0.870	0.08	0.100	0.13	18
AUG													
11...	121	123	150	<1	--	9	0.70	0.03	0.510	0.03	0.060	0.10	20

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
29...	5,400	38,000	7,600	5	<1	<1	<1.0	<1.0	1.5	41	<1	107	<0.1
29...	--	--	--	4	<1	<1	<1.0	<1.0	1.6	44	<1	113	<0.1
DEC													
16...	2k	2k	2k	<3	2	<1	<1.0	5.2	3.3	93	<1	1,880	<0.1
FEB													
03...	140	320	300	<3	<1	<1	<1.0	1.8	3.0	47	<1	459	<0.1
MAR													
19...	5,800	10,500	10,100	4	2	<1	<1.0	1.8	1.8	39	<1	251	<0.1
JUN													
09...				<3	<1	<1	<1.0	<1.0	<1.0	<2	<1	<1	<0.1
09...	48	64	52	5	2	<1	<1.0	2.5	3.0	20	<1	102	<0.1
AUG													
11...	76	118	230	3	3	<1	<1.0	2.4	1.4	4	<1	254	<0.1

06936475 COLDWATER CREEK NEAR BLACK JACK, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
29...	1.8	4	<1.0	4	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
29...	1.7	3	<1.0	5	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
16...	4.8	1	<1.0	16	--	--	--	--	--	--	--	--	--
FEB													
03...	5.6	2	<1.0	20	--	--	--	--	--	--	--	--	--
MAR													
19...	2.8	1	<1.0	8	<7	<1	M	M	<2.0	E2	<3	<2	<2
JUN													
09...	<1.0	<1	<1.0	<2	--	--	--	--	--	--	--	--	--
09...	3.4	1	<1.0	10	--	--	--	--	--	--	--	--	--
AUG													
11...	3.2	2	<1.0	<2	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
29...	<2	<2	<1	<0.9	<2	<3	<2	<4	M	M	M	<0.01	<0.02
29...	<2	<2	<1	<0.9	<2	<3	<2	<4	M	M	M	<0.01	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<2	M	<1	<0.9	<2	<3	<2	E1	M	M	M	<0.01	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo[a]anthracene, water, unfltrd µg/L (34526)	Benzo[a]pyrene, water, unfltrd µg/L (34247)	Benzo[b]fluoranthene water unfltrd µg/L (34230)	Benzo[g,h,i]-perylene, water, unfltrd µg/L (34521)	Benzo[k]fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
29...	M	<1,000	M	M	E1	M	M	E4	<3	<2	<2	E6	<0.02
29...	M	<1,000	M	M	E1	M	M	<2	<3	<2	<2	<2	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	M	<1,000	M	E1	E2	E1	M	<2	<3	<2	<2	<4	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

06936475 COLDWATER CREEK NEAR BLACK JACK, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
29...	<0.1	<0.01	M	0.06	M	E.002	<2	<1	<2	<2	<0.10	<0.02	<0.01
29...	<0.1	<0.01	M	0.05	M	E.001	<2	M	<2	<2	<0.10	<0.02	<0.01
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<0.1	<0.01	E2	0.09	M	<0.017	M	M	M	<2	<0.10	<0.02	<0.01
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
29...	E1	<0.01	<0.009	<0.01	<2	<1	M	M	E.001	E.07	<0.01	<0.012	<1
29...	E1	<0.01	<0.009	<0.01	<2	<1	M	M	E.001	E.06	<0.01	<0.012	<1
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	4	<0.01	<0.009	<0.01	<2	<1	E1	M	<0.014	<0.10	<0.02	<0.012	<1
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
29...	<3	<2	<2	E.002	E.001	E.002	<0.020	<0.01	<0.1	M	M	<3.0	<0.02
29...	<3	<2	<2	E.002	E.001	<0.009	<0.020	<0.01	<0.1	M	M	<3.0	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<3	<2	M	<0.016	<0.014	<0.009	<0.020	<0.01	<0.1	M	E2	E.3	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

06936475 COLDWATER CREEK NEAR BLACK JACK, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tributphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
29...	E1	<1	<0.02	<2	<2	<2	<1	<1	<2	<2
29...	E1	<1	<0.02	<2	<2	<2	<1	<1	<2	M
DEC										
16...	--	--	--	--	--	--	--	--	--	--
FEB										
03...	--	--	--	--	--	--	--	--	--	--
MAR										
19...	3	<1	<0.02	<2	<2	<2	<1	<1	<2	M
JUN										
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
AUG										
11...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range

06936530 SPANISH LAKE TRIBUTARY NEAR BLACK JACK, MO

LOCATION.--Lat 38°48'04", long 90°12'59", in SE ¼ SE ¼ NW ¼ sec.22, T.47 N., R.7 E., St. Louis County, Hydrologic Unit 10300200, on left downstream wingwall of Bellefontaine Ave. bridge, 2.14 mi north of Interstate 270, 0.65 mi east of Highway 367 (Lewis and Clark Blvd.), and 1.9 mi upstream of the Missouri River.

DRAINAGE AREA.--0.25 mi^2.

PERIOD OF RECORD.--August 1997 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 502.33 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	e0.14	0.00	0.19	e0.28	e0.37	e0.25	0.17	0.08	0.05	0.00	15
2	0.88	e0.11	0.00	e0.29	e0.16	e0.29	e0.14	0.18	1.1	0.04	0.58	1.7
3	2.4	e0.36	0.00	e0.23	e0.11	e0.16	e0.11	0.15	0.58	0.02	0.12	0.18
4	0.89	e0.25	0.00	e0.18	e0.05	e0.18	e1.1	e2.4	0.18	0.01	0.01	0.07
5	0.18	e0.74	0.03	e0.27	e0.08	e0.25	e0.22	e3.6	0.10	0.01	0.01	0.04
6	0.41	e0.23	0.06	e0.50	e0.16	e0.21	e1.4	e0.72	0.46	0.00	0.02	0.02
7	0.15	e0.09	0.02	e0.32	e0.14	e0.17	e0.72	e1.6	0.16	0.00	0.01	0.01
8	0.10	e0.10	0.03	e0.23	e0.06	0.14	e0.38	e0.55	0.09	0.00	0.00	0.01
9	0.05	e0.21	0.02	0.18	e0.04	0.12	e0.22	e0.26	0.05	0.00	0.00	0.01
10	0.00	e0.09	0.01	0.12	e0.09	0.11	0.12	e7.2	12	1.1	0.00	0.01
11	0.00	0.01	0.01	0.10	e0.08	e0.20	0.11	e1.6	5.4	0.02	0.00	0.00
12	0.00	0.00	0.02	e0.07	0.06	e0.58	0.09	e0.58	4.0	0.00	0.00	0.21
13	0.04	0.00	e0.04	e0.14	0.05	e1.4	0.07	e0.31	3.3	0.00	0.00	0.04
14	0.00	0.03	e0.09	e0.03	e0.37	e0.58	0.07	e0.21	0.27	0.00	0.00	0.01
15	0.00	e0.34	e0.03	e0.02	e1.4	0.39	0.06	e0.14	0.16	0.00	0.00	0.01
16	0.00	0.12	0.01	e0.06	e0.43	0.30	e0.12	e0.04	0.11	0.00	0.00	0.00
17	0.00	0.04	0.01	e0.02	e0.19	0.23	e3.3	e0.58	0.09	0.00	0.00	0.00
18	0.08	0.02	e5.7	e0.00	e0.54	0.19	e0.43	e0.28	0.07	1.7	0.00	0.00
19	0.56	0.02	e0.77	e0.03	e1.9	2.6	e0.17	e0.12	0.15	0.12	0.00	0.00
20	0.08	0.01	0.20	e0.10	e0.70	1.1	e1.1	e0.25	0.06	0.04	0.00	0.00
21	0.03	0.01	0.15	e0.04	e0.41	0.45	0.21	e0.10	0.04	0.01	0.00	0.00
22	0.01	e0.00	0.11	e0.01	e0.76	0.30	0.18	e0.04	0.03	0.01	0.00	0.00
23	0.00	e0.00	0.09	e0.00	e0.31	0.25	0.13	e0.08	0.01	0.02	0.00	0.00
24	0.05	e0.00	0.09	e0.01	e0.48	0.22	e2.1	e0.14	0.02	0.01	0.00	0.00
25	e1.2	0.03	0.10	e0.02	e0.32	0.21	e2.8	e3.6	2.4	0.01	0.00	0.00
26	0.24	0.02	0.10	e0.08	e0.22	0.17	e0.48	e0.38	14	0.00	0.00	0.95
27	0.12	0.01	0.14	e0.06	e0.29	0.16	e0.16	e0.18	0.20	0.00	0.00	0.17
28	0.16	0.01	0.19	e0.11	e0.35	e0.69	e0.58	e0.13	0.11	0.13	0.00	0.01
29	e1.4	0.02	0.21	e0.08	---	e0.32	e0.26	e0.11	0.06	0.01	0.00	0.01
30	e0.38	0.01	0.22	e0.06	---	e0.19	0.16	e0.73	0.06	0.00	0.00	0.02
31	e0.20	---	0.27	e0.51	---	e0.19	---	0.12	---	0.00	1.4	---
MEAN	0.31	0.10	0.28	0.13	0.36	0.41	0.57	0.86	1.51	0.11	0.069	0.62
MAX	2.4	0.74	5.7	0.51	1.9	2.6	3.3	7.2	14	1.7	1.4	15
MIN	0.00	0.00	0.00	0.00	0.04	0.11	0.06	0.04	0.01	0.00	0.00	0.00
IN.	1.43	0.45	1.30	0.60	1.49	1.89	2.57	3.95	6.75	0.49	0.32	2.75

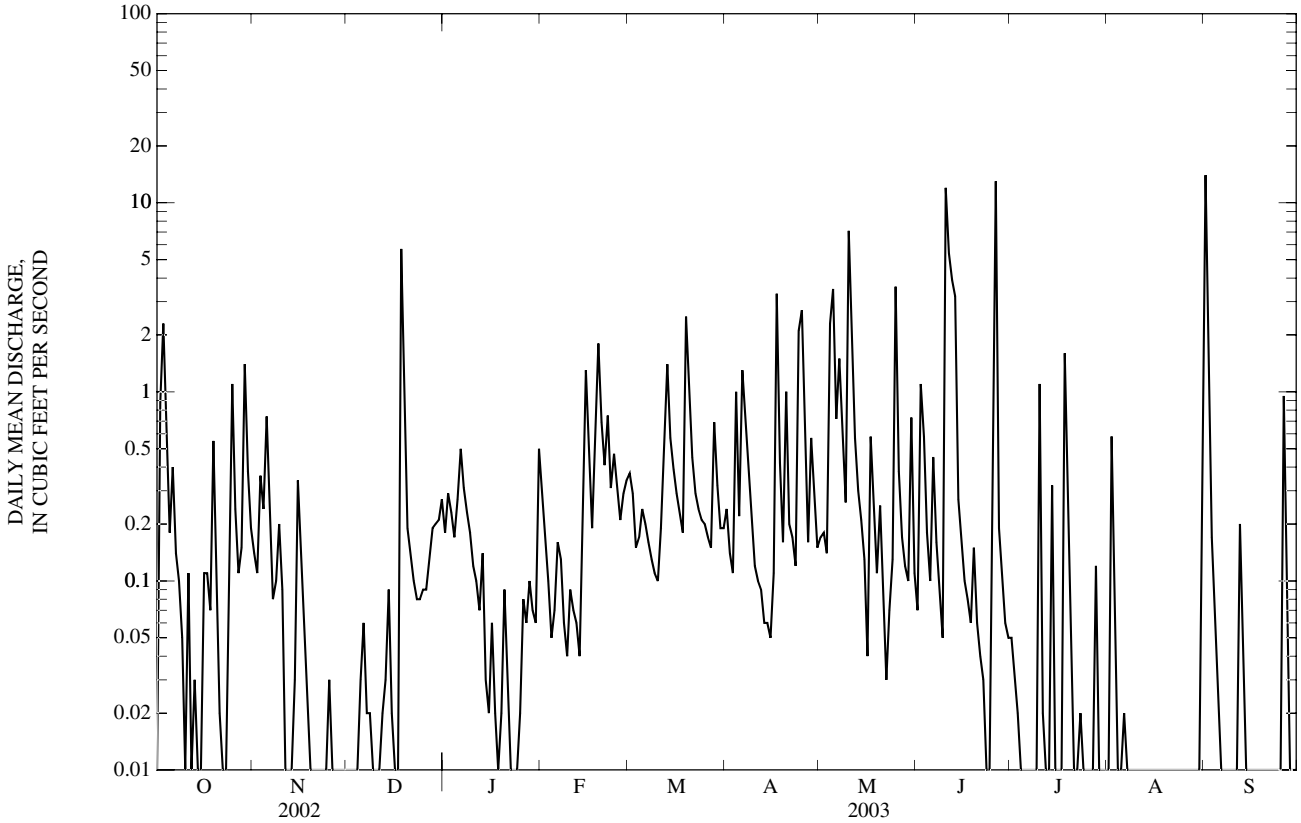
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	0.23	0.23	0.28	0.39	0.58	0.56	0.49	0.78	0.67	0.51	0.16	0.17
MAX	0.45	0.43	0.70	0.80	1.81	1.28	0.74	2.01	1.51	1.25	0.26	0.62
(WY)	(2001)	(1999)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(2003)	(1998)	(1998)	(2003)
MIN	0.06	0.02	0.13	0.13	0.18	0.23	0.12	0.14	0.18	0.00	0.07	0.00
(WY)	(2000)	(2000)	(1999)	(2003)	(2002)	(2001)	(2000)	(2001)	(2001)	(2002)	(2003)	(1999)

06936530 SPANISH LAKE TRIBUTARY NEAR BLACK JACK, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	0.42		0.44		0.42	
HIGHEST ANNUAL MEAN					0.54	1998
LOWEST ANNUAL MEAN					0.28	2001
HIGHEST DAILY MEAN	15	May 12	15	Sep 1	31	Jul 30, 1998
LOWEST DAILY MEAN	0.00	Jun 24	0.00	Many Days	0.00	Each Year
ANNUAL SEVEN-DAY MINIMUM	0.00	At TImes	0.00	Aug 8,Sep 16	0.00	At TImes
MAXIMUM PEAK FLOW	---		180	Jun 10	Unknown	Jul 30, 1998
MAXIMUM PEAK STAGE	---		3.83	Jun 10	5.39	Jul 30, 1998
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Each Year
ANNUAL RUNOFF (INCHES)	22.72		23.99		22.93	
10 PERCENT EXCEEDS	0.92		0.81		0.86	
50 PERCENT EXCEEDS	0.10		0.10		0.09	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated



07001985 WATKINS CREEK AT BELLEFONTAINE NEIGHBORS, MO

LOCATION.--Lat 38°45'44", long 90°11'48", St. Louis County, Hydrologic Unit 07140101, on left downstream wingwall of Fry Lane bridge, 0.34 mi south of Interstate 270, 2.34 mi east of Highway 367 (Lewis and Clark Blvd.), and 1.76 mi upstream of Mississippi River.

DRAINAGE AREA.--5.19 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1997 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 431.94 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair except for estimated daily discharges and discharges below 1 ft^3/s and above 800 ft^3/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.15	0.55	0.48	1.0	1.3	3.1	1.2	2.6	1.0	1.4	0.41	99
2	7.6	0.50	0.57	3.4	e1.2	2.6	1.00	1.9	11	1.2	3.2	30
3	35	3.3	0.65	2.4	e1.4	1.6	1.0	1.5	7.7	1.2	2.5	1.9
4	7.9	1.1	0.82	1.2	0.98	1.7	1.3	26	2.0	1.1	1.6	2.3
5	0.85	7.5	1.3	1.8	0.47	1.9	1.1	23	1.3	1.0	0.41	0.77
6	3.1	1.4	1.2	2.0	0.72	1.3	7.8	14	5.8	0.94	0.28	0.66
7	0.70	0.66	0.58	1.3	e0.80	1.1	5.3	16	2.0	0.91	0.39	0.60
8	0.32	0.58	0.69	4.3	e0.45	1.0	1.5	7.3	0.97	0.88	0.51	0.38
9	0.26	0.49	0.38	0.98	0.50	0.95	1.0	4.2	0.60	0.91	0.32	0.35
10	0.22	0.45	0.36	0.65	0.75	0.82	0.83	73	e149	16	0.24	0.35
11	0.21	0.47	0.35	0.57	0.62	2.8	0.81	7.1	43	1.1	0.21	0.33
12	0.29	0.46	0.50	0.48	0.54	8.2	0.75	3.9	47	0.75	0.24	3.8
13	0.78	0.54	0.48	0.56	0.49	22	0.71	2.9	23	0.66	0.23	0.98
14	0.38	1.7	0.53	0.56	15	3.0	0.68	2.5	4.6	0.63	0.24	0.56
15	0.27	5.4	0.35	0.45	16	2.1	0.58	2.3	3.0	0.62	0.24	0.49
16	0.23	2.1	0.31	0.56	e2.6	1.7	20	2.0	2.1	1.5	0.24	0.37
17	0.22	0.56	0.33	0.47	e2.0	1.5	27	2.9	1.7	0.52	0.22	0.38
18	1.9	0.48	32	0.43	6.0	1.4	2.3	2.3	1.3	24	0.22	0.38
19	6.6	0.49	2.4	1.1	21	26	1.6	1.8	4.6	1.9	0.21	0.43
20	0.49	0.47	0.88	1.8	4.8	12	24	1.8	1.3	1.0	0.20	0.43
21	0.27	0.53	0.62	e0.47	2.8	5.0	2.4	1.0	0.83	0.72	0.23	0.45
22	0.26	0.53	0.57	e0.47	6.3	2.6	1.7	0.77	0.71	0.73	0.22	0.51
23	0.21	0.57	0.49	e0.51	2.3	2.1	1.2	0.72	0.59	0.94	0.23	0.54
24	0.20	0.57	0.64	e0.42	3.9	1.7	27	1.2	0.66	0.53	0.25	0.60
25	16	0.89	0.91	e1.3	e2.4	1.5	37	39	37	0.46	0.22	0.83
26	1.3	0.65	0.97	e0.64	e1.6	1.3	6.8	2.7	178	0.38	0.59	17
27	0.71	0.54	1.1	e0.65	e1.8	1.0	3.5	2.2	3.4	0.35	0.34	3.3
28	0.36	0.47	1.8	e0.58	2.5	7.4	8.5	1.1	2.3	2.1	0.19	0.60
29	18	0.45	1.7	0.57	---	2.1	4.9	0.87	1.7	0.68	0.26	0.39
30	1.1	0.52	3.5	0.50	---	1.3	3.8	4.5	1.5	0.42	1.0	0.99
31	1.6	---	5.7	3.0	---	1.2	---	3.0	---	0.36	17	---
MEAN	3.47	1.16	2.04	1.13	3.62	4.00	6.58	8.26	18.0	2.13	1.05	5.66
MAX	35	7.5	32	4.3	21	26	37	73	178	24	17	99
MIN	0.15	0.45	0.31	0.42	0.45	0.82	0.58	0.72	0.59	0.35	0.19	0.33
IN.	0.77	0.25	0.45	0.25	0.73	0.89	1.41	1.84	3.87	0.47	0.23	1.22

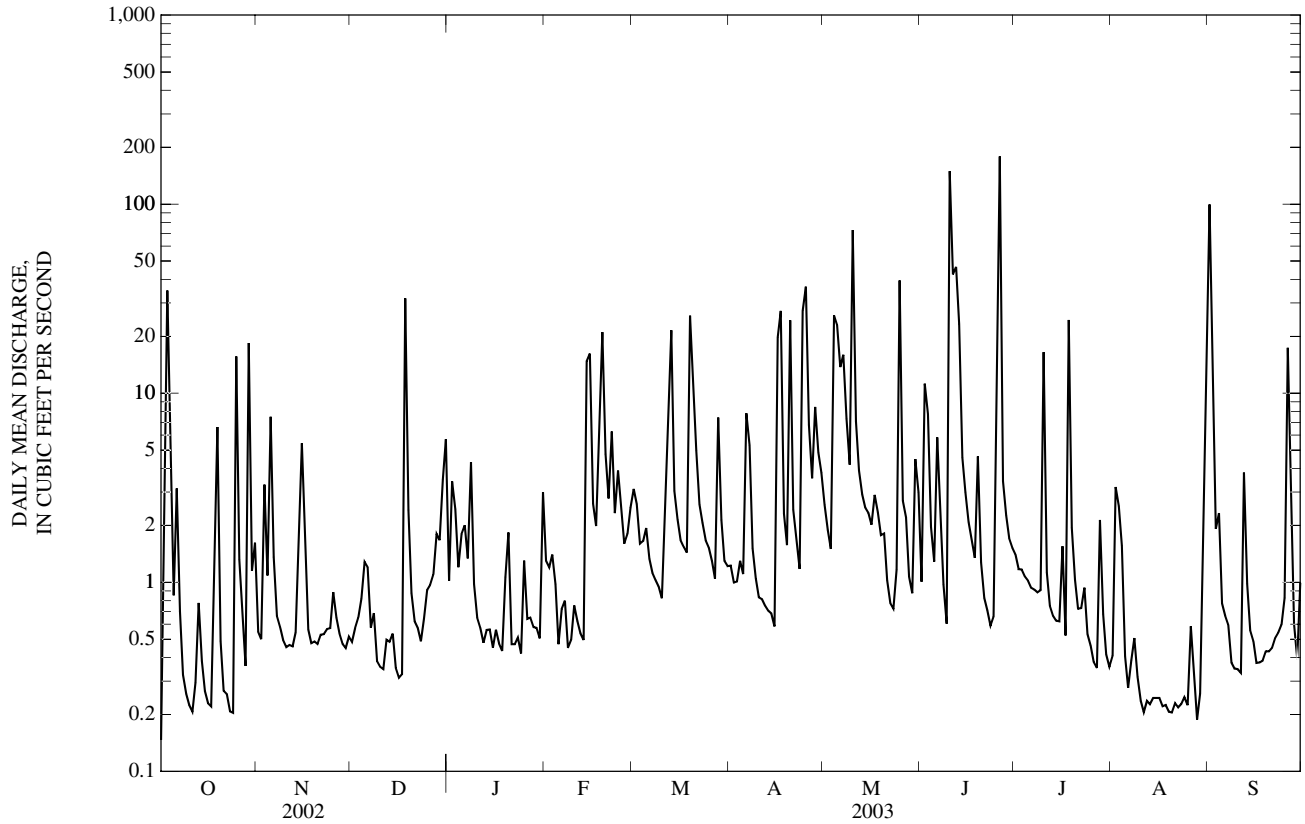
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	3.27	2.60	2.76	4.78	6.57	6.76	6.41	9.75	8.71	6.10	3.36	2.34
MAX	5.38	4.36	8.45	13.2	17.1	18.5	11.3	22.2	18.0	18.5	10.9	5.66
(WY)	(2001)	(1999)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(2003)	(1998)	(1998)	(2003)
MIN	0.50	0.95	1.22	0.90	3.62	1.71	1.23	3.27	1.66	0.32	1.05	0.56
(WY)	(1998)	(2000)	(2001)	(2000)	(2003)	(2000)	(2000)	(2001)	(1997)	(1997)	(2001)	(1999)

07001985 WATKINS CREEK AT BELLEFONTAINE NEIGHBORS, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	5.52		4.73		5.49	
HIGHEST ANNUAL MEAN					8.19	1998
LOWEST ANNUAL MEAN					2.89	2001
HIGHEST DAILY MEAN	177	May 12	178	Jun 26	381	Jul 30, 1998
LOWEST DAILY MEAN	0.13	Sep 12	0.15	Oct 1	0.05	Oct 5-7, 1997
ANNUAL SEVEN-DAY MINIMUM	0.16	Sep 10	0.22	Aug 17	0.06	Oct 1, 1997
MAXIMUM PEAK FLOW	---		Unknown	Jun 10	Unknown	Jul 30, 1998
MAXIMUM PEAK STAGE	---		9.64	Jun 10	13.10	Jul 30, 1998
INSTANTANEOUS LOW FLOW	---		0.11	Oct 1	0.05[a]	Oct 5-7, 1997
ANNUAL RUNOFF (INCHES)	14.45		12.38		14.37	
10 PERCENT EXCEEDS	9.9		8.0		9.5	
50 PERCENT EXCEEDS	1.3		1.0		1.0	
90 PERCENT EXCEEDS	0.26		0.34		0.24	

e Estimated
[a] Minimum daily, instantaneous unknown.



07001985 WATKINS CREEK AT BELLEFONTAINE NEIGHBORS, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
29...	0616	Environmental	54	3.0	8.8	83	7.5	231	11.3	75	21.0	5.50
DEC												
17...	0815	Environmental	0.32	5.9	11.3	86	7.8	2,940	2.6	460	123	38.0
FEB												
04...	0915	Environmental	1.2	4.9	10.8	76	7.7	2,110	0.4	320	85.0	25.0
MAR												
28...	1433	Environmental	34	3.6	10.3	94	7.9	1,000	10.3	270	67.0	24.0
JUN												
09...	1320	Environmental	0.62	9.1	5.6	64	7.6	862	20.6	280	73.0	23.0
AUG												
12...	0840	Environmental	0.25	12	4.0	47	7.4	740	22.7	270	71.0	22.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
29...	55	53	65	<1	--	131	0.80	<0.01	0.390	0.02	0.240	0.39	15
DEC													
17...	184	187	228	<1	760	4	4.2	2.50	0.520	0.04	0.100	0.14	22
FEB													
04...	138	139	169	<1	580	16	1.6	0.99	0.660	0.07	0.100	0.13	<5
MAR													
28...	155	157	192	<1	--	131	1.0	0.11	0.310	0.02	0.100	0.22	17
JUN													
09...	171	171	209	<1	--	14	0.60	0.14	0.590	0.06	0.140	0.18	15
AUG													
12...	164	164	200	<1	--	23	0.60	0.09	0.200	0.01	0.130	0.19	13

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
29...	45,000	48,000	14,200	4	<1	<1	<1.0	<1.0	1.5	42	<1	103	<0.1
DEC													
17...	20k	400	188	<3	1	<1	<1.0	4.4	2.5	41	<1	1,230	<0.1
FEB													
04...	900	1720k	460	<3	<1	<1	<1.0	1.8	3.8	18	<1	872	<0.1
MAR													
28...	19,000	14,500	4,600	<3	2	<1	<1.0	2.5	2.9	15	<1	328	<0.1
JUN													
09...	280k	700	168	<3	3	<1	<1.0	3.4	1.8	9	<1	402	<0.1
AUG													
12...	120	420	880	<3	3	<1	<1.0	2.8	<1.0	4	<1	560	<0.1

07001985 WATKINS CREEK AT BELLEFONTAINE NEIGHBORS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
29...	1.0	2	<1.0	7	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
17...	5.6	<1	<1.0	5	--	--	--	--	--	--	--	--	--
FEB													
04...	4.6	<1	<1.0	17	--	--	--	--	--	--	--	--	--
MAR													
28...	4.7	1	<1.0	8	<7	<1	<3	M	<2.0	<3	<3	<2	<2
JUN													
09...	4.6	<1	<1.0	3	--	--	--	--	--	--	--	--	--
AUG													
12...	3.7	<1	<1.0	<2	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
29...	<2	<2	M	<0.9	<2	<3	<2	<4	M	M	M	<0.01	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	<2	<2	<1	<0.9	<2	<3	<2	E2	M	M	<2	<0.002	<0.002
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo-[a]-anthracene, water, unfltrd µg/L (34526)	Benzo-[a]-pyrene, water, unfltrd µg/L (34247)	Benzo-[b]-fluoranthene water unfltrd µg/L (34230)	Benzo-[g,h,i]-perylene, water, unfltrd µg/L (34521)	Benzo-[k]-fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
29...	M	<1,000	M	M	M	M	M	<2	<3	<2	<2	<2	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	M	<1,000	M	M	M	M	M	<2	<3	<2	<2	E2	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07001985 WATKINS CREEK AT BELLEFONTAINE NEIGHBORS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
29...	<0.1	<0.01	M	0.03	M	E.002	M	M	<2	<2	<0.10	<0.02	<0.01
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	<0.1	<0.01	M	E.01	<1	E.001	M	M	<2	E3	<0.10	<0.002	<0.01
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
29...	M	<0.01	E.001	<0.01	<2	<1	M	M	<0.014	<0.10	<0.01	<0.012	<1
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	M	<0.01	<0.003	<0.002	<2	<1	M	M	<0.002	<0.10	<0.01	<0.002	<1
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
29...	<3	<2	<2	E.002	E.001	<0.009	<0.020	<0.01	<0.1	M	M	<3.0	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	<3	<2	<2	<0.002	<0.002	<0.002	<0.003	<0.01	<0.1	M	M	E.3	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07001985 WATKINS CREEK AT BELLEFONTAINE NEIGHBORS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tributphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
29...	M	<1	<0.02	<2	<2	<2	<1	<1	<2	M
DEC										
17...	--	--	--	--	--	--	--	--	--	--
FEB										
04...	--	--	--	--	--	--	--	--	--	--
MAR										
28...	M	<1	<0.02	<2	<2	M	M	<1	<2	<2
JUN										
09...	--	--	--	--	--	--	--	--	--	--
AUG										
12...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range

07005000 MALINE CREEK AT BELLEFONTAINE NEIGHBORS, MO

LOCATION.--Lat 38°44'12", long 90°13'35", in SE ¼ NE ¼ NE ¼ sec.9, T.46 N., R.7 E., St. Louis County, Hydrologic Unit 07140101, on left downstream wingwall of Bellefontaine Road bridge, 2.32 mi south of Interstate 270, 0.80 mi east of Highway 367 (Lewis and Clark Blvd.), and 1.03 mi upstream of Mississippi River.

DRAINAGE AREA.--24.4 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1996 to current year. Annual peaks only for 1968-1974 water years published in WRD MO 1974.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 409.96 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair except for estimated daily discharges, which are poor.

REVISIONS.--Revised maximum discharges for water years 2001-2002 and revised daily discharges for high-water periods in these years, are given below. They supersede figures published in the reports of 2001-2002.

Water Year	Date	Maximum Discharge (ft^3/s)	Gage height (ft)
2001	Sept. 9, 2001	1,380[a]	6.79

Water Year	Date	Daily Mean Discharge	Date	Discharge	Monthly Mean Discharge	
2001	Sept. 9, 2001	120			September - 7.13	
2002	Oct. 10, 2001	132	Jan. 30, 2002	145	October - 17.8	January - 15.3
	Oct. 11, 2001	177	Jan. 31, 2002	226	November - 13.9	August - 11.9
	Nov. 24, 2001	238	Aug. 6, 2002	256		

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	11	4.5	7.4	10	15	3.8	15	3.5	9.8	4.0	331
2	12	6.5	5.5	18	9.0	14	3.1	9.5	35	5.3	11	122
3	141	26	5.3	16	9.6	8.1	2.9	7.6	36	6.0	22	12
4	33	11	5.9	8.7	9.3	9.2	4.1	80	11	3.6	19	5.1
5	9.1	37	10	10	4.9	11	4.4	59	7.2	3.2	2.8	4.2
6	17	13	7.6	12	6.2	7.8	28	23	25	3.3	6.9	2.7
7	7.9	5.9	4.6	7.1	5.8	7.1	20	51	11	4.0	3.0	1.8
8	3.5	6.2	7.0	6.1	2.1	5.8	5.7	16	9.5	3.7	5.9	4.7
9	2.4	e5.1	5.2	5.5	2.1	3.7	4.3	11	5.4	3.5	1.6	2.2
10	2.1	e4.7	2.3	3.0	3.1	3.4	3.1	157	491	72	1.1	2.5
11	1.7	e5.8	1.9	2.2	3.1	11	2.9	23	144	7.9	1.3	2.0
12	2.4	e6.8	3.7	1.7	3.7	44	2.8	17	72	4.7	1.1	20
13	12	e5.2	3.9	2.0	1.8	81	2.7	9.2	83	4.1	1.1	5.6
14	3.2	e7.8	5.9	2.2	46	17	2.8	12	20	4.2	1.1	2.1
15	1.8	29	3.4	1.7	44	7.4	3.2	8.9	15	4.8	1.3	1.8
16	1.4	5.7	2.8	1.8	9.7	5.7	87	5.5	11	5.0	1.3	1.4
17	1.4	2.9	3.0	1.9	6.3	5.6	63	9.2	8.6	4.0	0.98	1.1
18	7.9	2.1	125	1.8	18	5.2	12	6.5	9.1	63	1.7	0.97
19	42	2.8	24	2.5	62	66	8.7	7.1	32	13	1.7	1.4
20	5.8	3.1	9.7	4.6	16	51	82	8.6	7.9	7.5	0.99	1.2
21	2.8	2.0	6.1	6.9	9.4	18	13	5.3	5.5	6.4	2.2	1.0
22	3.3	1.7	5.3	4.3	26	9.7	10	4.1	6.0	3.9	0.92	1.4
23	2.0	1.7	4.7	2.6	9.8	7.3	12	3.5	4.3	7.0	0.57	1.6
24	1.2	1.8	5.4	1.5	15	6.8	86	4.8	4.7	3.2	0.64	1.2
25	56	4.0	8.9	7.4	9.1	6.7	82	70	83	2.7	1.2	1.8
26	11	3.0	9.4	11	5.0	5.5	24	5.8	796	1.9	0.86	94
27	8.7	2.6	12	17	5.8	4.2	11	4.8	15	1.9	0.59	27
28	10	3.5	15	18	12	26	34	4.2	9.9	6.9	1.7	5.0
29	74	4.2	15	15	---	10	38	4.0	6.3	5.7	0.84	2.4
30	15	4.1	15	14	---	4.0	24	18	42	2.5	6.2	3.8
31	12	---	25	25	---	3.3	---	6.3	---	2.1	61	---
MEAN	16.3	7.54	11.7	7.71	13.0	15.5	22.7	21.5	67.0	8.93	5.37	22.2
MAX	141	37	125	25	62	81	87	157	796	72	61	331
MIN	1.2	1.7	1.9	1.5	1.8	3.3	2.7	3.5	3.5	1.9	0.57	0.97
IN.	0.77	0.34	0.55	0.36	0.56	0.73	1.04	1.02	3.06	0.42	0.25	1.01

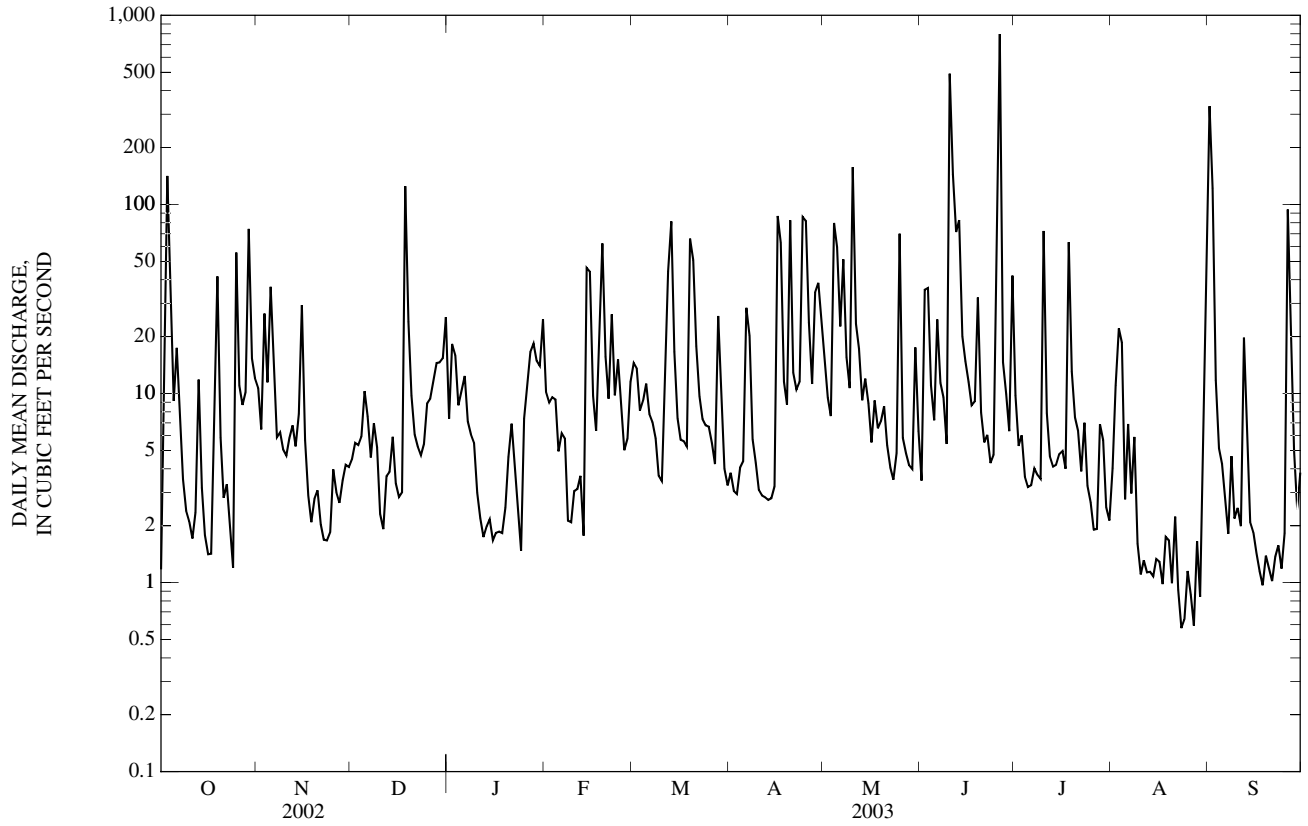
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)

MEAN	11.0	16.7	9.62	17.6	25.1	23.1	18.2	23.6	33.1	15.2	13.7	10.1
MAX	16.3	51.7	17.2	45.3	55.5	69.3	31.0	55.6	67.0	42.7	32.9	22.2
(WY)	(2003)	(1997)	(2000)	(1999)	(1999)	(1998)	(1998)	(2002)	(2003)	(1998)	(1998)	(2003)
MIN	6.56	7.54	2.89	7.54	7.18	7.12	7.57	7.73	6.96	1.16	4.14	3.12
(WY)	(2000)	(2003)	(2001)	(2001)	(2002)	(2000)	(2000)	(2001)	(2001)	(1997)	(2001)	(1999)

07005000 MALINE CREEK AT BELLEFONTAINE NEIGHBORS, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1996 - 2003	
ANNUAL MEAN	15.7		18.2		17.9	
HIGHEST ANNUAL MEAN					27.7	1998
LOWEST ANNUAL MEAN					7.08	2001
HIGHEST DAILY MEAN	450	May 12	796	Jun 26	1,050	Feb 7, 1999
LOWEST DAILY MEAN	0.43	Aug 3	0.57	Aug 23	0.06	Aug 15, 2001
ANNUAL SEVEN-DAY MINIMUM	0.64	Aug 27	0.91	Aug 23	0.13	Aug 31, 2001
MAXIMUM PEAK FLOW	---		5,960[b]	Jun 26	5,960[b]	Jun 26, 2003
MAXIMUM PEAK STAGE	---		12.22	Jun 26	16.26	Jul 28, 1996
INSTANTANEOUS LOW FLOW	---		0.26	Aug 23	0.05	Aug 15, 2001
ANNUAL RUNOFF (INCHES)	8.76		10.13		9.97	
10 PERCENT EXCEEDS	30		37		34	
50 PERCENT EXCEEDS	4.7		5.9		4.3	
90 PERCENT EXCEEDS	1.1		1.7		0.79	

e Estimated
[a] From rating extended above 1,270 ft^3/s on basis of indirect measurement of peak flow.
[b] Discharge determined by indirect measurement of peak flow.



07005000 MALINE CREEK AT BELLEFONTAINE NEIGHBORS, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1996 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
29...	0516	Environmental	180	2.7	8.6	80	7.7	454	11.4	120	32.0	9.00
DEC												
17...	0935	Environmental	3.2	5.6	7.0	57	7.8	3,710	5.2	400	109	32.0
FEB												
04...	1015	Environmental	9.0	4.9	11.0	78	7.7	1,810	0.3	220	55.0	19.0
APR												
16...	2109	Environmental	416	4.0	8.3	90	7.7	548	17.4	170	42.0	15.0
JUN												
09...	1425	Environmental	6.0	4.4	10.5	130	7.7	788	24.9	220	60.0	16.0
AUG												
12...	0940	Environmental	0.84	3.3	5.8	71	7.8	670	24.8	200	55.0	15.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
29...	72	72	87	<1	--	305	1.1	<0.01	0.440	0.02	0.200	0.48	13
DEC													
17...	170	171	208	<1	910	7	2.5	1.50	0.140	0.01	0.130	0.30	34
FEB													
04...	114	114	139	<1	470	22	0.90	0.07	0.630	0.06	0.020	0.11	20
APR													
16...	105	102	125	<1	--	2,300	5.3	0.18	0.060	<0.01	0.050	1.60	39
JUN													
09...	126	125	153	<1	--	11	0.50	0.03	0.560	0.04	0.090	0.15	22
AUG													
12...	120	120	147	<1	--	29	0.60	0.06	0.030	<0.01	0.050	0.10	19

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
29...	16,000	12,800	14,700	4	1	<1	<1.0	<1.0	1.4	20	<1	95	<0.1
DEC													
17...	1,600k	1,200k	2,000k	3	1	<1	<1.0	4.4	3.3	144	<1	531	<0.1
FEB													
04...	140k	310	650	<3	9	<1	<1.0	1.9	3.9	10	<1	622	<0.1
APR													
16...	12,000	14,500	21,000	<3	2	<1	<1.0	2.8	2.8	21	<1	452	0.1
JUN													
09...	640	1,300	1,250	<3	3	<1	<1.0	2.7	2.5	4	<1	134	<0.1
AUG													
12...	480	1,400	670	3	4	<1	<1.0	2.8	1.8	3	<1	247	<0.1

07005000 MALINE CREEK AT BELLEFONTAINE NEIGHBORS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
29...	1.5	<1	<1.0	4	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
17...	4.9	1	<1.0	5	--	--	--	--	--	--	--	--	--
FEB													
04...	3.5	2	<1.0	9	--	--	--	--	--	--	--	--	--
APR													
16...	4.2	<1	<1.0	13	E4n	<1	<3	M	<2.0	<3	<3	<2	<2
JUN													
09...	4.1	1	<1.0	5	--	--	--	--	--	--	--	--	--
AUG													
12...	3.3	1	<1.0	<2	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
29...	<2	<2	M	<0.9	<2	<3	<2	<4	M	M	M	<0.01	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
16...	<2	<2	<1	<0.9	<2	<3	<2	E1	M	M	M	<0.002	<0.002
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo-[a]-anthracene, water, unfltrd µg/L (34526)	Benzo-[a]-pyrene, water, unfltrd µg/L (34247)	Benzo-[b]-fluoranthene water unfltrd µg/L (34230)	Benzo-[g,h,i]-perylene, water, unfltrd µg/L (34521)	Benzo-[k]-fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
29...	M	<1,000	M	M	M	M	M	<2	<3	<2	<2	<2	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
16...	M	<1,000	M	E1	E2	E1	M	<2	<3	<2	<2	E1	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07005000 MALINE CREEK AT BELLEFONTAINE NEIGHBORS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
29...	<0.1	E.65	M	0.04	M	E.003	<2	<1	<2	<2	<0.10	<0.02	<0.01
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
16...	M	<0.01	E2	0.05	M	0.003	<2	M	M	<2	<0.10	<0.002	<0.01
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
29...	M	<0.01	E.001	<0.01	<2	<1	M	M	<0.014	<0.10	<0.01	<0.012	<1
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
16...	E3	<0.01	<0.003	<0.002	<2	<1	E1	M	<0.002	E.02	<0.01	<0.002	<1
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
29...	<3	<2	<2	<0.016	E.001	E.001	<0.020	<0.01	<0.1	M	M	<3.0	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
16...	<3	<2	<2	<0.002	<0.002	<0.002	E.002	<0.01	<0.1	M	E2	E.3	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07005000 MALINE CREEK AT BELLEFONTAINE NEIGHBORS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tributphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
29...	M	<1	<0.02	<2	<2	<2	<1	<1	<2	M
DEC										
17...	--	--	--	--	--	--	--	--	--	--
FEB										
04...	--	--	--	--	--	--	--	--	--	--
APR										
16...	E3	<1	<0.02	<2	<2	<2	<1	<1	<2	M
JUN										
09...	--	--	--	--	--	--	--	--	--	--
AUG										
12...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

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 HEIGHT: March 1933 to current year. Since January 1861 in reports of Mississippi River Commission. Since January 1890 in reports of the National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area, WDR MO-98-1: Extreme outside period of record.

GAGE.--Water-stage recorder. Datum of gage is 379.94 ft above National Geodetic Vertical Datum of 1929. Prior to May 5, 1934, nonrecording gage 0.4 mi downstream; May 5, 1934, to Dec. 9, 1952, water-stage recorder at site 20 ft downstream at present datum.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are fair. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River Basin and by many reservoirs and diversions for irrigation in Missouri River Basin. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 27, 1844, reached a stage of 41.32 ft, from floodmarks, discharge, 1,000,000 ft^3/s, computed by U.S. Army Corps of Engineers. Flood in April 1785 may have reached a stage of 42.0 ft. Minimum flow, 18,000 ft^3/s, Dec. 23, 1863.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97,700	130,000	92,400	84,100	60,800	75,800	119,000	224,000	255,000	159,000	134,000	88,700
2	98,000	123,000	93,900	85,300	61,900	77,600	112,000	227,000	242,000	159,000	129,000	126,000
3	109,000	120,000	89,900	83,000	64,600	78,700	111,000	232,000	230,000	169,000	123,000	102,000
4	108,000	122,000	89,500	77,900	65,200	78,600	108,000	241,000	214,000	177,000	115,000	118,000
5	126,000	119,000	83,400	77,100	63,600	77,300	112,000	270,000	202,000	176,000	111,000	121,000
6	124,000	126,000	71,400	77,700	60,700	75,900	117,000	307,000	191,000	174,000	114,000	101,000
7	129,000	120,000	71,800	75,700	65,900	76,500	124,000	311,000	190,000	173,000	107,000	86,300
8	130,000	121,000	73,400	75,100	64,200	78,300	121,000	321,000	187,000	172,000	107,000	78,500
9	131,000	118,000	73,400	74,700	66,600	78,500	126,000	329,000	169,000	178,000	102,000	72,800
10	126,000	107,000	75,500	76,100	66,100	73,400	126,000	338,000	161,000	210,000	97,900	67,600
11	133,000	106,000	76,000	73,600	66,100	68,500	123,000	376,000	176,000	230,000	93,400	66,400
12	139,000	104,000	75,700	69,700	62,100	67,600	121,000	396,000	189,000	236,000	89,100	67,400
13	153,000	105,000	76,000	64,700	60,800	71,800	120,000	386,000	236,000	232,000	85,500	68,500
14	150,000	105,000	80,800	57,500	61,500	82,600	114,000	361,000	254,000	231,000	84,400	73,300
15	147,000	107,000	83,500	54,000	67,000	100,000	108,000	329,000	243,000	229,000	83,500	89,100
16	156,000	105,000	81,300	55,800	75,800	101,000	106,000	306,000	225,000	221,000	81,300	107,000
17	160,000	105,000	80,400	63,700	78,200	96,300	e108,000	296,000	212,000	219,000	78,400	103,000
18	157,000	103,000	86,100	66,600	71,600	104,000	e111,000	293,000	209,000	221,000	74,900	91,400
19	168,000	107,000	103,000	63,200	75,200	103,000	e115,000	288,000	204,000	236,000	74,100	79,200
20	163,000	102,000	98,300	59,600	77,700	131,000	e119,000	283,000	195,000	228,000	72,300	79,100
21	161,000	97,700	95,000	59,500	78,000	158,000	e125,000	279,000	181,000	212,000	69,100	86,400
22	157,000	100,000	90,800	58,500	80,800	148,000	e130,000	280,000	171,000	194,000	68,700	88,500
23	153,000	95,800	88,300	58,300	80,100	130,000	137,000	281,000	157,000	189,000	70,700	93,500
24	149,000	99,900	86,900	60,800	75,900	124,000	149,000	284,000	152,000	189,000	75,800	89,400
25	149,000	98,100	87,100	62,800	77,800	125,000	173,000	297,000	138,000	181,000	75,100	94,000
26	146,000	94,600	77,800	61,900	77,000	122,000	191,000	300,000	168,000	175,000	71,800	87,800
27	128,000	95,200	71,500	60,900	75,900	111,000	213,000	294,000	192,000	168,000	68,600	84,900
28	121,000	94,700	66,600	60,200	74,800	120,000	211,000	290,000	190,000	158,000	68,500	82,000
29	131,000	91,800	66,000	58,800	---	136,000	212,000	285,000	166,000	154,000	71,100	74,600
30	134,000	91,800	68,000	58,400	---	132,000	221,000	280,000	158,000	150,000	68,300	73,000
31	135,000	---	74,300	59,100	---	118,000	---	272,000	---	142,000	64,900	---
MEAN	137,700	107,200	81,550	66,910	69,850	100,700	136,100	298,600	195,200	191,700	88,050	88,010
MAX	168,000	130,000	103,000	85,300	80,800	158,000	221,000	396,000	255,000	236,000	134,000	126,000
MIN	97,700	91,800	66,000	54,000	60,700	67,600	106,000	224,000	138,000	142,000	64,900	66,400
IN.	0.23	0.17	0.13	0.11	0.10	0.17	0.22	0.49	0.31	0.32	0.15	0.14

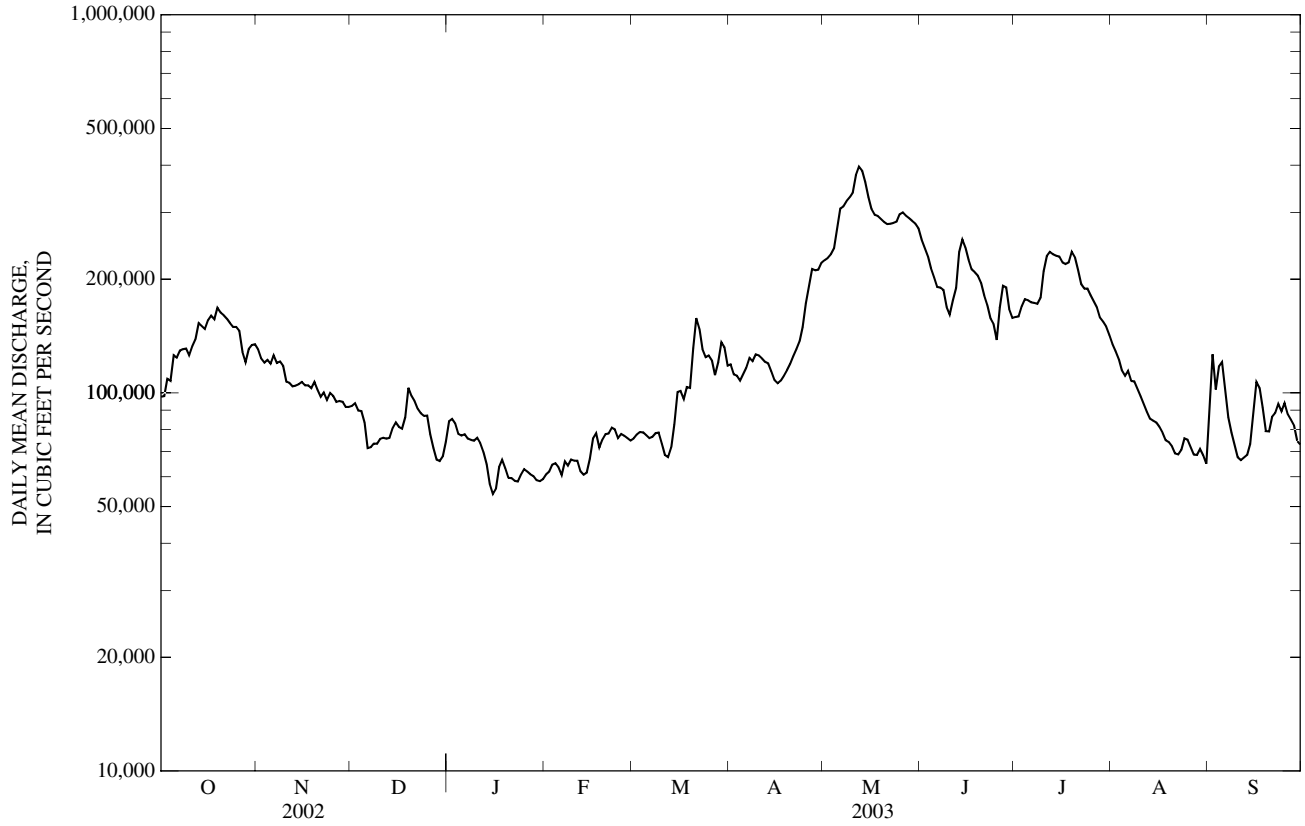
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 2003, BY WATER YEAR (WY)

MEAN	139,300	143,400	123,500	114,800	144,900	228,600	303,700	296,200	272,200	222,400	144,900	136,500
MAX	575,300	359,200	452,400	307,800	301,400	521,800	692,500	588,700	600,600	808,800	700,200	531,800
(WY)	(1987)	(1986)	(1983)	(1973)	(1974)	(1973)	(1973)	(1995)	(1947)	(1993)	(1993)	(1993)
MIN	44,170	47,920	42,130	31,340	41,900	74,550	110,100	79,500	70,260	67,130	43,510	54,640
(WY)	(1940)	(1940)	(1938)	(1940)	(1940)	(1964)	(1934)	(1934)	(1934)	(1936)	(1936)	(1939)

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1933 - 2003	
ANNUAL MEAN	186,500		130,600		189,300	
HIGHEST ANNUAL MEAN					429,700	1993
LOWEST ANNUAL MEAN					67,700	1934
HIGHEST DAILY MEAN	679,000	May 17	396,000	May 12	1,050,000	Aug 1, 1993
LOWEST DAILY MEAN	66,000	Dec 29	54,000	Jan 15	27,800	Dec 12, 1937
ANNUAL SEVEN-DAY MINIMUM	73,000	Dec 25	60,000	Jan 26	28,200	Jan 18, 1940
MAXIMUM PEAK FLOW	---		400,000	May 12	1,080,000	Aug 1, 1993
MAXIMUM PEAK STAGE	---		25.00	May 12	49.58	Aug 1, 1993
INSTANTANEOUS LOW FLOW	---		53,400	Jan 15	27,800	Dec 12, 1937
ANNUAL RUNOFF (INCHES)	3.63		2.54		3.69	
10 PERCENT EXCEEDS	381,000		232,000		370,000	
50 PERCENT EXCEEDS	145,000		107,000		152,000	
90 PERCENT EXCEEDS	89,100		66,600		69,400	

e Estimated



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 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, 1,160 mg/L, May 13; minimum daily mean 41 mg/L, Jan. 24.
SEDIMENT LOADS: Maximum daily, 1,210,000 tons, May 13; minimum daily, 6,550 tons, Jan. 16.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Day	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)
	OCTOBER			NOVEMBER			DECEMBER		
1	97,700	141	37,200	130,000	109	38,300	92,400	65	16,200
2	98,000	122	32,400	123,000	91	30,300	93,900	63	16,000
3	109,000	125	36,800	120,000	79	25,700	89,900	65	15,700
4	108,000	120	34,800	122,000	80	26,300	89,500	69	16,700
5	126,000	99	33,400	119,000	81	26,200	83,400	67	15,100
6	124,000	78	26,000	126,000	84	28,400	71,400	51	9,860
7	129,000	80	27,900	120,000	89	28,800	71,800	57	11,000
8	130,000	84	29,700	121,000	88	28,700	73,400	48	9,560
9	131,000	90	31,900	118,000	80	25,600	73,400	43	8,560
10	126,000	79	26,800	107,000	96	27,900	75,500	49	10,000
11	133,000	78	28,100	106,000	85	24,300	76,000	46	9,460
12	139,000	75	28,000	104,000	77	21,500	75,700	66	13,400
13	153,000	89	36,700	105,000	81	22,800	76,000	64	13,200
14	150,000	108	43,600	105,000	71	20,200	80,800	61	13,200
15	147,000	107	42,600	107,000	71	20,600	83,500	64	14,500
16	156,000	114	47,800	105,000	70	19,800	81,300	61	13,400
17	160,000	120	51,900	105,000	77	21,900	80,400	60	13,000
18	157,000	113	47,800	103,000	78	21,700	86,100	79	18,400
19	168,000	125	56,800	107,000	81	23,500	103,000	175	48,800
20	163,000	131	57,900	102,000	81	22,200	98,300	126	33,500
21	161,000	125	54,100	97,700	86	22,600	95,000	119	30,600
22	157,000	122	51,900	100,000	82	22,300	90,800	71	17,500
23	153,000	128	52,700	95,800	78	20,100	88,300	68	16,200
24	149,000	125	50,300	99,900	76	20,500	86,900	58	13,600
25	149,000	124	49,800	98,100	84	22,200	87,100	60	14,000
26	146,000	121	47,900	94,600	73	18,700	77,800	59	12,300
27	128,000	109	37,600	95,200	71	18,100	71,500	59	11,500
28	121,000	108	35,100	94,700	81	20,800	66,600	63	11,400
29	131,000	106	37,400	91,800	83	20,600	66,000	57	10,200
30	134,000	100	36,300	91,800	72	17,900	68,000	58	10,700
31	135,000	99	36,000	---	---	---	74,300	62	12,500

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY),—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Day	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/ day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/ day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/ day)
		JANUARY			FEBRUARY			MARCH	
1	84,100	60	13,700	60,800	49	8,120	75,800	100	20,500
2	85,300	64	14,700	61,900	51	8,520	77,600	83	17,400
3	83,000	68	15,300	64,600	59	10,200	78,700	99	21,000
4	77,900	70	14,700	65,200	71	12,600	78,600	116	24,600
5	77,100	71	14,800	63,600	55	9,370	77,300	145	30,200
6	77,700	63	13,200	60,700	45	7,420	75,900	144	29,600
7	75,700	69	14,200	65,900	50	8,910	76,500	130	26,900
8	75,100	66	13,400	64,200	50	8,740	78,300	116	24,400
9	74,700	63	12,800	66,600	52	9,400	78,500	100	21,200
10	76,100	53	10,900	66,100	50	8,990	73,400	92	18,300
11	73,600	48	9,500	66,100	55	9,750	68,500	89	16,400
12	69,700	47	8,920	62,100	59	9,910	67,600	99	18,000
13	64,700	52	9,130	60,800	50	8,270	71,800	105	20,300
14	57,500	56	8,760	61,500	52	8,720	82,600	148	33,000
15	54,000	51	7,500	67,000	155	28,100	100,000	146	39,700
16	55,800	43	6,550	75,800	341	69,800	101,000	185	50,400
17	63,700	43	7,460	78,200	312	66,000	96,300	155	40,200
18	66,600	55	9,930	71,600	177	34,200	104,000	166	46,500
19	63,200	44	7,420	75,200	180	36,400	103,000	162	45,100
20	59,600	47	7,520	77,700	194	40,800	131,000	321	114,000
21	59,500	53	8,490	78,000	133	27,900	158,000	374	159,000
22	58,500	53	8,450	80,800	114	24,900	148,000	257	102,000
23	58,300	51	8,050	80,100	101	21,800	130,000	230	81,000
24	60,800	41	6,770	75,900	100	20,400	124,000	190	63,900
25	62,800	52	8,840	77,800	89	18,700	125,000	151	51,100
26	61,900	51	8,530	77,000	75	15,700	122,000	144	47,200
27	60,900	58	9,460	75,900	90	18,500	111,000	126	37,900
28	60,200	51	8,300	74,800	89	18,000	120,000	131	42,600
29	58,800	58	9,210	---	---	---	136,000	127	46,500
30	58,400	53	8,320	---	---	---	132,000	125	44,700
31	59,100	57	9,100	---	---	---	118,000	101	32,100
		APRIL			MAY			JUNE	
1	119,000	97	31,200	224,000	213	129,000	255,000	374	257,000
2	112,000	86	26,100	227,000	169	103,000	242,000	335	219,000
3	111,000	90	26,900	232,000	148	92,900	230,000	325	202,000
4	108,000	88	25,700	241,000	176	115,000	214,000	283	163,000
5	112,000	85	25,700	270,000	318	232,000	202,000	267	145,000
6	117,000	81	25,400	307,000	334	277,000	191,000	237	122,000
7	124,000	93	31,000	311,000	284	238,000	190,000	204	105,000
8	121,000	99	32,300	321,000	304	263,000	187,000	188	94,700
9	126,000	105	35,900	329,000	374	332,000	169,000	163	74,100
10	126,000	115	38,900	338,000	480	438,000	161,000	150	65,500
11	123,000	103	34,200	376,000	676	687,000	176,000	286	136,000
12	121,000	88	28,700	396,000	888	950,000	189,000	201	103,000
13	120,000	88	28,300	386,000	1,160	1,210,000	236,000	425	271,000
14	114,000	89	27,400	361,000	1,130	1,110,000	254,000	246	169,000
15	108,000	97	28,400	329,000	801	712,000	243,000	228	150,000
16	106,000	83	23,900	306,000	710	588,000	225,000	275	167,000
17	e108,000	72	20,900	296,000	525	419,000	212,000	472	270,000
18	e111,000	71	21,400	293,000	451	357,000	209,000	603	339,000
19	e115,000	69	21,300	288,000	330	257,000	204,000	476	262,000
20	e119,000	62	20,000	283,000	358	274,000	195,000	740	391,000
21	e125,000	65	22,000	279,000	329	248,000	181,000	679	331,000
22	e130,000	66	23,100	280,000	281	212,000	171,000	455	210,000
23	137,000	65	24,100	281,000	275	209,000	157,000	345	147,000
24	149,000	72	29,100	284,000	270	207,000	152,000	253	104,000
25	173,000	93	43,200	297,000	294	236,000	138,000	218	81,300
26	191,000	132	67,900	300,000	235	191,000	168,000	441	200,000
27	213,000	150	85,900	294,000	297	236,000	192,000	383	199,000
28	211,000	150	85,500	290,000	389	305,000	190,000	312	160,000
29	212,000	168	96,000	285,000	367	283,000	166,000	255	115,000
30	221,000	174	104,000	280,000	356	270,000	158,000	205	87,500
31	---	---	---	272,000	383	281,000	---	---	---

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY),—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Day	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/ day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/ day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/ day)
		JULY			AUGUST			SEPTEMBER	
1	159,000	253	108,000	134,000	109	39,400	88,700	145	34,800
2	159,000	376	162,000	129,000	102	35,400	126,000	196	66,900
3	169,000	355	162,000	123,000	104	34,500	102,000	253	69,600
4	177,000	259	124,000	115,000	100	30,800	118,000	352	112,000
5	176,000	254	121,000	111,000	96	28,900	121,000	274	89,200
6	174,000	295	138,000	114,000	99	30,700	101,000	272	74,000
7	173,000	348	163,000	107,000	98	28,500	86,300	222	51,800
8	172,000	261	121,000	107,000	97	28,000	78,500	189	40,000
9	178,000	215	104,000	102,000	110	30,400	72,800	153	30,000
10	210,000	216	122,000	97,900	106	28,000	67,600	131	23,900
11	230,000	227	141,000	93,400	110	27,600	66,400	109	19,500
12	236,000	275	175,000	89,100	107	25,700	67,400	108	19,600
13	232,000	401	252,000	85,500	101	23,400	68,500	114	21,200
14	231,000	396	247,000	84,400	98	22,400	73,300	119	23,500
15	229,000	323	200,000	83,500	97	21,800	89,100	121	29,200
16	221,000	320	191,000	81,300	94	20,600	107,000	199	57,500
17	219,000	371	220,000	78,400	98	20,800	103,000	172	47,900
18	221,000	393	235,000	74,900	92	18,600	91,400	182	44,900
19	236,000	362	231,000	74,100	93	18,600	79,200	184	39,400
20	228,000	433	266,000	72,300	86	16,900	79,100	130	27,700
21	212,000	446	255,000	69,100	87	16,300	86,400	134	31,300
22	194,000	313	164,000	68,700	96	17,900	88,500	122	29,300
23	189,000	240	122,000	70,700	105	20,000	93,500	137	34,600
24	189,000	216	110,000	75,800	117	23,900	89,400	136	32,900
25	181,000	192	93,800	75,100	100	20,300	94,000	139	35,300
26	175,000	154	72,900	71,800	108	20,900	87,800	143	34,000
27	168,000	143	65,000	68,600	103	19,100	84,900	198	45,500
28	158,000	137	58,500	68,500	105	19,400	82,000	188	41,700
29	154,000	128	53,500	71,100	120	23,000	74,600	124	24,900
30	150,000	116	47,000	68,300	123	22,700	73,000	112	22,000
31	142,000	117	44,800	64,900	120	21,000	---	---	---

e Estimated

07010022 RIVER DES PERES NEAR UNIVERSITY CITY, MO

LOCATION.--Lat 38°40'07", long 90°19'26", St. Louis County, Hydrologic Unit 07140101, on top of left downstream abutment of Purdue Ave. bridge, 3.78 mi south of Interstate 70, and 2.01 mi east of Interstate 170.

DRAINAGE AREA.--8.94 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1997 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 491.97 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Water-discharge records fair except for discharges below 10 ft^3/s, which are poor. U.S.G.S. satellite telemeter at station.

REVISIONS.--Revised maximum discharges for water years 1998-2002 are given below. They supersede figures published in the reports of 1998-2002.

Water Year	Date	Maximum Discharge (ft^3/s)	Gage height (ft)
1998	July 22, 1998	3,280[a]	13.87
1999	June 12, 1999	4,160[a]	15.74
2000	June 24, 2000	3,450[a]	14.24
2001	Sept. 8, 2001	2,460[a]	11.98
2002	June 11, 2002	3,090[a]	13.43

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.08	0.89	0.47	0.78	1.3	8.5	0.50	8.0	0.23	2.7	0.54	254
2	26	1.7	0.82	7.2	0.83	4.4	0.35	2.1	34	19	54	213
3	137	16	0.40	2.8	1.3	2.1	0.27	0.92	13	0.66	7.7	5.2
4	14	2.5	0.37	1.8	0.53	1.6	1.8	95	0.64	0.18	0.13	0.24
5	0.66	24	2.5	3.8	0.27	3.1	0.85	50	0.34	0.16	0.11	0.10
6	8.5	3.1	0.90	2.6	1.7	1.5	32	33	20	0.16	0.42	0.08
7	0.56	1.3	1.5	1.3	0.89	0.97	5.8	24	0.97	0.16	1.3	0.08
8	0.22	2.0	0.68	1.3	0.47	1.2	3.2	4.4	0.44	0.16	0.14	0.12
9	0.13	2.0	0.27	0.89	0.48	0.75	1.3	2.1	0.32	0.15	0.07	0.18
10	0.09	2.1	0.25	0.51	0.84	0.59	0.75	57	223	61	0.07	0.19
11	0.09	1.7	0.44	0.34	0.60	43	0.67	7.2	67	0.46	0.06	0.21
12	2.7	1.0	0.33	0.32	0.43	44	0.59	1.8	84	0.14	0.06	31
13	2.3	0.73	1.3	0.42	0.48	72	0.56	1.3	147	0.13	0.06	0.26
14	0.18	15	0.51	0.38	39	2.0	5.9	1.1	9.2	0.34	0.06	0.11
15	0.11	11	0.24	0.31	17	0.99	5.7	7.2	1.9	0.28	0.06	0.09
16	0.12	0.78	0.24	0.34	1.0	0.69	99	1.1	1.1	0.28	0.06	0.09
17	0.11	0.43	0.31	0.26	1.7	0.52	15	1.2	0.88	0.63	0.06	0.08
18	17	0.38	92	0.11	13	0.56	1.8	0.98	0.83	126	0.08	0.08
19	20	0.33	2.1	0.21	46	76	1.6	1.2	30	4.6	0.08	0.09
20	0.64	0.37	0.58	0.51	3.3	30	53	4.0	1.3	0.35	0.05	1.6
21	0.32	0.26	0.39	1.1	1.8	2.7	2.9	1.2	0.91	0.18	0.04	4.7
22	0.31	0.31	0.30	0.63	18	1.00	2.0	1.2	0.81	1.2	0.04	0.61
23	0.24	0.31	0.29	1.4	2.0	0.93	2.0	1.1	0.75	0.47	0.01	0.05
24	0.24	0.31	0.20	0.24	5.7	0.60	83	2.8	0.78	0.17	0.37	0.05
25	62	1.0	1.0	4.6	1.2	2.3	57	52	162	0.20	0.06	0.05
26	1.8	0.37	1.8	12	1.2	0.61	5.2	1.4	347	0.23	0.07	250
27	0.97	0.22	1.7	19	2.3	0.47	1.9	0.58	2.2	0.24	8.6	19
28	2.1	0.23	4.9	17	3.7	15	52	0.44	0.55	0.44	0.44	0.64
29	90	0.58	2.5	6.9	---	0.95	61	0.32	0.32	0.20	7.0	0.08
30	2.2	0.50	1.8	0.67	---	0.46	11	13	18	0.17	0.79	10
31	1.2	---	9.4	11	---	0.47	---	0.41	---	0.17	58	---
MEAN	12.6	3.05	4.21	3.25	5.96	10.3	17.0	12.2	39.0	7.14	4.53	26.4
MAX	137	24	92	19	46	76	99	95	347	126	58	254
MIN	0.08	0.22	0.20	0.11	0.27	0.46	0.27	0.32	0.23	0.13	0.01	0.05
IN.	1.63	0.38	0.54	0.42	0.69	1.33	2.12	1.57	4.87	0.92	0.58	3.30

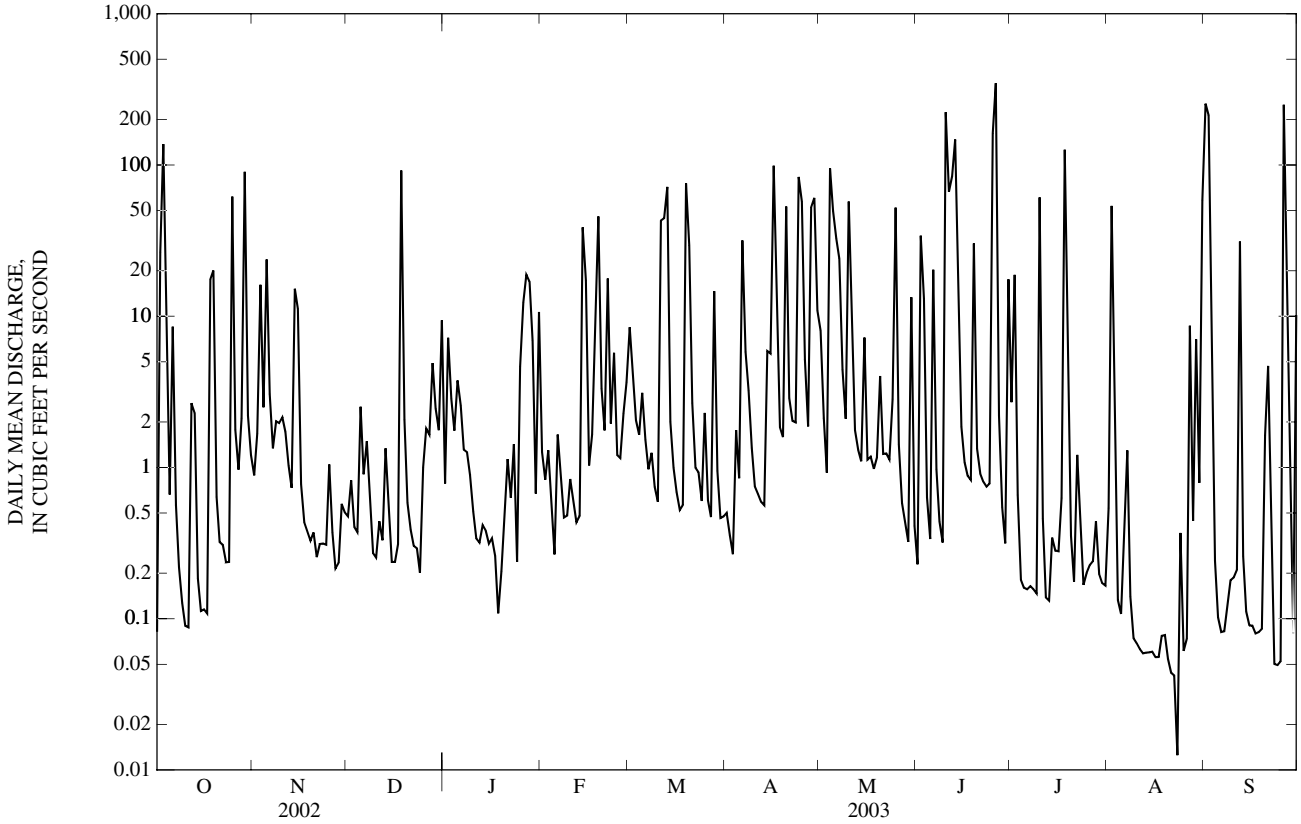
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	7.76	5.43	5.16	8.69	11.2	12.1	11.7	16.7	26.1	7.96	5.43	8.27
MAX	18.5	10.9	13.3	20.9	27.7	33.4	18.4	35.4	39.0	20.1	8.29	26.4
(WY)	(2002)	(2002)	(2002)	(1999)	(1999)	(1998)	(2002)	(2002)	(2003)	(1998)	(2000)	(2003)
MIN	3.11	1.17	1.23	2.36	2.78	3.61	3.81	4.20	5.46	0.87	0.95	1.29
(WY)	(1998)	(2000)	(1999)	(2000)	(2002)	(2000)	(2000)	(1999)	(2001)	(2001)	(2001)	(1999)

07010022 RIVER DES PERES NEAR UNIVERSITY CITY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	11.8		12.1		10.5	
HIGHEST ANNUAL MEAN					13.7	2002
LOWEST ANNUAL MEAN					5.55	2001
HIGHEST DAILY MEAN	267	Jun 11	347	Jun 26	711	Jun 24, 2000
LOWEST DAILY MEAN	0.02	Jul 31	0.01	Aug 23	0.00	Several Days 1997-2002
ANNUAL SEVEN-DAY MINIMUM	0.05	Jul 28	0.05	Aug 17	0.00	At Times1997-2002
MAXIMUM PEAK FLOW	---		4,430[b]	Jun 26	4,430[b]	Jun 26, 2003
MAXIMUM PEAK STAGE	---		16.31	Jun 26	16.31	Jun 26, 2003
INSTANTANEOUS LOW FLOW	---		0.01	Apr 3, Aug 23,24	0.00	Several Days 1997-2002
ANNUAL RUNOFF (INCHES)	17.86		18.36		15.97	
10 PERCENT EXCEEDS	31		31		21	
50 PERCENT EXCEEDS	0.58		0.91		0.36	
90 PERCENT EXCEEDS	0.08		0.11		0.00	

[a] From rating extended above 563 ft^3/s on basis of indirect measurement of peak flow.
[b] Discharge determined by indirect measurement of peak flow.



07010022 RIVER DES PERES NEAR UNIVERSITY CITY, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
29...	0156	Environmental	15	6.2	7.0	67	7.3	369	12.3	83	23.0	6.10
DEC												
17...	0810	Environmental	0.22	4.0	8.8	76	7.9	3,360	6.7	350	98.0	25.0
FEB												
04...	1500	Environmental	0.71	7.4	7.5	55	7.6	2,680	1.8	320	87.0	24.0
MAR												
19...	0852	Environmental	161	2.9	9.4	95	7.8	565	14.3	110	33.0	7.50
JUN												
09...	1130	Environmental	0.30	17	6.5	75	7.3	1,010	20.5	260	76.0	17.0
09...	1131	Replicate	--	--	7.0	79	7.3	1,010	20.5	260	77.0	17.0
AUG												
12...	1245	Environmental	0.06	15	1.0	12	7.3	847	22.8	250	75.0	16.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
29...	65	65	79	<1	--	159	4.1	1.30	0.300	0.03	0.310	0.79	24
DEC													
17...	152	152	185	<1	870	13	1.1	0.11	<0.020	<0.01	0.040	0.14	32
FEB													
04...	149	152	185	<1	710	27	1.6	<0.01	<0.020	<0.01	0.240	0.50	11
MAR													
19...	87	87	106	<1	--	322	4.3	0.87	1.10	0.12	0.120	0.76	31
JUN													
09...	164	163	199	<1	--	2	1.1	0.47	0.570	0.22	0.120	0.16	17
09...	--	--	--	--	--	7	1.1	0.47	0.580	0.22	0.110	0.17	20
AUG													
12...	145	145	177	<1	--	8	1.1	0.52	<0.020	<0.01	0.160	0.23	24

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
29...	39,000	32,000	27,000	7	<1	<1	<1.0	<1.0	1.6	78	<1	207	<0.1
DEC													
17...	4k	23k	17k	<3	1	<1	<1.0	4.3	4.7	82	<1	151	<0.1
FEB													
04...	220	760	112	<3	3	<1	<1.0	1.3	5.7	36	<1	870	<0.1
MAR													
19...	16,000	22,000	14,000	8	2	<1	<1.0	2.6	5.8	32	<1	137	<0.1
JUN													
09...	440	880	120	5	3	<1	<1.0	3.9	2.3	87	<1	188	<0.1
09...	520	800	108	<3	2	<1	<1.0	3.8	2.0	89	<1	190	<0.1
AUG													
12...	520	780	400	10	3	<1	<1.0	2.9	1.0	81	<1	489	<0.1

07010022 RIVER DES PERES NEAR UNIVERSITY CITY, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
29...	1.3	1	<1.0	11	E6n	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
17...	6.3	2	<1.0	17	--	--	--	--	--	--	--	--	--
FEB													
04...	5.7	2	<1.0	39	--	--	--	--	--	--	--	--	--
MAR													
19...	2.7	1	<1.0	28	<7	<1	<3	M	<2.0	<3	<3	<2	<2
JUN													
09...	5.0	1	<1.0	11	--	--	--	--	--	--	--	--	--
09...	4.9	1	<1.0	9	--	--	--	--	--	--	--	--	--
AUG													
12...	3.3	1	<1.0	5	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
29...	<2	<2	<1	<0.9	<2	<3	<2	<4	M	M	M	<0.01	<0.01
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<2	<2	<1	<0.9	<2	<3	<2	E2	M	M	M	<0.01	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo[a]anthracene, water, unfltrd µg/L (34526)	Benzo[a]pyrene, water, unfltrd µg/L (34247)	Benzo[b]fluoranthene water unfltrd µg/L (34230)	Benzo[g,h,i]-perylene, water, unfltrd µg/L (34521)	Benzo[k]fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
29...	M	<1,000	M	M	E2	M	M	M	<3	<2	<2	E6	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	M	<1,000	E2	E2	4	E2	E1	<2	<3	<2	<2	<4	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07010022 RIVER DES PERES NEAR UNIVERSITY CITY, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
29...	<0.1	E.01n	E1	0.03	M	E.003	E1	M	M	<2	<0.10	<0.02	<0.01
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	E.1	E.01	E3	0.04	M	<0.017	E1	M	<2	<2	<0.10	<0.02	<0.01
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
29...	E2	<0.01	E.001	M	<2	<1	M	M	<0.014	E.01	<0.01	<0.012	<1
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	6	<0.01	<0.009	<0.01	<2	<1	E2	M	<0.014	E.01	<0.02	<0.012	<1
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
29...	<3	<2	<2	E.002	E.001	E.002	E.001	<0.01	<0.1	M	E1	E.4	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<3	<2	<2	<0.016	<0.014	E.002	<0.020	<0.01	<0.1	M	3	E.2	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07010022 RIVER DES PERES NEAR UNIVERSITY CITY, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tributphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
29...	E2	<1	<0.02	<2	<2	<2	M	<1	<2	M
DEC										
17...	--	--	--	--	--	--	--	--	--	--
FEB										
04...	--	--	--	--	--	--	--	--	--	--
MAR										
19...	4	<1	<0.02	<2	<2	M	M	<1	<2	M
JUN										
09...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
AUG										
12...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07010030 RIVER DES PERES TRIBUTARY AT PAGEDALE, MO

LOCATION.--Lat 38°40'37", long 90°18'53", St. Louis County, Hydrologic Unit 07140101, on right culvert wall next to sidewalk handrail at Page Ave., 3.04 mi south of Interstate 70, and 2.37 mi east of Interstate 170.

DRAINAGE AREA.--2.01 mi^2.

PERIOD OF RECORD.--June 1997 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 504.56 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Record poor.

REVISIONS.--Revised maximum discharges for water years 1997-2002 are given below. They supersede figures published in the reports of 1998-2002.

Water Year	Date	Maximum Discharge (ft^3/s)	Gage height (ft)
1997	Aug. 17, 1997	101[a]	4.63
1998	July 22, 1998	1,290[a]	8.84
1999	June 12, 1999	876[a]	7.88
2000	June 24, 2000	585[a]	7.03
2001	Sept. 8, 2001	395[a]	6.33
2002	Aug. 6, 2002	744[a]	7.52

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.12	0.22	0.53	0.18	0.17	1.1	e0.45	0.84	0.03	0.60	0.37	28
2	3.3	0.39	0.29	0.72	0.11	1.2	e0.39	0.51	2.1	0.76	3.3	24
3	14	1.5	0.23	0.44	0.17	0.97	e0.36	0.39	1.0	0.36	0.65	1.6
4	2.0	0.41	0.23	0.20	0.11	0.91	e0.48	12	0.12	0.25	0.11	0.80
5	0.37	2.7	0.43	0.30	0.06	0.86	e0.35	8.3	0.07	0.19	0.07	0.49
6	0.83	0.59	0.35	0.26	0.15	0.81	2.6	4.4	1.2	0.17	0.12	0.34
7	0.26	0.30	0.36	0.18	0.16	0.66	1.5	3.4	0.12	0.12	0.20	0.25
8	0.16	0.22	0.16	0.15	e0.06	0.57	0.71	0.95	0.05	e0.09	0.13	0.17
9	0.15	0.24	0.12	0.13	e0.04	0.49	e0.30	0.63	0.03	0.09	0.04	0.16
10	0.13	0.29	0.12	0.11	0.09	0.45	e0.24	6.6	37	3.0	0.04	0.13
11	0.12	0.24	0.13	0.09	0.06	5.1	e0.18	0.96	5.4	0.04	0.03	0.08
12	0.57	0.17	0.10	0.08	e0.04	6.8	e0.14	0.48	4.0	e0.03	0.03	2.9
13	0.46	0.16	0.33	0.09	e0.04	10	e0.10	0.48	15	e0.03	0.03	0.20
14	0.15	1.2	0.07	0.08	4.7	1.5	e0.09	0.28	1.3	e0.02	0.02	0.10
15	0.13	1.4	0.03	0.06	2.1	1.1	e0.09	0.28	0.54	e0.02	0.02	0.07
16	0.10	0.26	0.02	0.06	e0.59	0.91	4.1	0.20	0.35	e0.01	e0.01	0.06
17	0.09	0.21	0.02	0.06	e0.40	0.81	e2.0	0.20	0.28	e0.01	e0.01	2.2
18	1.4	0.17	17	0.05	1.3	0.74	e1.3	0.17	0.21	9.1	e0.01	0.97
19	2.4	0.18	8.0	e0.04	5.8	6.8	e1.5	0.20	4.4	e0.76	e0.01	0.05
20	0.24	0.19	2.5	e0.38	1.2	4.5	7.6	0.32	0.26	e0.25	0.02	0.05
21	0.14	0.18	1.2	e0.40	0.84	1.4	0.65	0.11	0.15	e0.16	0.02	0.04
22	0.12	0.22	0.66	e0.16	2.2	1.0	0.39	0.08	0.11	e0.09	0.03	0.05
23	0.10	0.16	0.46	e0.55	0.80	0.89	0.31	0.05	0.09	0.12	0.03	0.03
24	0.09	0.15	0.34	e0.23	1.1	0.79	9.1	0.25	0.05	0.06	0.03	0.02
25	6.2	0.29	0.29	e0.14	e1.1	1.0	8.2	6.6	38	0.18	0.28	0.01
26	0.46	0.23	0.26	e0.09	0.60	0.78	1.3	1.4	66	0.03	0.05	24
27	0.25	0.23	0.26	e0.08	0.65	0.65	0.71	0.57	1.8	0.02	0.13	1.8
28	0.30	0.24	0.47	e0.19	0.72	2.6	6.7	0.23	1.2	0.35	0.04	0.39
29	8.8	0.26	0.39	e0.22	---	0.90	6.3	0.11	0.64	0.13	0.28	0.20
30	0.57	0.32	0.28	e0.31	---	e0.57	1.5	0.58	1.4	0.10	0.12	0.60
31	0.32	---	0.92	0.93	---	e0.50	---	0.06	---	0.08	6.1	---
MEAN	1.43	0.44	1.18	0.22	0.91	1.85	1.99	1.67	6.10	0.56	0.40	2.99
MAX	14	2.7	17	0.93	5.8	10	9.1	12	66	9.1	6.1	28
MIN	0.09	0.15	0.02	0.04	0.04	0.45	0.09	0.05	0.03	0.01	0.01	0.01
IN.	0.82	0.25	0.68	0.13	0.47	1.06	1.10	0.96	3.39	0.32	0.23	1.66

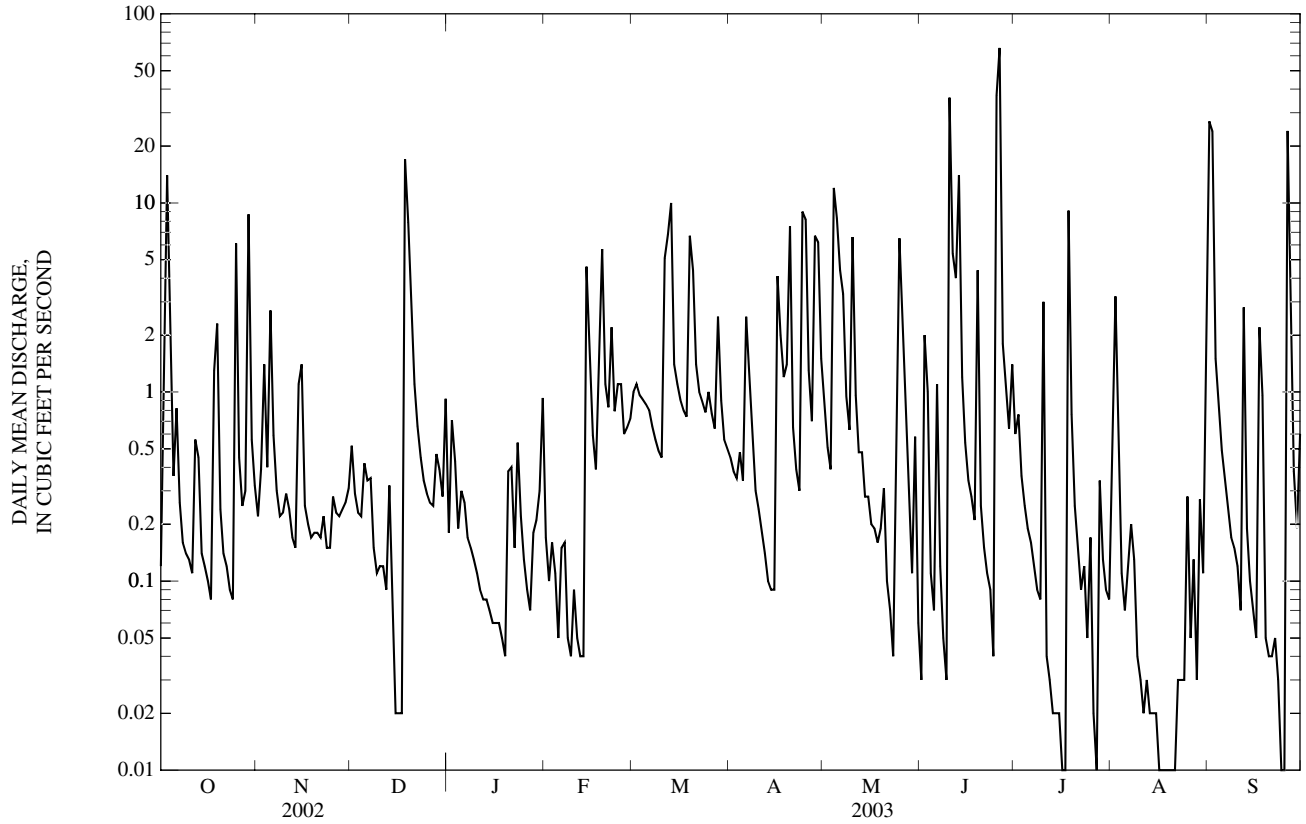
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	1.01	0.82	0.82	1.47	2.20	2.16	1.69	2.63	4.32	1.43	1.16	1.00
MAX	2.59	1.55	1.98	4.50	7.35	6.56	3.06	7.29	6.10	6.51	2.79	2.99
(WY)	(2002)	(2002)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(2003)	(1998)	(2002)	(2003)
MIN	0.39	0.12	0.33	0.22	0.50	0.37	0.48	0.51	0.45	0.25	0.12	0.14
(WY)	(2000)	(2000)	(1999)	(2003)	(2002)	(2000)	(2000)	(1999)	(2001)	(1997)	(2001)	(1999)

07010030 RIVER DES PERES TRIBUTARY AT PAGEDALE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	2.17		1.64		1.74	
HIGHEST ANNUAL MEAN					2.53	1998
LOWEST ANNUAL MEAN					0.69	2001
HIGHEST DAILY MEAN	79	Jun 11	66	Jun 26	148	Feb 7, 1999
LOWEST DAILY MEAN	0.02	Jul 9,Dec 16,17	0.01	Many Days	0.00	Many Days 2001-2002
ANNUAL SEVEN-DAY MINIMUM	0.05	Aug 30	0.01	Aug 14	0.00	At Times 2001
MAXIMUM PEAK FLOW	---		1,000[b]	Jun 25	1,290[ac]	Jul 22, 1998
MAXIMUM PEAK STAGE	---		8.20	Jun 25	8.84	Jul 22, 1998
INSTANTANEOUS LOW FLOW	---		0.01	Many Days	0.00	Many Days 2001-2002
ANNUAL RUNOFF (INCHES)	14.63		11.06		11.75	
10 PERCENT EXCEEDS	3.2		3.3		2.6	
50 PERCENT EXCEEDS	0.25		0.28		0.22	
90 PERCENT EXCEEDS	0.08		0.04		0.05	

e Estimated
[a] From rating extended above 48 ft^3/s on basis of indirect measurement of peak flow.
[b] Discharge determined by indirect measurement of peak flow.
[c] Revised



07010035 ENGELHOLM CREEK NEAR WELLSTON, MO

LOCATION.--Lat 38°40'57", long 90°18'10", in NW ¼ NE ¼ SE ¼ sec.3, T.45 N., R.6 E., St. Louis County, Hydrologic Unit 07140101, on right downstream wingwall of Kingsland Ave. bridge, 2.70 mi south of Interstate 70, and 2.78 mi east of Interstate 170.

DRAINAGE AREA.--1.40 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1998 to current year. May 1997 to April 1998 published as Engelholm Creek at Pagedale (07010034).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage unknown.

REMARKS.--Water-discharge records poor.

REVISIONS.--Revised maximum discharges for water years 1998-2002 and revised daily discharges for high-water periods in these years, are given below. They supersede figures published in the reports of 1998-2002.

Water Year	Date	Maximum Discharge (ft^3/s)	Gage height (ft)
1998	July 22, 1998	1,086[a]	8.88
1999	Feb. 7, 1999	384[a]	6.12
2000	Feb. 18, 2000	384[a]	6.12
2001	Sept. 9, 2001	156[a]	4.52
2002	Aug. 6, 2002	998[a]	8.61

Daily Mean Discharge			Monthly Mean
1999	Feb. 7, 1999	58	February - 3.64

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.14	0.32	0.20	0.28	0.28	0.93	0.34	0.81	0.34	0.58	0.18	18
2	1.8	0.45	0.21	0.73	0.25	0.85	0.31	0.54	2.4	0.96	1.8	13
3	7.8	1.2	0.20	0.47	0.30	0.69	0.30	0.46	1.3	0.42	0.48	0.46
4	1.7	0.50	0.20	0.35	0.23	0.64	0.31	7.7	0.50	0.31	0.14	0.14
5	0.29	2.1	0.27	0.44	0.20	0.66	0.27	6.8	0.40	0.24	0.13	0.08
6	0.64	0.55	0.22	0.40	0.26	0.47	1.6	3.6	1.5	0.22	0.36	0.05
7	0.26	0.35	0.23	0.33	e0.22	0.43	0.59	2.9	0.60	0.26	0.14	0.04
8	0.20	0.43	0.25	0.32	e0.20	0.44	0.32	1.0	0.44	0.21	0.14	0.05
9	0.20	0.65	0.19	0.27	0.20	0.41	0.22	0.78	0.32	0.19	0.13	0.05
10	0.21	e0.72	0.17	0.23	0.25	0.38	0.20	5.2	27	2.5	0.13	0.04
11	0.24	e0.54	0.18	0.22	0.22	3.1	0.20	1.1	5.1	0.23	0.13	0.04
12	0.56	e0.37	0.18	0.21	0.20	4.3	0.19	0.64	3.8	0.18	0.15	1.5
13	0.33	e0.29	0.22	0.20	0.21	6.1	0.15	0.49	6.8	0.15	0.15	0.08
14	0.20	e1.0	0.17	0.19	3.2	0.91	0.16	0.48	1.2	0.15	0.15	0.05
15	0.20	1.1	0.15	0.19	1.8	0.70	0.18	0.46	0.64	0.15	0.14	0.04
16	0.19	0.25	0.15	0.18	e0.64	0.61	7.2	0.41	0.48	0.13	0.13	0.04
17	0.19	0.20	0.15	e0.17	0.55	0.52	2.3	0.42	0.40	0.12	0.13	0.04
18	1.2	0.20	5.3	e0.16	1.0	0.50	0.61	0.42	0.32	4.3	0.11	0.04
19	1.9	0.20	0.48	e0.16	4.8	4.5	0.49	0.42	3.2	0.46	0.11	0.04
20	0.24	0.17	0.26	e0.35	0.89	4.5	3.2	0.45	0.43	0.24	0.11	0.04
21	0.20	0.19	0.22	e0.38	0.61	1.1	0.56	0.31	0.30	0.19	0.52	0.04
22	0.20	0.22	0.18	e0.17	1.5	0.71	0.41	0.35	0.87	0.17	0.08	0.05
23	0.19	0.21	0.17	e0.45	0.58	0.61	0.35	0.35	0.22	0.15	0.08	0.05
24	0.19	0.24	0.18	e0.27	e0.70	0.53	6.1	0.42	0.20	0.15	0.08	0.04
25	4.5	0.22	0.26	0.17	e0.50	0.66	6.3	2.5	32	0.14	0.08	0.05
26	0.49	0.20	0.30	e0.15	e0.38	0.46	1.3	0.39	49	0.13	0.33	13
27	0.33	0.18	0.29	e0.14	e0.45	0.44	0.71	0.32	1.2	0.14	0.09	1.3
28	0.37	0.18	0.45	0.17	0.54	1.6	4.8	0.31	0.69	0.63	0.09	0.16
29	6.3	0.20	0.44	0.28	---	0.52	2.4	0.32	0.49	0.14	0.20	0.09
30	0.52	0.20	0.38	0.27	---	0.41	1.1	0.99	1.9	0.12	0.08	0.28
31	0.38	---	0.89	0.62	---	0.36	---	0.38	---	0.12	3.7	---
MEAN	1.04	0.45	0.42	0.29	0.76	1.26	1.44	1.35	4.80	0.45	0.33	1.63
MAX	7.8	2.1	5.3	0.73	4.8	6.1	7.2	7.7	49	4.3	3.7	18
MIN	0.14	0.17	0.15	0.14	0.20	0.36	0.15	0.31	0.20	0.12	0.08	0.04
IN.	0.85	0.36	0.35	0.24	0.56	1.04	1.15	1.11	3.83	0.37	0.27	1.30

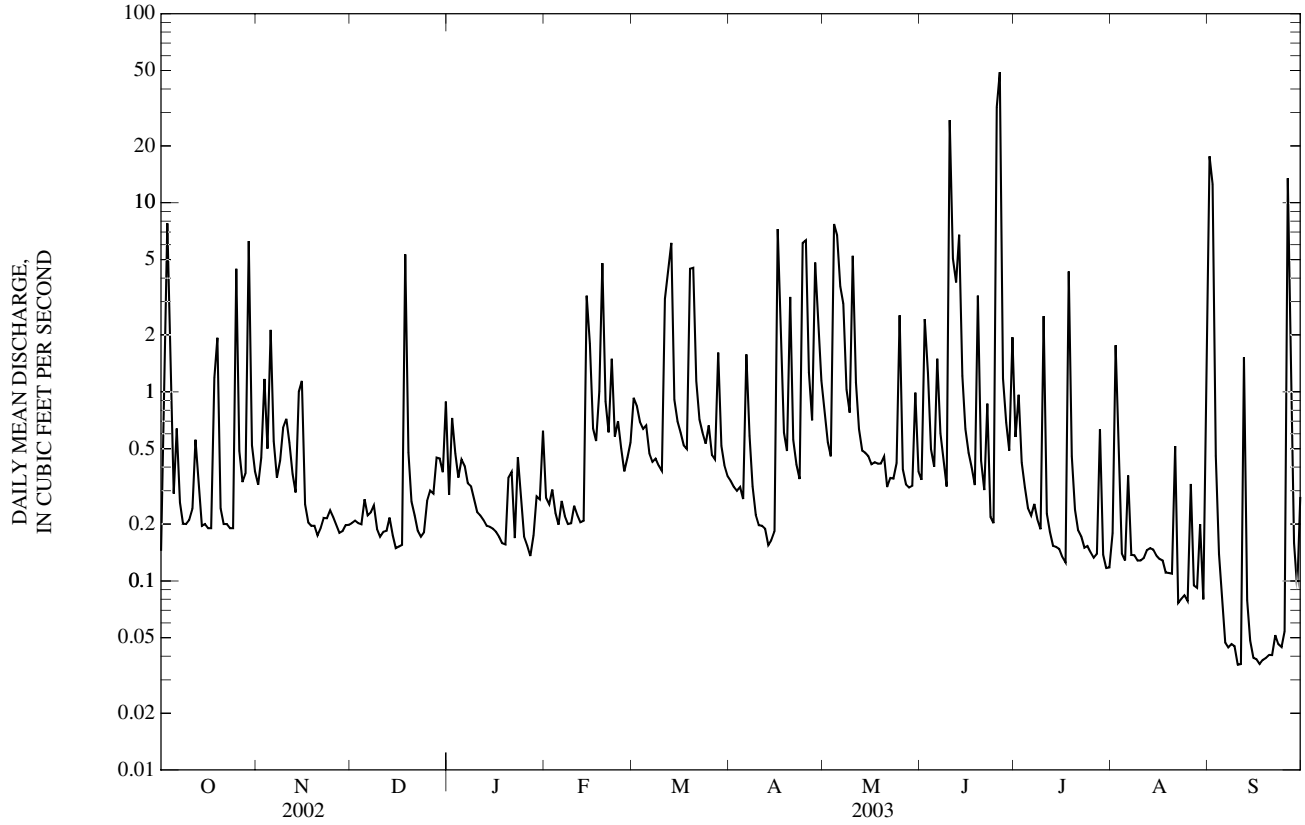
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

MEAN	0.75	0.70	0.68	1.07	1.28	1.05	1.13	1.63	2.12	0.85	0.68	0.64
MAX	1.15	1.39	1.51	3.14	3.29	1.86	2.04	3.56	4.80	2.86	1.40	1.63
(WY)	(2002)	(1999)	(2002)	(1999)	(1999)	(2002)	(2002)	(2002)	(2003)	(1998)	(1998)	(2003)
MIN	0.42	0.22	0.30	0.29	0.62	0.38	0.36	0.56	0.28	0.22	0.097	0.21
(WY)	(2001)	(2000)	(2001)	(2003)	(2002)	(2000)	(2000)	(2001)	(2001)	(2001)	(2001)	(1999)

07010035 ENGELHOLM CREEK NEAR WELLSTON, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1998 - 2003	
ANNUAL MEAN	1.24		1.18		0.99	
HIGHEST ANNUAL MEAN					1.38	2002
LOWEST ANNUAL MEAN					0.40	2001
HIGHEST DAILY MEAN	28	Aug 6	49	Jun 26	49	Jun 26, 2003
LOWEST DAILY MEAN	0.05	Jul 25	0.04	Sep 7,10,11,15-21,24	0.04	Several Days 2001-2003
ANNUAL SEVEN-DAY MINIMUM	0.05	Jul 29	0.04	Sep 15	0.04	Sep 15, 2003
MAXIMUM PEAK FLOW	---		986[b]	Jun 25	1,086[ac]	Jul 22, 1998
MAXIMUM PEAK STAGE	---		8.57	Jun 25	8.88	Jul 22, 1998
INSTANTANEOUS LOW FLOW	---		0.03	Sep 9-12,16-18	0.03	Sep 24, 2001
ANNUAL RUNOFF (INCHES)	11.99		11.43		9.64	
10 PERCENT EXCEEDS	2.5		2.4		1.7	
50 PERCENT EXCEEDS	0.31		0.32		0.24	
90 PERCENT EXCEEDS	0.09		0.13		0.09	

e Estimated
[a] From rating extended above 52 ft^3/s on basis of indirect measurement of peak flow.
[b] Discharge determined by indirect measurement of peak flow.
[c] Revised.



07010035 ENGELHOLM CREEK NEAR WELLSTON, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1997 to current year.

REMARKS.--Published as Engelholm Creek at Pagedale (07010034) October 1997 to September 1998.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
25...	0725	Environmental	11	1.4	9.1	87	7.8	259	12.3	64	19.0	3.90
DEC												
17...	1330	Environmental	0.15	2.3	9.7	84	8.1	1,040	7.9	260	63.0	24.0
FEB												
04...	1400	Environmental	0.22	1.0	15.5	121	8.4	1,120	4.2	230	59.0	21.0
APR												
20...	0415	Environmental	20	11	8.4	86	7.2	469	15.1	130	36.0	9.80
JUN												
09...	1630	Environmental	0.35	3.2	8.3	99	7.9	696	22.5	240	63.0	20.0
AUG												
12...	1205	Environmental	0.15	6.4	5.4	63	7.5	728	22.3	200	49.0	20.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
25...	48	49	59	<1	--	213	1.6	0.03	0.430	<0.01	0.230	0.51	22
DEC													
17...	139	140	171	<1	160	3	1.5	0.33	0.820	0.07	0.120	0.18	15
FEB													
04...	126	126	139	7	190	6	0.80	0.27	0.920	0.03	0.110	0.10	26
APR													
20...	87	85	103	<1	--	255	2.3	0.04	0.640	0.03	0.130	0.64	20
JUN													
09...	140	141	173	<1	--	2	0.50	0.12	1.00	0.08	0.150	0.18	15
AUG													
12...	107	107	130	<1	--	7	0.40	0.14	0.860	0.12	0.200	0.21	13

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
25...	3,000	8,200	28,000	6	1	<1	<1.0	<1.0	3.8	38	<1	45	<0.1
DEC													
17...	4k	360k	92	<3	<1	<1	<1.0	4.2	1.8	66	<1	127	<0.1
FEB													
04...	2k	2k	4k	<3	6	<1	<1.0	1.3	2.7	53	<1	145	<0.1
APR													
20...	4,000	12,000	14,000	5	<1	<1	<1.0	<1.0	5.0	26	<1	88	<0.1
JUN													
09...	200	255	320	4	2	<1	<1.0	3.0	2.4	29	<1	84	<0.1
AUG													
12...	290	435k	460	4	2	<1	<1.0	2.3	1.2	22	<1	168	<0.1

07010035 ENGELHOLM CREEK NEAR WELLSTON, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
25...	1.7	<1	<1.0	9	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
17...	3.6	<1	<1.0	3	--	--	--	--	--	--	--	--	--
FEB													
04...	2.8	2	<1.0	5	--	--	--	--	--	--	--	--	--
APR													
20...	2.5	<1	<1.0	12	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
JUN													
09...	3.4	2	<1.0	2	--	--	--	--	--	--	--	--	--
AUG													
12...	2.5	2	<1.0	4	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
25...	<2	<2	<1	<0.9	<2	<3	<2	<4	E6	E5	<2	<0.01	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
20...	<2	<2	<1	<0.9	<2	<3	<2	E1	M	M	M	<0.002	<0.002
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo[a]anthracene, water, unfltrd µg/L (34526)	Benzo[a]pyrene, water, unfltrd µg/L (34247)	Benzo[b]fluoranthene water unfltrd µg/L (34230)	Benzo[g,h,i]perylene, water, unfltrd µg/L (34521)	Benzo[k]fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
25...	E6	<1,000	E5	E5	E6	E2	E2	<2	<3	<2	<2	E2	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
20...	M	<1,000	M	E1	E2	E1	M	M	<3	<2	<2	M	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07010035 ENGELHOLM CREEK NEAR WELLSTON, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
25...	<0.1	<0.01	E5	E.01	M	E.003	<2	<1	<2	<2	<0.10	<0.02	<0.01
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
20...	<0.1	<0.01	E2	<0.02	M	E.001	E1	M	M	<2	<0.10	<0.002	<0.01
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
25...	E15	<0.01	<0.009	<0.01	<2	<1	E3	M	<0.014	E.01	<0.01	<0.012	<1
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
20...	3	<0.01	<0.003	<0.002	<2	<1	M	M	<0.002	M	<0.01	<0.002	<1
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
25...	<3	<2	<2	E.004	E.002	E.002	E.004	<0.01	0.2	<2	E19	E.2	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
20...	<3	<2	<2	E.002	<0.002	<0.002	<0.003	<0.01	<0.1	M	E1	E.4	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07010035 ENGELHOLM CREEK NEAR WELLSTON, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tributphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
25...	E12	<1	<0.02	<2	<2	<2	<1	<1	<2	M
DEC										
17...	--	--	--	--	--	--	--	--	--	--
FEB										
04...	--	--	--	--	--	--	--	--	--	--
APR										
20...	3	<1	<0.02	<2	<2	<2	<1	<1	<2	M
JUN										
09...	--	--	--	--	--	--	--	--	--	--
AUG										
12...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range

07010075 DEER CREEK AT LADUE, MO

LOCATION.--Lat 38°36'58", long 90°21'50", St. Louis County, Hydrologic Unit 07140101, on left upstream bank at bridge to Rock Hill Quarry, on McCarthy Construction Company complex, 5 mi east of I-270, 0.93 mi south of Highway 64/40, 0.17 mi west of McKnight.

DRAINAGE AREA.--21.4 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 31, 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--Water-discharge records poor.

REVISIONS.--Revised maximum discharges for water years 2001-2002 are given below. They supersede figures published in the report of 2002.

Water Year	Date	Maximum Discharge (ft^3/s)	Gage height (ft)
2001	Sept. 9, 2001	3,190[a]	12.24
2002	May 9, 2002	3,030[a]	11.90

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	1.1	2.5	7.8	0.71	6.2	0.00	8.3	0.00	423
2	0.00	0.20	0.00	5.0	1.3	e6.5	0.67	3.6	11	9.7	30	1,040
3	204	6.5	0.00	4.3	1.4	e5.0	0.34	2.3	13	0.20	9.1	26
4	12	1.4	0.00	0.95	0.98	e4.0	0.12	171	2.0	0.41	0.00	4.6
5	0.75	17	0.00	1.0	0.72	e3.5	0.01	101	0.07	0.00	0.00	0.26
6	2.6	10	0.00	2.1	0.89	e3.0	14	28	8.6	0.00	0.00	0.00
7	0.48	2.2	0.00	0.74	1.2	1.6	7.1	55	2.4	0.00	0.00	0.00
8	0.00	0.75	0.00	0.40	0.72	1.1	1.5	6.6	0.34	0.00	0.00	0.00
9	0.00	0.01	0.00	0.55	0.79	1.1	0.72	4.2	0.00	0.00	0.00	0.05
10	0.00	0.00	0.00	0.25	0.78	0.72	0.25	94	455	61	0.00	0.00
11	0.00	7.2	0.00	0.02	0.76	28	0.08	17	133	0.06	0.00	0.00
12	0.00	0.95	0.00	0.00	0.72	107	0.11	3.8	343	0.01	0.00	37
13	0.00	0.16	0.06	0.00	0.72	132	0.02	2.7	323	0.17	0.00	2.4
14	0.00	1.7	0.00	0.00	32	10	0.00	2.1	11	0.00	0.00	0.03
15	0.00	12	0.00	0.00	17	6.3	0.00	11	1.5	0.00	0.00	0.24
16	0.00	0.61	0.00	0.00	4.3	4.8	130	2.4	0.04	0.00	0.00	0.22
17	0.00	2.2	0.00	0.00	2.5	4.0	29	1.7	0.00	0.00	0.00	0.00
18	1.8	0.52	97	0.00	6.8	3.0	4.3	1.6	0.00	254	0.00	2.7
19	24	0.09	5.0	0.00	67	46	2.5	0.89	4.6	9.1	0.00	0.26
20	0.19	0.00	1.2	0.00	8.7	57	65	2.5	0.07	0.02	0.00	0.00
21	0.00	0.00	0.49	0.62	3.9	9.3	5.5	0.89	0.00	0.00	0.00	0.00
22	0.00	0.00	0.06	0.70	16	4.3	3.7	0.00	0.00	0.00	0.00	6.8
23	0.00	0.00	0.00	0.48	5.8	4.6	2.3	0.00	0.00	0.00	0.00	0.41
24	0.00	0.00	0.00	0.20	6.0	2.3	150	0.39	0.00	0.00	0.00	0.00
25	71	0.00	0.00	0.00	3.4	6.4	111	131	63	0.00	0.00	0.00
26	2.0	0.00	0.00	1.7	2.2	2.2	14	2.6	775	0.00	0.00	257
27	0.52	0.00	0.12	0.93	2.5	1.3	4.0	0.61	5.9	0.00	1.7	27
28	0.00	0.00	1.3	2.5	4.2	11	28	0.00	0.18	0.15	0.00	1.7
29	136	0.00	3.3	2.0	---	3.5	19	0.00	0.00	0.00	0.28	0.07
30	3.0	0.00	3.2	2.0	---	1.2	8.2	2.5	0.00	0.00	0.00	1.6
31	0.55	---	7.6	7.0	---	0.83	---	0.84	---	0.00	20	---
MEAN	14.8	2.12	3.85	1.11	6.99	15.5	20.1	21.2	71.8	11.1	1.97	61.0
MAX	204	17	97	7.0	67	132	150	171	775	254	30	1,040
MIN	0.00	0.00	0.00	0.00	0.72	0.72	0.00	0.00	0.00	0.00	0.00	0.00
IN.	0.80	0.11	0.21	0.06	0.34	0.83	1.05	1.14	3.74	0.60	0.11	3.18

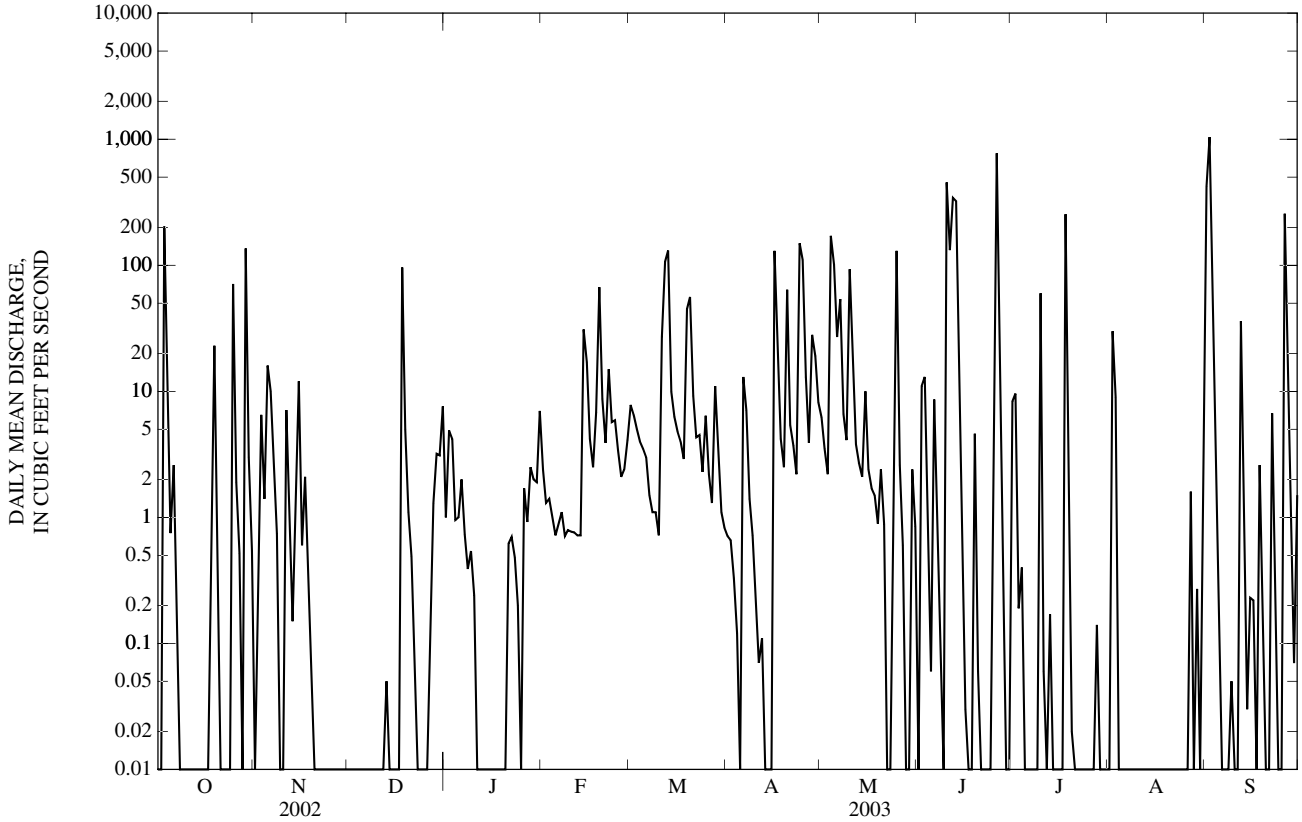
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

MEAN	19.9	8.93	14.9	13.0	5.23	18.9	19.7	42.1	40.8	5.65	1.42	25.3
MAX	25.1	15.7	26.0	24.9	6.99	22.3	20.1	62.9	71.8	11.1	1.97	61.0
(WY)	(2002)	(2002)	(2002)	(2002)	(2003)	(2002)	(2003)	(2002)	(2003)	(2003)	(2003)	(2003)
MIN	14.8	2.12	3.85	1.11	3.47	15.5	19.4	21.2	8.41	0.59	0.73	3.02
(WY)	(2003)	(2003)	(2003)	(2003)	(2002)	(2003)	(2002)	(2003)	(2001)	(2002)	(2001)	(2002)

07010075 DEER CREEK AT LADUE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL MEAN	16.9		19.2		20.0	
HIGHEST ANNUAL MEAN					20.8	2002
LOWEST ANNUAL MEAN					19.2	2003
HIGHEST DAILY MEAN	720	Jun 12	1,040	Sep 2	1,040	Sep 2, 2003
LOWEST DAILY MEAN	0.00	Many Days	0.00	Many Days	0.00	Many Days 2001-2003
ANNUAL SEVEN-DAY MINIMUM	0.00	At Times	0.00	At Times	0.00	At Times
MAXIMUM PEAK FLOW	---		5,530[a]	Sep 2	5,530[a]	Sep 2, 2003
MAXIMUM PEAK STAGE	---		16.86	Sep 2	16.86	Sep 2, 2003
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Many Days 2001-2003
ANNUAL RUNOFF (INCHES)	10.71		12.17		12.67	
10 PERCENT EXCEEDS	27		27		33	
50 PERCENT EXCEEDS	0.12		0.67		0.33	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated
[a] From rating extended above 364 ft^3/s on basis of indirect measurement of peak flow.



07010075 DEER CREEK AT LADUE, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 2001 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
25...	0542	Environmental	25	4.4	8.2	77	7.7	529	11.9	170	52.0	10.0
DEC												
17...	0830	Environmental	<0.01	18	3.2	27	7.3	1,470	6.7	260	80.0	15.0
FEB												
04...	1010	Environmental	1.3	6.4	12.1	85	7.5	1,370	0.1	190	49.0	17.0
APR												
06...	1827	Environmental	44	2.2	10.5	90	8.1	1,150	8.0	210	56.0	16.0
06...	1828	Blank	--	--	--	--	--	--	--	--	0.23	<0.03
JUN												
09...	1255	Environmental	<0.01	15	8.2	97	7.2	817	22.7	200	57.0	13.0
AUG												
11...	1045	Environmental	<0.01	1.8	10.2	126	8.1	571	24.9	150	42.0	10.0
11...	1050	Blank	--	--	--	--	--	--	--	--	<0.02	<0.03

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
25...	117	118	144	<1	--	40	0.90	0.11	0.570	0.02	0.120	0.19	20
DEC													
17...	172	172	210	<1	310	19	0.80	0.12	<0.020	<0.01	0.080	0.18	29
FEB													
04...	102	102	124	<1	420	6	0.80	0.46	0.940	0.03	0.080	0.07	14
APR													
06...	132	131	159	<1	--	18	1.0	0.01	0.320	0.02	0.060	0.12	27
06...	--	--	--	--	--	<1	<0.20	<0.01	<0.020	<0.01	<0.010	<0.02	5
JUN													
09...	126	127	155	<1	--	15	0.60	0.10	0.340	0.03	0.070	0.11	19
AUG													
11...	108	107	131	<1	--	14	0.60	0.06	<0.020	<0.01	0.040	0.09	21
11...	--	--	--	--	--	<1	<0.20	<0.01	<0.020	<0.01	<0.010	<0.02	<5

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, ug/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
25...	7,400	8,200	4,000	<3	1	<1	<1.0	1.5	3.2	20	<1	120	<0.1
DEC													
17...	110	191	26k	8	<1	<1	<1.0	5.5	2.2	83	<1	1,300	<0.1
FEB													
04...	<10b	<10b	<10b	<3	<1	<1	<1.0	1.8	4.0	7	<1	67	<0.1
APR													
06...	320k	4,400	2,850	<3	6	<1	<1.0	3.8	6.0	30	<1	78	<0.1
06...				<3	<1	<1	<1.0	1.3	<1.0	<2	<1	<1	<0.1
JUN													
09...	180	152	36k			<1	<1.0	3.0	3.3	11	<1	149	<0.1
AUG													
11...	51k	84	22k	11	3	<1	<1.0	1.9	2.3	12	<1	156	<0.1
11...				<3	<1	<1	<1.0	<1.0	<1.0	<2	<1	<1	<0.1

07010075 DEER CREEK AT LADUE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
25...	2.1	<1	<1.0	12	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
17...	4.4	<1	<1.0	34	--	--	--	--	--	--	--	--	--
FEB													
04...	2.5	2	<1.0	2	--	--	--	--	--	--	--	--	--
APR													
06...	3.8	1	<1.0	6	<7	<1	<3	M	<2.0	<3	<3	<2	<2
06...	<1.0	<1	<1.0	<2	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
JUN													
09...	3.4	1	<1.0	3	--	--	--	--	--	--	--	--	--
AUG													
11...	2.9	<1	<1.0	4	--	--	--	--	--	--	--	--	--
11...	<1.0	<1	<1.0	<2	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
25...	<2	<2	<1	<0.9	<2	<3	<2	<4	M	M	M	<0.01	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	<2	<2	M	<0.9	<2	<3	<2	M	M	M	<2	<0.002	<0.002
06...	<2	<2	M	<0.9	<2	<3	<2	<4	<2	<2	<2	<0.002	<0.002
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo-[a]-anthracene, water, unfltrd µg/L (34526)	Benzo-[a]-pyrene, water, unfltrd µg/L (34247)	Benzo-[b]-fluoranthene water unfltrd µg/L (34230)	Benzo-[g,h,i]-perylene, water, unfltrd µg/L (34521)	Benzo-[k]-fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
25...	M	<1,000	M	M	M	M	M	<2	<3	<2	<2	<2	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	M	<1,000	M	M	M	M	M	<2	<3	<2	<2	E1	<0.02
06...	<2	<1,000	<2	<1	<2	<2	<1	<2	<3	<2	<2	<2	<0.03
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

07010075 DEER CREEK AT LADUE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
25...	<0.1	<0.01	M	E.01	<1	E.002	<2	M	<2	<2	<0.10	<0.02	<0.01
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	<0.1	<0.01	M	E.01n	M	E.001	<2	<1	M	<2	<0.10	<0.002	<0.01
06...	<0.1	<0.02	<3	<0.03	<1	<0.002	<2	<1	<2	<2	<0.30	<0.002	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
25...	M	<0.01	E.001	<0.01	<2	<1	M	M	<0.014	E.01	<0.01	<0.012	<1
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	M	<0.01	<0.003	<0.002	<2	<1	M	M	<0.002	M	<0.01	<0.002	<1
06...	M	<0.02	<0.003	<0.002	<2	<1	<3	<2	<0.002	<0.30	<0.02	<0.002	<1
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
25...	<3	<2	<2	E.002	E.001	0.013	<0.020	<0.01	<0.1	M	M	<3.0	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	<3	<2	<2	<0.002	<0.002	<0.002	<0.003	<0.01	<0.1	M	M	<3.0	<0.02
06...	<3	<2	<2	<0.002	<0.002	<0.002	<0.003	<0.02	<0.1	<2	<2	E.5	<0.03
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

07010075 DEER CREEK AT LADUE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tribuphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
25...	M	<1	<0.02	<2	<2	<2	<1	<1	<2	<2
DEC										
17...	--	--	--	--	--	--	--	--	--	--
FEB										
04...	--	--	--	--	--	--	--	--	--	--
APR										
06...	M	<1	<0.02	<2	<2	<2	<1	<1	<2	<2
06...	M	<1	<0.03	<2	<2	<2	<1	<1	<2	<2
JUN										
09...	--	--	--	--	--	--	--	--	--	--
AUG										
11...	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07010086 DEER CREEK AT MAPLEWOOD, MO

LOCATION.--Lat 38°36'04", long 90°19'34", St. Louis County, Hydrologic Unit 07140101, on right downstream pier of Big Bend Road bridge, 0.44 mi north of Interstate 44, 4.35 mi east of U.S. 67 (Lindbergh Blvd.), and 0.63 mi upstream of River Des Peres Drainage Channel.

DRAINAGE AREA.--36.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1996 to current year. Annual peaks only for 1969-1974 water years published in WRD MO 1974.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 415.75 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Water-discharge records fair. U.S.G.S. satellite telemeter at station.

REVISIONS.--Revised maximum discharges for water years 1996-2002 are given below. They supersede figures published in the reports of 1998-2002.

Water Year	Date	Maximum Discharge (ft^3/s)	Gage height (ft)
1996	Aug. 23, 1996	4,940[a]	15.57
1997	Nov. 6, 1996	3,010[a]	11.53
1998	July 30, 1998	4,140[a]	14.19
1999	Feb. 7, 1999	5,310[a]	16.17
2000	June 24, 2000	5,460[a]	16.41
2001	July 18, 2001	2,930[a]	11.38
2002	Nov. 24, 2001	2,470[a]	10.52

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.9	1.2	3.7	4.9	18	2.2	11	2.0	6.6	2.2	606
2	2.1	2.8	1.3	9.9	2.5	17	2.3	6.1	31	59	41	1,370
3	294	14	1.3	8.5	3.0	8.5	1.9	3.8	37	4.7	50	34
4	21	4.2	1.7	3.6	2.9	7.9	1.8	276	4.6	1.8	1.7	5.9
5	4.0	31	2.5	4.1	2.7	9.2	1.7	195	2.4	1.9	1.1	2.9
6	6.6	12	2.2	4.6	2.8	5.8	38	49	24	1.4	2.3	2.3
7	3.2	3.8	2.6	2.7	2.8	4.2	16	115	6.6	1.3	1.0	1.9
8	1.5	2.2	1.5	2.0	1.9	3.6	4.0	13	2.2	1.3	1.1	1.5
9	1.2	2.1	1.3	1.7	3.2	3.1	2.9	8.2	1.7	1.3	0.94	1.3
10	1.0	3.0	1.0	1.5	6.7	2.8	1.8	177	628	121	0.84	1.0
11	1.1	6.1	0.99	1.4	2.0	39	1.4	47	238	3.1	0.82	1.7
12	1.2	3.2	0.96	1.1	2.0	190	1.2	7.5	308	1.4	0.74	76
13	1.9	1.5	4.0	1.1	2.0	197	1.1	5.2	366	2.4	0.74	5.4
14	1.3	11	1.9	1.1	75	14	1.1	4.1	24	1.3	0.93	1.9
15	2.0	22	1.3	0.99	42	7.3	1.1	23	6.1	1.4	0.79	2.2
16	1.2	2.5	1.2	1.1	8.0	5.3	196	5.0	3.3	1.2	0.83	1.1
17	1.3	2.1	1.1	1.3	5.5	4.4	69	3.7	2.5	1.1	0.79	1.0
18	15	2.0	142	0.97	17	3.8	5.6	3.4	2.3	374	0.79	1.0
19	52	1.4	12	1.1	125	118	2.9	3.5	18	38	0.72	1.6
20	2.9	1.3	3.6	1.6	17	99	112	5.9	4.3	3.0	0.69	1.8
21	1.6	1.1	1.6	2.7	7.3	17	6.8	3.4	2.2	1.5	0.82	1.6
22	1.4	1.2	1.2	1.3	32	6.1	3.5	2.0	2.1	2.0	0.88	3.4
23	1.3	1.5	1.2	1.2	11	6.6	2.6	1.8	1.6	2.2	0.75	3.1
24	1.8	1.4	1.3	0.94	11	4.2	234	3.9	1.7	2.0	1.0	1.1
25	144	2.9	2.7	5.6	6.3	24	227	262	100	1.2	0.78	1.1
26	6.5	1.3	2.2	1.3	4.1	4.8	28	7.5	1,070	1.0	0.80	388
27	2.4	0.95	2.4	1.8	5.1	2.8	6.8	3.9	13	1.1	16	73
28	2.8	0.98	3.6	2.9	7.5	31	67	3.1	3.5	6.3	3.5	7.6
29	242	1.2	4.6	3.8	---	7.8	93	2.6	2.2	1.7	12	2.3
30	7.6	1.1	4.1	3.0	---	3.1	21	11	8.4	1.3	4.2	7.5
31	2.9	---	17	9.6	---	2.3	---	4.3	---	1.0	74	---
MEAN	26.8	4.79	7.34	2.85	14.8	28.0	38.5	40.9	97.2	20.9	7.25	87.0
MAX	294	31	142	9.9	125	197	234	276	1,070	374	74	1,370
MIN	1.0	0.95	0.96	0.94	1.9	2.3	1.1	1.8	1.6	1.0	0.69	1.0
IN.	0.85	0.15	0.23	0.09	0.42	0.88	1.18	1.29	2.97	0.66	0.23	2.66

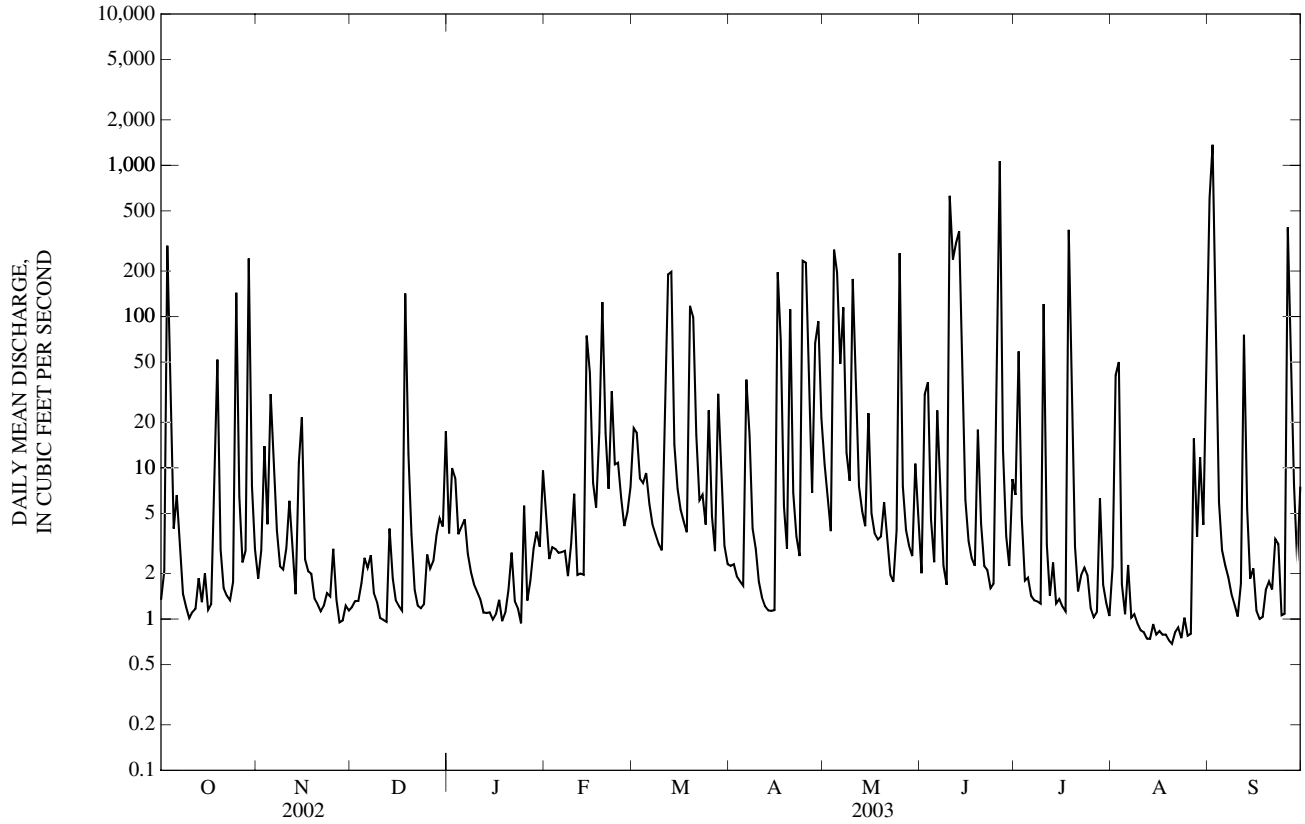
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)

MEAN	17.2	22.5	11.6	23.4	35.5	34.6	26.9	38.2	60.8	24.6	15.9	20.7
MAX	40.0	82.3	40.8	48.4	77.0	108	46.9	89.2	101	48.5	35.3	87.0
(WY)	(2002)	(1997)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(1998)	(1998)	(1996)	(2003)
MIN	8.23	1.93	2.09	2.85	9.52	7.92	9.27	15.4	18.9	2.23	3.67	2.15
(WY)	(1998)	(2000)	(1999)	(2003)	(2002)	(2000)	(2000)	(1999)	(2001)	(1997)	(2001)	(1999)

07010086 DEER CREEK AT MAPLEWOOD, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1996 - 2003	
ANNUAL MEAN	26.8		31.2		27.2	
HIGHEST ANNUAL MEAN					36.5	1998
LOWEST ANNUAL MEAN					15.7	2001
HIGHEST DAILY MEAN	860	Jun 12	1,370	Sep 2	1,980	Jun 24, 2000
LOWEST DAILY MEAN	0.85	Aug 5,Sep 29	0.69	Aug 20	0.24	Oct 20, 1996
ANNUAL SEVEN-DAY MINIMUM	1.0	Sep 25	0.78	Aug 15	0.30	Oct 1, 1996
MAXIMUM PEAK FLOW	---		5,320[b]	Jun 26	5,460[ac]	Jun 24, 2000
MAXIMUM PEAK STAGE	---		16.20	Jun 26	16.41	Jun 24, 2000
INSTANTANEOUS LOW FLOW	---		0.28	Aug 13	0.09	Oct 20, 1996
ANNUAL RUNOFF (INCHES)	9.99		11.61		10.13	
10 PERCENT EXCEEDS	54		62		50	
50 PERCENT EXCEEDS	2.6		2.9		2.3	
90 PERCENT EXCEEDS	1.2		1.1		0.82	

[a] From rating extended above 1,050 ft^3/s on basis of indirect measurement of peak flow.
[b] Discharge determined by indirect measurement of peak flow.
[c] Revised



07010086 DEER CREEK AT MAPLEWOOD, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 2001 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
25...	0632	Environmental	143	4.6	7.2	69	7.6	455	13.1	140	41.0	9.00
DEC												
17...	0945	Environmental	1.1	6.6	5.8	50	7.7	2,830	7.6	270	78.0	19.0
FEB												
04...	0840	Environmental	2.9	6.1	9.6	72	7.6	3,070	2.3	310	87.0	22.0
MAR												
28...	1447	Environmental	118	9.5	10.6	99	7.3	875	11.4	170	52.0	10.0
JUN												
09...	1430	Environmental	1.7	14	5.3	61	7.3	822	21.5	220	66.0	14.0
AUG												
11...	1205	Environmental	0.89	11	7.0	86	7.4	989	24.6	250	71.0	17.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
25...	86	85	103	<1	--	114	2.8	1.50	0.850	0.07	0.210	0.41	26
DEC													
17...	176	177	216	<1	600	25	2.1	0.91	0.720	0.06	0.090	0.22	28
FEB													
04...	132	134	164	<1	800	17	2.7	0.85	0.940	0.09	0.060	0.09	24
MAR													
28...	98	99	121	<1	--	27	1.5	0.33	0.660	0.04	0.080	0.22	28
JUN													
09...	151	150	183	<1	--	7	1.2	0.54	0.850	0.10	0.160	0.23	19
AUG													
11...	145	146	179	<1	--	20	1.1	0.75	0.590	0.09	0.070	0.15	18

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
25...	17000k	55,000	11,700	6	2	<1	<1.0	1.2	3.4	58	<1	165	<0.1
DEC													
17...	96	168k	33k	<3	<1	<1	<1.0	3.5	3.1	68	<1	707	<0.1
FEB													
04...	<10b	10k	32k	<3	<1	<1	<1.0	1.8	5.4	24	<1	504	<0.1
MAR													
28...	3,500	26,000	3,700	7	2	<1	<1.0	5.5	5.4	42	<1	222	<0.1
JUN													
09...	60	64	76	5	2	<1	<1.0	3.6	2.6	72	<1	229	<0.1
AUG													
11...	60	72	46	5	3	<1	<1.0	2.3	3.7	36	<1	223	<0.1

07010086 DEER CREEK AT MAPLEWOOD, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
25...	2.6	<1	<1.0	23	E4n	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
17...	4.5	<1	<1.0	16	--	--	--	--	--	--	--	--	--
FEB													
04...	4.6	2	<1.0	14	--	--	--	--	--	--	--	--	--
MAR													
28...	3.6	1	<1.0	27	<7	<1	<3	M	<2.0	<3	<3	<2	<2
JUN													
09...	3.7	2	<1.0	5	--	--	--	--	--	--	--	--	--
AUG													
11...	3.9	2	<1.0	6	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
25...	<2	M	<1	<0.9	<2	<3	<2	<4	M	M	M	<0.01	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	<2	<2	<1	<0.9	<2	<3	<2	E2	M	M	<2	<0.002	<0.002
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo[a]anthracene, water, unfltrd µg/L (34526)	Benzo[a]pyrene, water, unfltrd µg/L (34247)	Benzo[b]fluoranthene water unfltrd µg/L (34230)	Benzo[g,h,i]-perylene, water, unfltrd µg/L (34521)	Benzo[k]fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
25...	M	<1,000	M	M	M	M	M	<2	<3	<2	<2	<2	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	M	<1,000	M	M	E1	M	M	<2	<3	<2	<2	E2	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

07010086 DEER CREEK AT MAPLEWOOD, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
25...	<0.1	<0.01	M	E.01	M	E.008	M	M	<2	<2	<0.10	M	<0.01
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	M	<0.01	M	E.01n	M	0.009	<2	M	E1	M	<0.10	<0.002	<0.01
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
25...	E1	<0.01	<0.009	<0.01	<2	<1	M	M	E.001	E.03	<0.01	<0.012	<1
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	E1	<0.01	<0.003	<0.002	<2	<1	M	M	<0.002	M	<0.01	<0.002	<1
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
25...	<3	<2	<2	E.012	E.005	0.113	E.001	<0.01	<0.1	M	M	<3.0	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	<3	<2	<2	E.002	<0.002	0.002	E.002	<0.01	<0.1	M	M	E.2	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

07010086 DEER CREEK AT MAPLEWOOD, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tributphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
25...	M	<1	<0.02	<2	<2	<2	<1	<1	<2	M
DEC										
17...	--	--	--	--	--	--	--	--	--	--
FEB										
04...	--	--	--	--	--	--	--	--	--	--
MAR										
28...	E1	<1	<0.02	<2	<2	<2	M	<1	<2	<2
JUN										
09...	--	--	--	--	--	--	--	--	--	--
AUG										
11...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07010090 MACKENZIE CREEK NEAR SHREWSBURY, MO

LOCATION.--Lat 38°34'37", long 90°19'24", St. Louis County, Hydrologic Unit 07140101, on right downstream bridge abutment at Resurrection Cemetery, 1.24 mi south of Interstate 44, 4.48 mi east of U.S. 67 (Lindbergh Blvd.), and 0.85 mi upstream of River Des Peres Drainage Channel.

DRAINAGE AREA.--3.49 mi^2.

PERIOD OF RECORD.--May 1997 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage unknown.

REMARKS.--Record fair except for estimated daily discharges and discharges below 0.5 ft^3/s, which are poor.

REVISIONS.--Revised maximum discharges for water years 1997-2002 and revised daily discharges for high-water periods in these years, are given below. They supersede figures published in the reports of 1998-2002.

Water Year	Date	Maximum Discharge (ft^3/s)	Gage height (ft)	Water Year	Date	Maximum Discharge (ft^3/s)	Gage height (ft)
1997	June 17, 1997	601[a]	7.56	2000	July 31, 2000	1,260[a]	9.65
1998	June 11,1998	1,730[a]	10.80	2001	June 20, 2001	1,070[a]	9.10
1999	July 9, 1999	981[a]	8.85	2002	June 11, 2002	1,570[a]	10.43

Water Year	Daily Mean Date	Discharge	Date	Discharge	Monthly Mean Discharge	
1998	June 11, 1998	108	July 30, 1998	128	June - 11.7	July - 8.20
	Aug. 16, 1998	46	Aug. 18, 1998	58	August - 5.68	
1999	Feb. 7, 1999	115			February - 7.01	
	July 1, 1999	36	July 9, 1999	25	July - 2.51	
2000	June 24, 2000	160	July 31, 2000	65	June - 7.79	July - 4.88
	June 20, 2001	54				
2001	July 4, 2001	22	July 24, 2001	27	June - 3.66	July - 4.36
2002	June 11, 2002	104	June 12, 2002	73	June - 7.08	

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.14	0.39	0.32	0.90	0.36	4.5	0.92	2.7	0.85	0.54	e0.57	e11
2	0.16	0.40	0.48	4.5	0.31	2.4	0.85	1.9	6.5	e0.53	e0.68	e73
3	10	0.50	0.40	1.5	0.30	1.1	1.1	1.7	3.3	e0.51	e0.33	e3.3
4	2.4	0.47	0.78	1.1	0.15	1.0	1.8	45	1.3	e0.49	e0.27	e1.3
5	0.31	0.56	0.86	1.7	0.18	1.7	0.85	18	0.86	e0.45	e0.22	e0.76
6	1.4	0.47	0.23	1.1	0.38	1.4	7.9	12	4.0	e0.45	e0.19	e0.52
7	0.30	0.45	0.39	0.86	0.41	0.83	2.5	9.0	1.0	e0.44	e0.18	e0.42
8	0.20	0.39	0.22	0.72	0.28	0.71	2.3	1.9	0.71	e0.51	e0.17	e0.39
9	0.18	e0.40	0.39	0.63	0.26	0.63	0.97	1.4	2.0	e0.45	e0.14	e0.36
10	0.16	e0.43	0.17	0.48	0.36	0.63	0.72	44	47	e11	e0.13	e0.38
11	0.16	e0.53	0.16	0.42	0.34	9.5	0.60	8.1	24	e0.63	e0.12	0.43
12	0.18	e0.42	0.16	0.39	0.29	14	0.63	2.9	19	e0.52	e0.22	10
13	0.21	0.39	1.6	0.38	0.26	15	0.50	2.4	9.5	e0.45	e1.2	1.1
14	0.21	2.8	0.28	0.28	12	2.5	0.44	1.8	2.3	e0.44	e0.40	0.60
15	0.21	2.4	0.16	0.26	5.0	1.9	0.85	8.1	1.4	e0.41	e0.30	0.39
16	0.21	0.28	0.18	0.26	1.0	1.7	25	1.8	1.3	e0.39	e0.24	e0.40
17	0.33	0.18	0.34	0.23	1.0	1.5	4.5	1.5	0.93	e0.59	e0.20	e0.43
18	4.6	0.19	12	0.21	5.3	1.4	1.3	1.5	0.72	e30	e0.17	0.39
19	7.8	0.21	1.9	0.45	17	13	1.0	1.4	5.4	e1.7	e0.15	e0.55
20	0.38	0.20	1.0	0.25	2.1	8.6	11	12	1.1	e0.59	e0.13	0.39
21	0.28	0.21	1.0	0.47	1.2	2.3	1.3	1.4	0.70	e0.50	e0.13	e0.42
22	0.23	e0.20	0.67	0.35	6.0	1.8	0.94	2.6	0.97	e0.41	e0.12	e0.71
23	0.21	e0.23	0.63	0.18	1.3	1.7	0.72	1.0	0.68	e0.37	e0.12	0.39
24	0.21	e0.22	0.65	0.16	2.7	1.4	24	1.7	0.52	e0.34	e0.13	0.33
25	22	e0.27	0.91	0.17	1.00	2.5	38	53	41	e0.32	e0.11	0.32
26	0.69	e0.22	1.1	0.27	0.88	1.3	3.6	2.7	68	e0.31	e0.11	2.3
27	0.38	0.21	1.1	2.8	1.3	1.2	1.7	1.8	1.8	e0.31	e0.28	1.8
28	0.32	0.34	2.3	1.2	1.1	7.7	11	1.4	1.2	e0.36	e0.21	0.80
29	28	0.43	1.3	0.30	---	1.4	13	1.1	0.82	e0.30	e1.1	0.46
30	0.78	0.32	1.4	0.16	---	1.1	3.3	2.9	0.60	e0.26	e0.25	1.2
31	0.42	---	5.5	1.6	---	1.0	---	1.00	---	e0.26	e1.2	---
MEAN	2.68	0.49	1.24	0.78	2.24	3.46	5.44	8.05	8.32	1.77	0.32	3.83
MAX	28	2.8	12	4.5	17	15	38	53	68	30	1.2	73
MIN	0.14	0.18	0.16	0.16	0.15	0.63	0.44	1.0	0.52	0.26	0.11	0.32
IN.	0.89	0.16	0.41	0.26	0.67	1.14	1.74	2.66	2.66	0.58	0.10	1.22

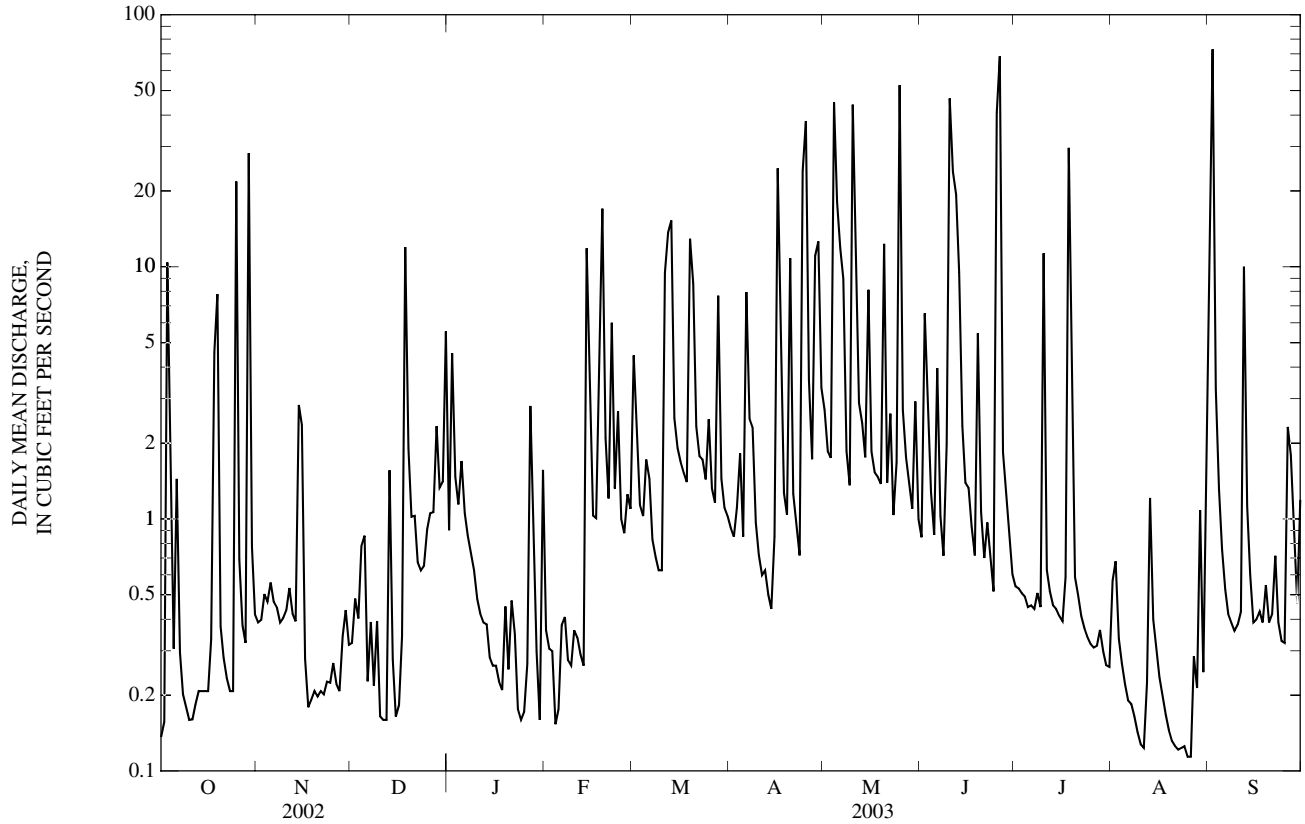
07010090 MACKENZIE CREEK NEAR SHREWSBURY, MO—Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)												
MEAN	2.02	1.48	1.71	2.42	3.58	3.99	3.83	5.46	7.17	3.90	2.46	1.67
MAX	3.42	2.27	4.41	4.97	8.01	11.4	5.68	9.82	13.2	10.1	7.16	3.83
(WY)	(2002)	(2002)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(1998)	(1998)	(1998)	(2003)
MIN	1.10	0.32	0.43	0.78	1.33	0.85	1.05	1.29	2.56	0.38	0.32	0.52
(WY)	(2001)	(2000)	(1999)	(2003)	(2002)	(2000)	(2000)	(1999)	(1999)	(2002)	(2003)	(1999)

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	3.36		3.21		3.38	
HIGHEST ANNUAL MEAN					5.46	1998
LOWEST ANNUAL MEAN					2.15	2001
HIGHEST DAILY MEAN	139	Jun 11	73	Sep 2	160	Jun 24, 2000
LOWEST DAILY MEAN	0.10	Sep 8,9,12	0.11	Aug 25	0.06	Aug 21, 2001
ANNUAL SEVEN-DAY MINIMUM	0.12	Sep 6	0.12	Aug 20	0.07	Sep 1, 2001
MAXIMUM PEAK FLOW	---		1,300[a]	Sep 2	1,730[ab]	Jun 11, 1998
MAXIMUM PEAK STAGE	---		9.76	Sep 2	10.80	Jun 11, 1998
INSTANTANEOUS LOW FLOW	---		0.11	Aug 25,26	0.03	Aug 21, 2001
ANNUAL RUNOFF (INCHES)	13.08		12.50		13.15	
10 PERCENT EXCEEDS	6.7		8.1		6.3	
50 PERCENT EXCEEDS	0.58		0.68		0.65	
90 PERCENT EXCEEDS	0.16		0.20		0.18	

e Estimated
[a] From rating extended above 156 ft3/s on basis on indirect measurement of peak flow.
[b] Revised.



07010097 RIVER DES PERES AT ST. LOUIS, MO

LOCATION.--Lat 38°33'34", long 90°16'59", City of St. Louis, Hydrologic Unit 07140101, on right downstream abutment of Morganford Bridge, 0.6 mi north of I-55, 2.1 mi east of Mackenzie Road, and 2.4 mi upstream from confluence to the Mississippi River.

DRAINAGE AREA.--82.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Feb. 8, 2002 to current year

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--Water-discharge records fair except for estimated daily discharges, which are poor. U.S.G.S. satellite telemeter at station.

EXTREMES FOR CURRENT YEAR.--Maximum stage for period Feb. 8 to Sept. 30, 9.93 ft, occurring during backwater, discharge, unknown; minimum discharge 0.22 ft^3/s, Sept. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	4.6	6.5	e8.4	e5.0	0.94	1.4	1.3
2	---	---	---	---	---	336	7.4	e7.5	e4.4	1.0	1.1	0.53
3	---	---	---	---	---	26	6.8	e6.5	e4.4	0.74	0.79	0.56
4	---	---	---	---	---	51	5.4	e5.8	e4.0	0.70	1.6	0.63
5	---	---	---	---	---	7.8	5.6	e5.2	e97	0.70	184	0.56
6	---	---	---	---	---	8.1	5.1	e55	e5.0	0.68	560	0.52
7	---	---	---	---	---	6.6	6.7	e805	e3.9	0.60	7.0	0.47
8	---	---	---	---	4.8	5.9	233	e426	e3.3	0.70	2.0	0.53
9	---	---	---	---	4.3	488	15	e754	e6.8	0.43	1.3	0.52
10	---	---	---	---	5.0	16	8.3	e23	e85	0.52	1.1	0.49
11	---	---	---	---	5.8	9.7	6.8	e14	e868	1.4	87	0.31
12	---	---	---	---	5.0	9.1	20	e77	e1,480	5.7	9.5	0.88
13	---	---	---	---	4.1	7.8	11	e1,140	e19	1.0	11	0.63
14	---	---	---	---	3.9	7.0	7.9	e21	e9.2	0.61	6.5	0.99
15	---	---	---	---	4.0	231	5.3	e14	e6.1	0.47	2.9	0.64
16	---	---	---	---	4.0	51	4.8	e48	e4.5	35	1.8	1.4
17	---	---	---	---	3.7	10	4.9	e369	e3.6	22	1.7	120
18	---	---	---	---	3.4	8.1	4.8	e30	e3.3	137	336	22
19	---	---	---	---	189	50	211	e13	e2.9	6.8	11	167
20	---	---	---	---	23	35	385	e9.2	e2.4	1.5	3.3	248
21	---	---	---	---	8.5	12	28	e8.0	e1.9	1.3	1.9	9.5
22	---	---	---	---	5.6	8.5	e13	e7.0	e1.9	14	1.9	2.5
23	---	---	---	---	5.0	7.6	e9.0	e6.7	e1.6	74	2.2	1.8
24	---	---	---	---	4.8	8.6	e91	e13	e1.2	1.9	4.1	1.1
25	---	---	---	---	5.5	386	e16	e8.4	e44	0.83	1.5	1.4
26	---	---	---	---	9.8	60	e8.1	e5.4	1.0	0.79	0.95	1.1
27	---	---	---	---	9.0	24	e264	e80	1.1	1.1	0.71	1.3
28	---	---	---	---	5.8	13	e112	e150	0.60	0.78	0.69	1.8
29	---	---	---	---	---	10	e14	e15	0.67	0.73	0.80	3.0
30	---	---	---	---	---	8.8	e10	e7.3	0.91	2.8	0.66	0.79
31	---	---	---	---	---	7.4	---	e5.5	---	2.0	0.63	---
MEAN	---	---	---	---	---	61.8	50.9	133	89.1	10.3	40.2	19.7
MAX	---	---	---	---	---	488	385	1,140	1,480	137	560	248
MIN	---	---	---	---	---	4.6	4.8	5.2	0.60	0.43	0.63	0.31

e Estimated

07010097 RIVER DES PERES AT ST. LOUIS, MO—Continued

LOCATION.--Lat 38°33'34", long 90°16'59", City of St. Louis, Hydrologic Unit 07140101, on right downstream abutment of Morganford Bridge, 0.6 mi north of I-55, 2.1 mi east of Mackenzie Road, and 2.4 mi upstream from confluence to the Mississippi River.

DRAINAGE AREA.--82.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.-- Feb. 8, 2002 to current year.

GAGE.-- Water-stage recorder. Datum of gage is unknown.

REMARKS.-- Water-discharge records fair except for estimated daily discharges, which are poor. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.70	3.6	3.0	9.4	8.3	11	e2.9	11	e1.7	3.9	1.1	1,560
2	0.83	3.1	2.2	16	3.8	15	e2.8	7.6	45	51	2.8	2,950
3	856	17	2.1	16	3.1	7.3	e2.6	4.4	106	9.3	171	54
4	42	7.8	3.0	8.0	3.2	5.2	5.1	642	7.2	2.6	2.6	9.2
5	6.9	63	4.6	7.0	3.8	6.5	3.0	e207	3.1	2.0	1.2	3.9
6	8.7	17	4.4	8.6	2.6	4.4	57	e40	37	1.9	1.2	2.2
7	4.5	7.4	3.9	6.2	6.7	2.8	30	e138	11	1.2	1.2	1.7
8	2.1	5.4	4.0	4.6	6.3	2.3	7.6	e13	2.9	1.1	0.75	1.1
9	1.5	4.3	2.7	3.7	2.4	1.8	4.7	e8.6	2.2	0.80	0.60	1.0
10	1.2	3.8	2.8	3.1	6.8	1.7	3.2	e399	1,240	304	0.43	0.89
11	1.0	4.5	2.5	5.1	2.8	36	2.7	e30	506	5.0	0.40	1.1
12	1.2	6.0	2.3	4.4	2.0	433	2.4	e9.9	411	2.5	0.37	178
13	1.3	4.1	5.4	5.2	2.2	373	2.2	e7.4	861	2.2	0.39	11
14	1.4	8.7	4.3	2.7	210	14	2.0	e6.5	43	2.1	0.45	3.0
15	1.7	58	2.6	4.4	66	8.1	2.0	e87	12	1.9	0.48	1.5
16	1.4	8.4	2.7	7.9	11	6.0	321	e8.7	4.6	1.7	0.46	1.7
17	1.5	4.8	2.4	9.0	9.9	5.6	224	e6.2	3.2	1.3	0.44	0.96
18	15	5.5	360	4.1	19	5.3	9.4	e5.2	2.3	799	0.42	0.74
19	228	4.2	31	4.2	291	300	4.8	e6.2	91	78	0.49	0.84
20	4.8	3.7	9.6	4.0	25	185	228	e31	7.8	4.0	0.54	1.0
21	2.1	2.8	12	9.2	7.9	22	9.3	e7.0	3.3	1.6	0.48	1.0
22	1.9	2.3	4.2	9.0	49	8.0	4.7	e6.2	2.3	1.2	1.0	0.83
23	1.9	2.6	3.6	3.6	13	e5.9	3.1	e4.7	1.9	2.3	0.28	3.0
24	1.1	2.6	4.3	5.3	9.4	e4.8	464	e4.2	1.4	2.0	0.32	1.3
25	509	3.1	7.6	12	10	e50	509	e1,160	140	1.8	0.31	0.65
26	13	3.0	9.3	8.6	4.4	e5.8	39	e13	3,350	1.2	0.53	1,040
27	4.7	2.1	9.9	12	3.6	e4.2	9.3	e7.2	14	1.1	3.7	332
28	4.1	2.1	9.4	15	6.0	e78	169	e5.1	3.5	4.4	4.6	10
29	667	2.4	10	6.6	---	e13	184	e4.0	1.8	2.8	9.9	2.7
30	16	2.2	9.3	4.8	---	e4.7	67	e13	3.8	1.2	7.4	4.7
31	5.2	---	30	9.3	---	e3.5	---	e4.7	---	1.0	234	---
MEAN	77.7	8.85	18.2	7.39	28.2	52.4	79.2	93.5	231	41.8	14.5	206
MAX	856	63	360	16	291	433	509	1,160	3,350	799	234	2,950
MIN	0.70	2.1	2.1	2.7	2.0	1.7	2.0	4.0	1.4	0.80	0.28	0.65

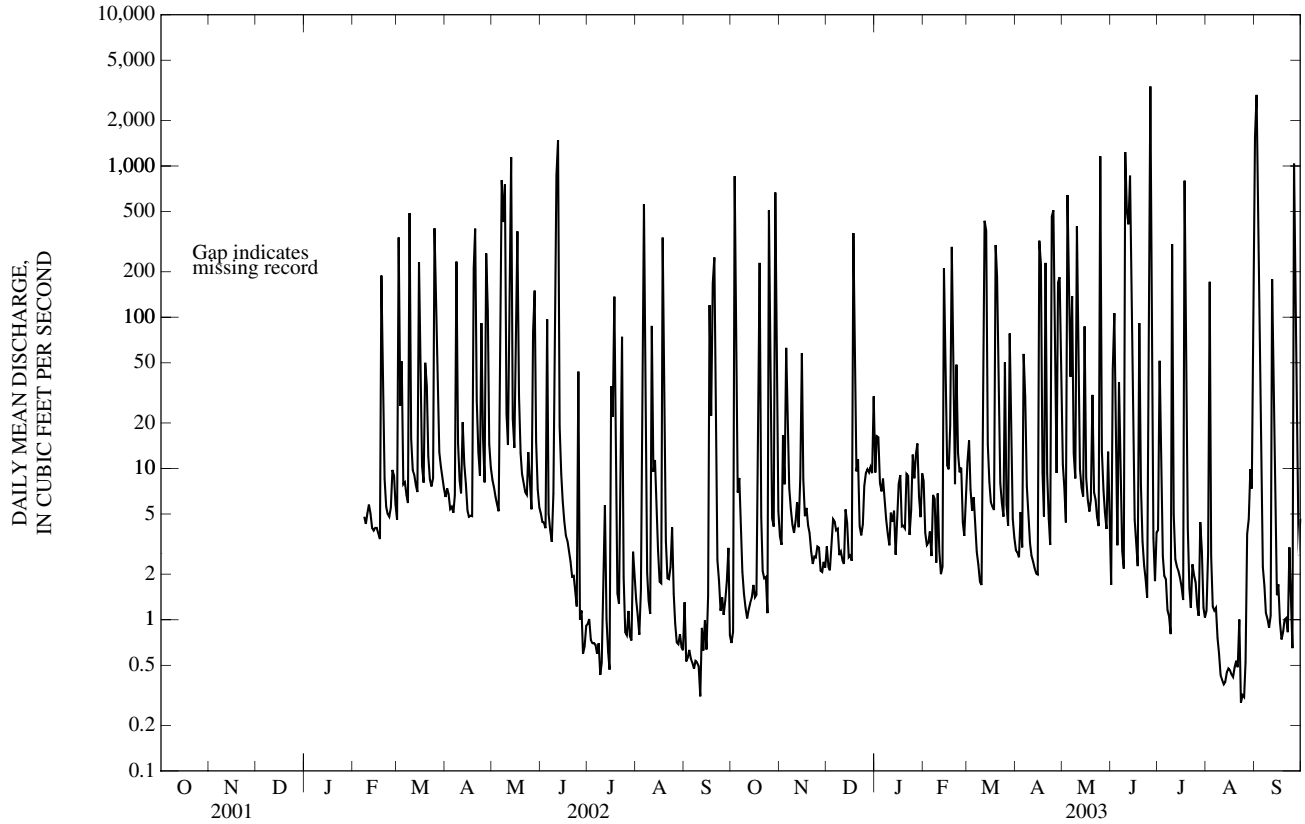
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	77.7	8.85	18.2	7.39	28.2	57.1	65.0	113	160	26.0	27.4	113
MAX	77.7	8.85	18.2	7.39	28.2	61.8	79.2	133	231	41.8	40.2	206
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2003)	(2002)	(2003)	(2003)	(2002)	(2003)
MIN	77.7	8.85	18.2	7.39	28.2	52.4	50.9	93.5	89.1	10.3	14.5	19.7
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2003)	(2002)	(2002)	(2003)	(2002)

07010097 RIVER DES PERES AT ST. LOUIS, MO—Continued

SUMMARY STATISTICS	FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL MEAN	71.2		71.2	
HIGHEST ANNUAL MEAN			71.2	2003
LOWEST ANNUAL MEAN			71.2	2003
HIGHEST DAILY MEAN	3,350	Jun 26	3,350	Jun 26, 2003
LOWEST DAILY MEAN	0.28	Aug 23	0.28	Aug 23, 2003
ANNUAL SEVEN-DAY MINIMUM	0.43	Aug 10	0.43	Aug 10, 2003
MAXIMUM PEAK FLOW	19,900[a]	Jun 26	19,900[a]	Jun 26, 2003
MAXIMUM PEAK STAGE	19.85	Jun 26	19.85	Jun 26, 2003
INSTANTANEOUS LOW FLOW	0.24	Aug 23	0.22	Sep 12, 2002
10 PERCENT EXCEEDS	52		152	
50 PERCENT EXCEEDS	4.6		4.6	
90 PERCENT EXCEEDS	1.1		1.1	

e Estimated
[a] Discharge determined by indirect measurement of peak flow.



07010097 RIVER DES PERES AT ST. LOUIS, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 2002 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
29...	0300	Environmental	314	3.0	8.8	85	7.4	1,450	12.4	51	16.0	2.60
DEC												
17...	1100	Environmental	2.4	2.7	12.7	108	8.0	1,920	7.2	250	68.0	20.0
FEB												
03...	1045	Environmental	3.2	2.9	11.5	100	7.9	2,030	7.6	240	63.0	19.0
03...	1046	Blank	--	--	--	--	4.7	4	18.4	--	0.03	<0.03
MAR												
19...	1109	Environmental	752	3.6	8.1	81	7.7	744	14.0	140	42.0	7.80
JUN												
09...	1550	Environmental	2.4	0.1	--e	--e	9.2	769	31.6	180	49.0	14.0
AUG												
11...	1315	Environmental	0.32	0.2	13.4	182	8.9	647	30.3	170	46.0	14.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
29...	39	39	48	<1	--	79	1.5	0.26	0.470	0.02	0.170	0.39	12
DEC													
17...	139	138	168	<1	430	6	0.60	0.03	0.610	0.05	<0.010	0.05	18
FEB													
03...	130	130	159	<1	470	5	0.70	0.23	0.950	0.05	0.040	0.06	17
03...	--	--	--	--	<0.10	<1	<0.20	<0.01	<0.020	<0.01	<0.010	<0.02	<5
MAR													
19...	100	110	134	<1	--	444	3.6	0.04	0.640	0.02	0.180	0.83	66
JUN													
09...	110	107	74	28	--	<1	0.70	0.04	0.030	0.01	0.090	0.14	32
AUG													
11...	91	90	70	20	--	2	0.60	0.02	<0.020	<0.01	0.060	0.10	17

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
29...	39,000k	24,000k	36,000	9	<1	<1	<1.0	<1.0	3.0	46	<1	42	<0.1
DEC													
17...	4k	40k	44k	11	<1	<1	<1.0	5.1	2.6	28	<1	112	<0.1
FEB													
03...	23k	20k	14k	4	<1	<1	<1.0	2.1	3.9	12	<1	178	<0.1
03...	--	--	--	<3	<1	<1	<1.0	<1.0	<1.0	<2	<1	<1	<0.1
MAR													
19...	25,000	74,000	14,000	8	2	<1	<1.0	2.7	2.9	21	<1	115	0.4
JUN													
09...	240	520	58	121	3	<1	<1.0	1.9	3.5	80	<1	22	<0.1
AUG													
11...	270	470	80	18	4	<1	<1.0	1.0	2.8	41	<1	19	<0.1

07010097 RIVER DES PERES AT ST. LOUIS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
29...	<1.0	4	<1.0	7	E5n	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
17...	3.6	<1	<1.0	6	--	--	--	--	--	--	--	--	--
FEB													
03...	3.9	2	<1.0	10	--	--	--	--	--	--	--	--	--
03...	<1.0	<1	<1.0	<2	--	--	--	--	--	--	--	--	--
MAR													
19...	2.4	1	<1.0	6	E4n	<1	<3	M	E.5	<3	<3	<2	<2
JUN													
09...	3.0	2	<1.0	3	--	--	--	--	--	--	--	--	--
AUG													
11...	2.5	2	<1.0	5	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
29...	<2	<2	<1	<0.9	<2	<3	<2	<4	M	M	M	<0.01	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<2	<2	<1	<0.9	<2	<3	<2	E1	M	M	M	<0.01	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo[a]anthracene, water, unfltrd µg/L (34526)	Benzo[a]pyrene, water, unfltrd µg/L (34247)	Benzo[b]fluoranthene water unfltrd µg/L (34230)	Benzo[g,h,i]-perylene, water, unfltrd µg/L (34521)	Benzo[k]fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
29...	M	<1,000	M	M	M	M	M	<2	<3	<2	<2	E3	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	M	<1,000	E2	E3	4	E2	E1	<2	<3	<2	<2	<3	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

07010097 RIVER DES PERES AT ST. LOUIS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
29...	<0.1	M	M	0.02	M	E.003	M	<1	<2	<2	<0.10	<0.02	<0.01
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	E.1	0.02	3	0.05	M	<0.017	<2	<1	M	M	E.01	<0.02	<0.01
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
29...	M	<0.01	<0.009	<0.01	<2	<1	M	M	<0.014	E.01	<0.01	<0.012	<1
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	6	<0.01	<0.009	<0.01	<2	<1	E2	M	<0.014	E.02	<0.02	<0.012	M
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
29...	<3	<2	<2	E.003	E.001	E.008	E.002	<0.01	<0.1	M	M	<3.0	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<3	<2	M	<0.016	<0.014	0.016	<0.020	<0.01	<0.1	M	3	E.2	<0.02
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

07010097 RIVER DES PERES AT ST. LOUIS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tributphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
29...	M	<1	<0.02	<2	<2	<2	M	<1	<2	M
DEC										
17...	--	--	--	--	--	--	--	--	--	--
FEB										
03...	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
MAR										
19...	5	<1	<0.02	<2	<2	<2	M	<1	<2	M
JUN										
09...	--	--	--	--	--	--	--	--	--	--
AUG										
11...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
e -- Required equipment not functional/available

07010180 GRAVOIS CREEK NEAR MEHLVILLE, MO

LOCATION.--Lat 38°31'36", long 90°17'58", St. Louis County, Hydrologic Unit 07140101, on center downstream pier of Green Park Road bridge, 1.10 mi south of Interstate 55, 0.24 mi west of Highway 267 (Lemay Ferry Road), and 3.48 mi upstream of River Des Peres Drainage Channel.

DRAINAGE AREA.--18.1 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1996 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 422.15 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.93	2.9	e1.1	2.5	e4.4	e13	3.2	11	7.0	3.7	e2.4	e550
2	0.93	2.9	e0.96	e8.4	e2.7	e14	2.9	7.5	17	3.6	e11	e1,290
3	e191	15	e0.91	e6.8	e2.3	e8.4	2.7	5.4	24	3.9	6.7	e41
4	e12	6.4	1.7	e3.2	e2.1	e5.7	27	224	11	e3.1	e2.6	e5.2
5	2.0	23	2.3	e2.8	e1.8	e6.3	6.9	144	8.7	e2.7	e1.7	e3.3
6	e4.2	5.5	2.6	e3.9	e1.9	e4.7	3.4	47	19	e2.3	e2.5	2.3
7	2.1	3.1	2.4	e2.0	e1.9	e3.1	3.6	68	4.8	e2.1	e1.5	2.3
8	1.4	2.7	e1.4	e1.6	e1.5	e3.1	3.4	13	3.7	e2.0	e1.4	2.0
9	1.2	2.2	e1.1	e1.3	e3.0	e2.5	3.4	8.4	3.6	2.4	e1.3	e1.9
10	e0.90	2.5	e0.89	e1.3	e5.1	e2.5	4.2	153	254	15	e1.1	e1.8
11	1.1	e7.2	e0.81	e1.1	e2.3	2.4	3.0	51	101	5.0	e1.0	1.6
12	1.1	5.2	e0.78	e0.98	e1.5	103	2.6	11	341	e2.4	e0.96	52
13	e1.5	2.6	e3.5	e0.83	e1.3	76	2.4	8.2	151	e3.2	e0.91	4.7
14	e1.3	e4.7	e1.8	e0.83	e48	12	2.3	7.2	21	e2.0	e1.1	2.1
15	e1.5	e15	e1.2	e0.78	e28	7.8	2.1	15	e13	e1.6	e0.93	1.5
16	1.0	2.6	e0.80	e0.88	e7.4	5.8	104	7.0	e6.5	e1.6	e1.0	1.3
17	1.1	2.1	e1.5	e1.1	e4.1	4.7	30	6.2	e4.7	e1.5	e1.0	1.2
18	1.4	1.8	e114	e0.74	e12	4.3	5.4	5.8	e4.1	277	e0.96	1.0
19	e36	e1.6	e9.0	e0.93	e90	46	3.6	6.0	25	21	e0.91	0.83
20	e2.7	e1.5	e2.7	e0.98	e19	46	e64	40	e10	e3.9	e0.77	0.69
21	2.0	e1.3	e1.4	e2.7	e7.9	13	5.5	6.0	e5.0	e2.7	e0.99	0.75
22	1.4	e1.1	e1.2	e1.6	e25	6.3	4.1	5.4	e4.1	e2.9	e0.93	0.83
23	e1.1	e1.2	e1.0	e1.2	e11	6.1	3.1	5.3	e3.4	e3.4	e0.85	0.81
24	1.3	e1.2	e1.1	e0.98	e9.5	5.2	88	5.2	e3.2	e2.9	e1.0	0.85
25	162	e2.3	e2.3	e4.6	e7.4	9.9	191	325	27	e2.3	e0.88	1.3
26	6.3	e1.5	e2.1	e2.3	e4.1	7.0	20	17	756	e1.7	e1.1	123
27	3.0	e0.86	e2.0	e1.6	e4.1	3.9	9.6	e7.5	8.8	e1.8	e11	24
28	2.3	e0.82	e2.6	e2.7	e6.8	30	98	6.3	e6.0	5.4	e2.3	2.7
29	177	e1.8	e4.2	e3.4	---	13	48	5.3	e4.9	e2.2	e8.8	1.7
30	7.4	e1.3	e3.6	e2.6	---	4.5	18	6.9	e4.0	e2.1	e3.5	5.7
31	4.0	---	e12	e8.3	---	3.4	---	9.0	---	e1.9	e10	---
MEAN	20.4	4.13	5.97	2.42	11.3	15.3	25.5	39.9	61.8	12.6	2.68	70.9
MAX	191	23	114	8.4	90	103	191	325	756	277	11	1,290
MIN	0.90	0.82	0.78	0.74	1.3	2.4	2.1	5.2	3.2	1.5	0.77	0.69
IN.	1.30	0.25	0.38	0.15	0.65	0.97	1.57	2.54	3.81	0.80	0.17	4.37

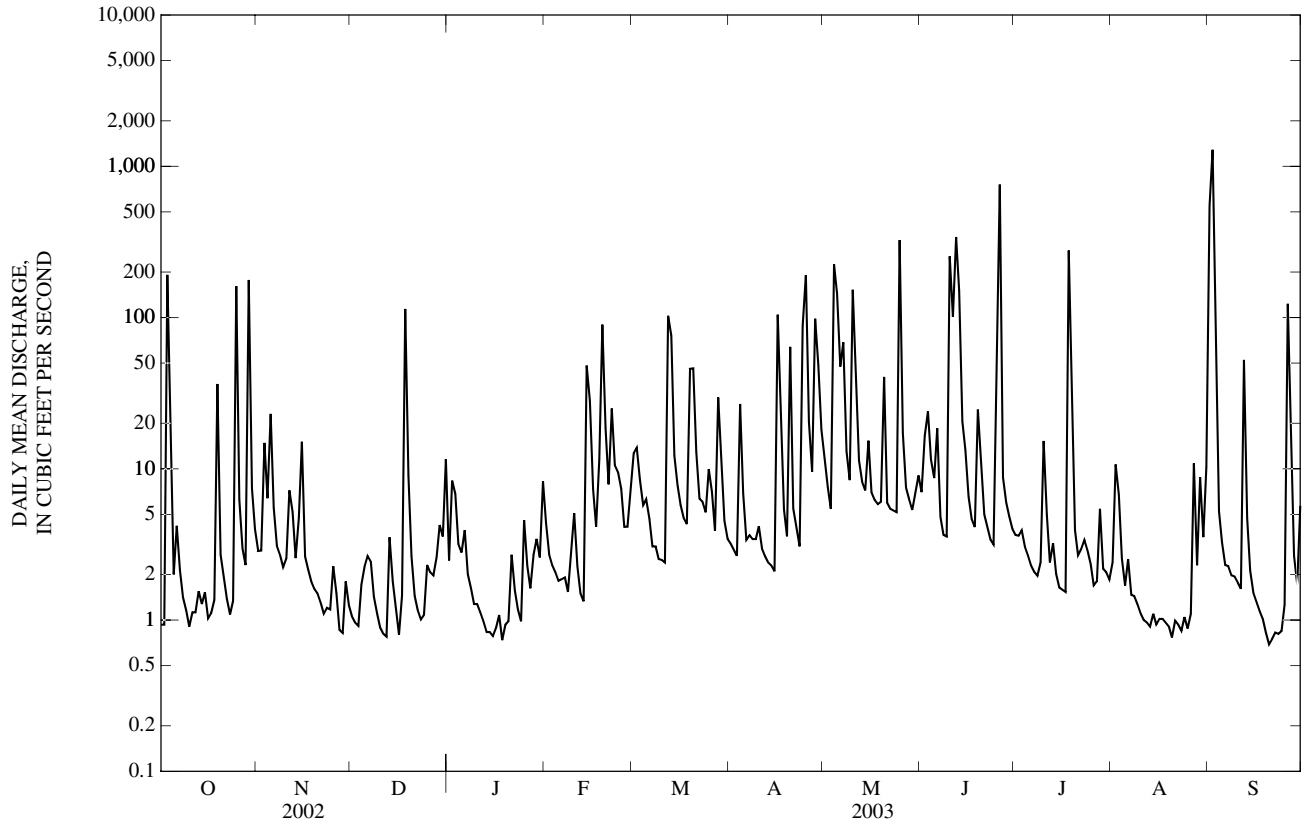
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)

MEAN	12.2	15.2	10.8	19.9	24.6	24.2	19.9	27.5	39.9	19.9	12.7	17.9
MAX	20.4	45.0	34.1	51.4	49.5	69.8	32.0	53.1	65.6	44.3	27.3	70.9
(WY)	(2003)	(1997)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(1998)	(1998)	(2000)	(2003)
MIN	7.44	2.04	4.02	2.42	8.53	7.19	6.43	8.31	15.4	3.57	1.63	2.56
(WY)	(1998)	(2000)	(2001)	(2003)	(2002)	(2000)	(2000)	(1999)	(2001)	(2002)	(2001)	(1999)

07010180 GRAVOIS CREEK NEAR MEHLVILLE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1996 - 2003	
ANNUAL MEAN	18.6		22.6		20.2	
HIGHEST ANNUAL MEAN					27.4	1998
LOWEST ANNUAL MEAN					12.2	2001
HIGHEST DAILY MEAN	433	Jun 12	1,290	Sep 2	1,290	Sep 2, 2003
LOWEST DAILY MEAN	0.78	Dec 12	0.69	Sep 20	0.14	Aug 22, 2001
ANNUAL SEVEN-DAY MINIMUM	1.0	Sep 26	0.82	Sep 18	0.18	Aug 16, 2001
MAXIMUM PEAK FLOW	---		4,450[a]	Sep 2	4,450[a]	Sep 2, 2003
MAXIMUM PEAK STAGE	---		16.66	Sep 2	16.66	Sep 2, 2003
INSTANTANEOUS LOW FLOW	---		0.69	Sep 19-21	0.14	Aug 20, 2001
ANNUAL RUNOFF (INCHES)	13.92		16.98		15.17	
10 PERCENT EXCEEDS	35		32		38	
50 PERCENT EXCEEDS	3.8		3.2		4.0	
90 PERCENT EXCEEDS	1.2		1.00		1.1	

e Estimated
[a] From rating extended above 1,150 ft^3/s on basis of indirect measurement of peak flow.



07010180 GRAVOIS CREEK NEAR MEHLVILLE, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1996 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
03...	0330	Environmental	e191	--	5.8	68	7.5	208	22.4	210	65.0	12.0
DEC												
17...	1300	Environmental	1.5	8.8	10.2	87	7.6	3,730	6.7	400	124	22.0
FEB												
03...	1250	Environmental	2.3	6.8	12.1	99	7.6	2,550	4.7	280	80.0	20.0
APR												
04...	1628	Environmental	133	6.7	7.6	82	7.5	784	17.6	170	51.0	10.0
JUN												
24...	1100	Environmental	e3.2	9.2	6.9	80	7.7	1,180	21.7	370	115	19.0
AUG												
11...	1415	Environmental	1.0	12	7.3	95	7.5	1,200	27.6	350	106	20.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
03...	133	135	164	<1	--	778	2.1	0.13	0.440	<0.01	0.070	0.51	15
DEC													
17...	185	186	227	<1	1,010	9	0.60	0.03	0.650	0.02	0.040	0.08	25
FEB													
03...	153	153	186	<1	650	7	0.70	0.19	0.930	0.03	0.050	0.07	13
APR													
04...	107	107	131	<1	--	325	2.7	0.19	0.450	0.02	0.060	0.44	32
JUN													
24...	243	245	299	<1	--	10	0.50	0.06	0.750	0.01	0.030	0.06	11
AUG													
11...	191	189	231	<1	--	15	0.40	0.04	0.320	<0.01	0.020	0.05	13

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
03...	1,900k	7,430	5,800	<3	1	<1	<1.0	2.2	2.3	6	<1	49	<0.1
DEC													
17...	17k	4k	23k	17	1	<1	<1.0	4.9	3.2	58	<1	235	<0.1
FEB													
03...	8k	43k	63k	<3	<1	<1	<1.0	2.5	4.2	12	<1	186	<0.1
APR													
04...	4,800	6,600	2,600	5	7	<1	1.0	4.5	4.5	28	<1	211	<0.1
JUN													
24...	270	420	152	<3	2	<1	<1.0	4.4	1.8	9	<1	199	<0.1
AUG													
11...	88	228	84	3	2	<1	<1.0	2.0	2.5	6	<1	160	<0.1

07010180 GRAVOIS CREEK NEAR MEHLVILLE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
03...	2.3	<1	<1.0	4	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
17...	5.1	<1	<1.0	8	--	--	--	--	--	--	--	--	--
FEB													
03...	3.6	1	<1.0	6	--	--	--	--	--	--	--	--	--
APR													
04...	4.2	1	<1.0	13	<7	<1	<3	M	<2.0	<3	<3	<2	<2
JUN													
24...	5.1	2	<1.0	5	--	--	--	--	--	--	--	--	--
AUG													
11...	5.6	2	<1.0	6	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
03...	<2	<2	<1	<0.9	<2	<3	<2	E1	M	M	M	<0.01	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
04...	<2	<2	<1	<0.9	<2	<3	<2	M	M	M	M	<0.002	<0.002
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo[a]anthracene, water, unfltrd µg/L (34526)	Benzo[a]pyrene, water, unfltrd µg/L (34247)	Benzo[b]fluoranthene water unfltrd µg/L (34230)	Benzo[g,h,i]perylene, water, unfltrd µg/L (34521)	Benzo[k]fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
03...	M	<1,000	M	E1	E2	E1	M	<2	<3	<2	<2	<2	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
04...	M	<1,000	E2	E3	E6	E3	E2	M	<3	<2	<2	E2	<0.02
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

07010180 GRAVOIS CREEK NEAR MEHLVILLE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
03...	<0.1	<0.01	E1	E.01	M	E.001	E2	M	<2	<2	<0.10	<0.02	<0.01
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
04...	M	<0.01	E5	0.02	M	0.004	M	M	E1	<2	<0.10	<0.002	<0.01
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
03...	3	<0.01	<0.009	<0.01	<2	<1	E1	M	<0.014	E.01	<0.01	<0.012	<1
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
04...	E9	<0.01	<0.003	<0.002	<2	<1	E3	M	E.001	E.01	<0.01	<0.002	<1
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
03...	<3	<2	<2	E.002	<0.014	<0.009	<0.020	<0.01	<0.1	M	E1	E.1	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
04...	<3	<2	<2	<0.002	<0.002	0.016	<0.003	<0.01	<0.1	M	E4	<3.0	<0.02
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

07010180 GRAVOIS CREEK NEAR MEHLVILLE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tribuphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
03...	2	<1	<0.02	<2	<2	M	<1	<1	<2	M
DEC										
17...	--	--	--	--	--	--	--	--	--	--
FEB										
03...	--	--	--	--	--	--	--	--	--	--
APR										
04...	E7	<1	<0.02	<2	<2	M	<1	<1	<2	M
JUN										
24...	--	--	--	--	--	--	--	--	--	--
AUG										
11...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
e -- estimated discharge
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

07010208 MARTIGNEY CREEK NEAR ARNOLD, MO

LOCATION.--Lat 38°29'26", long 90°17'36", St. Louis County, Hydrologic Unit 07140101, on left downstream abutment of Sunrise Height Drive bridge, 0.1 mi south of Interstate 255, 0.5 mi east of Highway 231 (Telegraph Road), and 1.04 mi upstream of Mississippi River.

DRAINAGE AREA.--2.64 mi^2.

PERIOD OF RECORD.--May 1997 to current year.

GAGE.--Water-stage recorder. Datum of gage unknown.

REMARKS.--Records fair except for estimated daily discharges which are poor.

REVISIONS.--Revised maximum discharges for water years 2000-2001 are given below. They supersede figures published in the reports of 2000-2001.

Water Year	Date	Maximum Discharge (ft^3/s)	Gage height (ft)
2000	June 24, 2000	1,560[a]	12.79
2001	July 24, 2001	1,220[a]	10.47

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.43	e0.51	0.88	2.7	0.53	2.5	0.77	2.9	1.2	1.6	1.0	24
2	1.1	e1.00	0.87	5.3	0.43	2.2	0.67	2.1	5.0	1.1	1.1	45
3	3.0	e2.1	0.81	2.3	0.64	0.83	0.69	1.8	3.0	0.96	0.61	2.3
4	2.4	e0.90	0.93	1.9	0.44	0.78	18	30	1.2	0.94	0.41	1.2
5	0.73	e3.7	1.5	2.0	0.35	1.2	3.1	24	0.95	0.90	0.42	0.82
6	1.6	e1.3	0.75	1.6	0.57	0.62	5.5	75	4.9	0.85	0.39	0.71
7	0.48	e0.67	0.81	1.4	0.51	0.56	2.4	14	1.4	0.82	0.95	0.63
8	0.49	0.86	0.77	1.3	0.37	0.61	1.9	17	0.97	0.75	0.40	0.60
9	0.47	e0.75	0.60	1.3	0.36	0.70	1.3	4.7	0.96	0.73	0.39	0.59
10	0.72	e0.77	0.59	1.2	0.45	0.68	1.1	22	31	6.7	0.40	0.62
11	0.70	e0.67	0.55	1.1	0.40	7.0	0.91	7.2	21	0.89	0.41	0.60
12	0.62	e0.62	0.55	1.0	0.35	15	0.79	3.2	54	0.75	0.51	3.5
13	1.4	e0.61	3.5	1.1	0.34	11	0.74	2.6	39	0.71	0.61	1.0
14	0.90	e0.58	0.78	1.0	8.9	1.6	0.75	2.1	5.1	0.68	0.59	0.70
15	0.78	5.2	0.39	0.95	10	1.0	0.93	4.9	2.5	0.67	e0.51	0.68
16	0.73	0.92	0.43	0.96	0.97	0.84	10	2.2	1.8	0.67	e0.46	0.67
17	0.61	0.53	0.45	0.81	0.80	0.69	3.6	1.8	1.6	0.66	e0.43	0.69
18	4.3	0.50	15	0.76	7.9	0.65	1.3	1.7	1.4	20	e0.42	0.69
19	10	0.45	4.4	0.75	39	9.2	1.2	1.6	5.1	2.3	e0.40	0.72
20	0.87	0.47	1.4	0.78	3.7	6.2	8.2	11	1.3	0.92	e0.37	0.83
21	0.50	0.45	1.1	0.72	1.8	1.7	1.4	1.6	1.1	0.72	e0.36	0.80
22	e0.39	0.49	0.98	0.68	4.6	1.1	1.1	1.2	1.1	0.62	e0.34	0.77
23	e0.39	0.48	0.85	0.61	1.4	1.3	1.0	1.2	1.3	0.63	e0.33	0.70
24	e0.38	0.50	0.90	0.55	2.9	0.92	26	1.2	1.4	0.54	e0.34	0.66
25	e17	0.69	1.2	0.64	0.91	2.6	49	34	10	0.52	e0.33	0.65
26	e1.4	0.58	1.3	1.3	0.79	1.0	5.3	2.5	99	0.46	e0.33	19
27	e0.46	0.55	1.2	e0.43	0.93	0.88	3.1	1.7	2.0	0.46	2.5	3.1
28	e0.50	0.59	2.1	e0.57	0.74	5.2	10	1.8	1.4	0.61	0.32	0.86
29	e25	0.79	2.0	e0.61	---	1.3	4.2	1.5	1.2	0.63	5.4	0.62
30	e1.7	0.79	12	e0.50	---	0.70	2.7	2.1	4.2	0.68	1.0	2.4
31	e0.60	---	12	1.4	---	0.72	---	1.5	---	0.68	4.9	---
MEAN	2.60	0.97	2.31	1.23	3.25	2.62	5.59	9.10	10.2	1.62	0.87	3.87
MAX	25	5.2	15	5.3	39	15	49	75	99	20	5.4	45
MIN	0.38	0.45	0.39	0.43	0.34	0.56	0.67	1.2	0.95	0.46	0.32	0.59
IN.	1.14	0.41	1.01	0.54	1.28	1.15	2.36	3.98	4.31	0.71	0.38	1.64

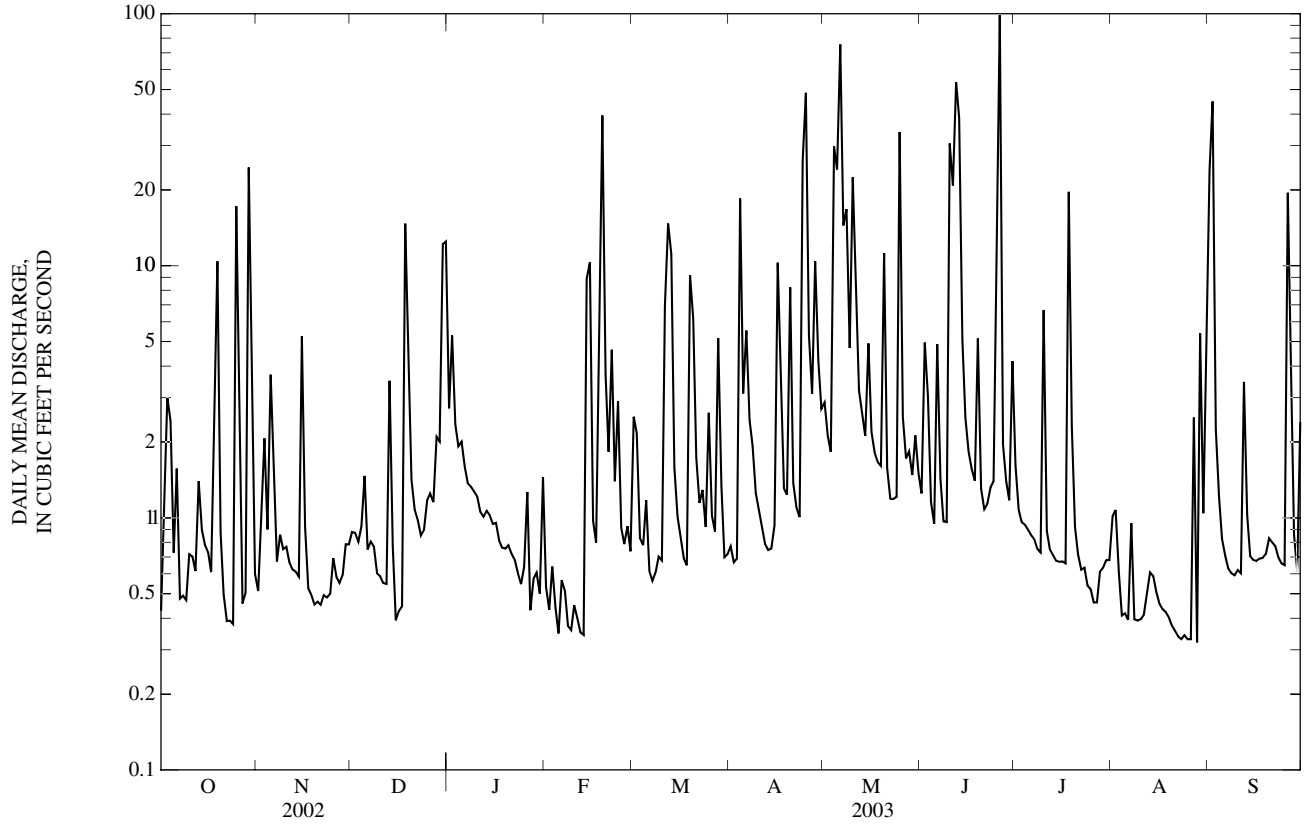
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	1.77	1.95	2.03	2.53	3.35	3.79	3.60	5.60	5.55	2.68	2.12	1.87
MAX	2.60	3.25	5.45	4.53	5.65	8.47	5.59	9.10	10.2	6.53	4.25	3.87
(WY)	(2003)	(2002)	(2002)	(1999)	(1999)	(1998)	(2003)	(2003)	(2003)	(1998)	(2000)	(2003)
MIN	1.21	0.74	0.38	1.23	1.49	1.69	1.30	1.44	2.10	0.71	0.87	0.49
(WY)	(1998)	(2000)	(1999)	(2003)	(2002)	(2000)	(2000)	(1999)	(1999)	(1997)	(2003)	(1999)

07010208 MARTIGNEY CREEK NEAR ARNOLD, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	2.94		3.67		3.15	
HIGHEST ANNUAL MEAN					3.97	1998
LOWEST ANNUAL MEAN					2.19	1999
HIGHEST DAILY MEAN	81	Jan 31	99	Jun 26	126	Jun 24, 2000
LOWEST DAILY MEAN	0.21	Jul 20,21,27	0.32	Aug 28	0.17	Sep 23, 1999
ANNUAL SEVEN-DAY MINIMUM	0.22	Jul 24	0.34	Aug 20	0.20	Dec 23, 1998
MAXIMUM PEAK FLOW	---		1,430[b]	May 6	1,560[ac]	Jun 24, 2000
MAXIMUM PEAK STAGE	---		12.29	May 6	12.79	Jun 24, 2000
INSTANTANEOUS LOW FLOW	---		0.29	Aug 27,28	0.13	Oct 1, 1999
ANNUAL RUNOFF (INCHES)	15.14		18.89		16.19	
10 PERCENT EXCEEDS	7.1		8.0		6.2	
50 PERCENT EXCEEDS	0.73		0.93		0.73	
90 PERCENT EXCEEDS	0.35		0.45		0.37	

e Estimated
[a] From rating extended above 419 ft3/s on basis of indirect measurement of peak flow.
[b] Discharge determined by indirect measurement of peak flow.
[c] Revised



07010500 MARAMEC SPRING NEAR ST. JAMES, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 37°57'20", long 91°31'57", SE ¼ SW ¼ NE ¼ sec.1, T.37 N., R.6 W., Phelps County, Hydrologic Unit 07140102, in Maramec Spring Park, approximately 5 mi east of St. James on Highway 8.

PERIOD OF RECORD.--November 1993 to August 1997, November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
13...	1110	Environmental	105	8.5	87	7.6	340	15.1	180	37.5	21.0	1.24
JAN												
14...	1230	Environmental	92	8.3	81	7.0	314	13.6	--	--	--	--
MAR												
04...	1210	Environmental	129	6.7	68	7.0	313	13.8	--	--	--	--
MAY												
05...	1515	Environmental	215	7.8	78	7.2	226	13.5	110	23.5	13.1	1.48
JUL												
30...	1350	Environmental	129	9.3	95	7.0	312	14.3	--	--	--	--
SEP												
04...	1000	Environmental	123	5.7	57	7.0	342	14.0	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
13...	4.11	184	184	224	<1	5.82	<0.20	4.8	182	<10	E.09	<0.04	0.38
JAN													
14...	--	141	142	173	<1	--	--	--	--	<10	E.06	<0.04	0.83
MAR													
04...	--	136	136	165	<1	--	--	--	--	<10	<0.10	<0.04	0.74
MAY													
05...	3.81	104	103	126	<1	6.58	<0.17	5.5	129	<10	E.09	<0.04	0.61
JUL													
30...	--	139	140	171	<1	--	--	--	--	<10	E.10	<0.04	0.82
SEP													
04...	--	157	160	195	<1	--	--	--	--	<10	E.07n	<0.04	0.77

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
13...	<0.008	E.01	<0.04	E.03	20	12k	13k	<2	26	E.2	<0.04	<0.2	<6
JAN													
14...	<0.008	E.02	0.04	E.03	1k	15k	14k	--	--	--	--	--	--
MAR													
04...	<0.008	0.02	E.03	E.02	2k	18k	10k	--	--	--	--	--	--
MAY													
05...	E.006	<0.02	E.03	0.04	33	46	32	3	232	<0.3	<0.04	<0.2	<6
JUL													
30...	E.004	E.01	E.03	E.03	6k	38	265	--	--	--	--	--	--
SEP													
04...	<0.008	<0.18d	<0.04	<0.04	8k	11k	71	--	--	--	--	--	--

07010500 MARAMEC SPRING NEAR ST. JAMES, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
13...	<10	<0.08	<1	<2.0	<0.02	<0.5	32	30
JAN								
14...	--	--	--	--	--	--	--	--
MAR								
04...	--	--	--	--	--	--	--	--
MAY								
05...	<10	<0.08	<1	<2.0	<0.02	<0.5	1	E1
JUL								
30...	--	--	--	--	--	--	--	--
SEP								
04...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

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 146.4.

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 the National Weather Service.

REVISED RECORDS.--WSP 897: 1939. WSP 1007: Drainage Area.

GAGE.--Water-stage recorder. Datum of gage is 681.68 ft above National Geodetic Vertical Datum of 1929. Prior to May 24, 1934, and from July 20, 1966 to July 20, 1967, nonrecording gage, 400 ft downstream, same datum; May 24, 1934 to July 20, 1966, water-stage recorder at present site and datum; July 20, 1967 to Feb. 13, 1973, water-stage recorder at site 1,900 ft downstream and at datum 1.8 ft lower; Feb, 14, 1973 to current year, water-stage recorder at present site and datum.

REMARKS.--No estimated daily discharges. 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 Aug. 20, 1915, reached a stage of 26.5 ft, discharge, 60,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

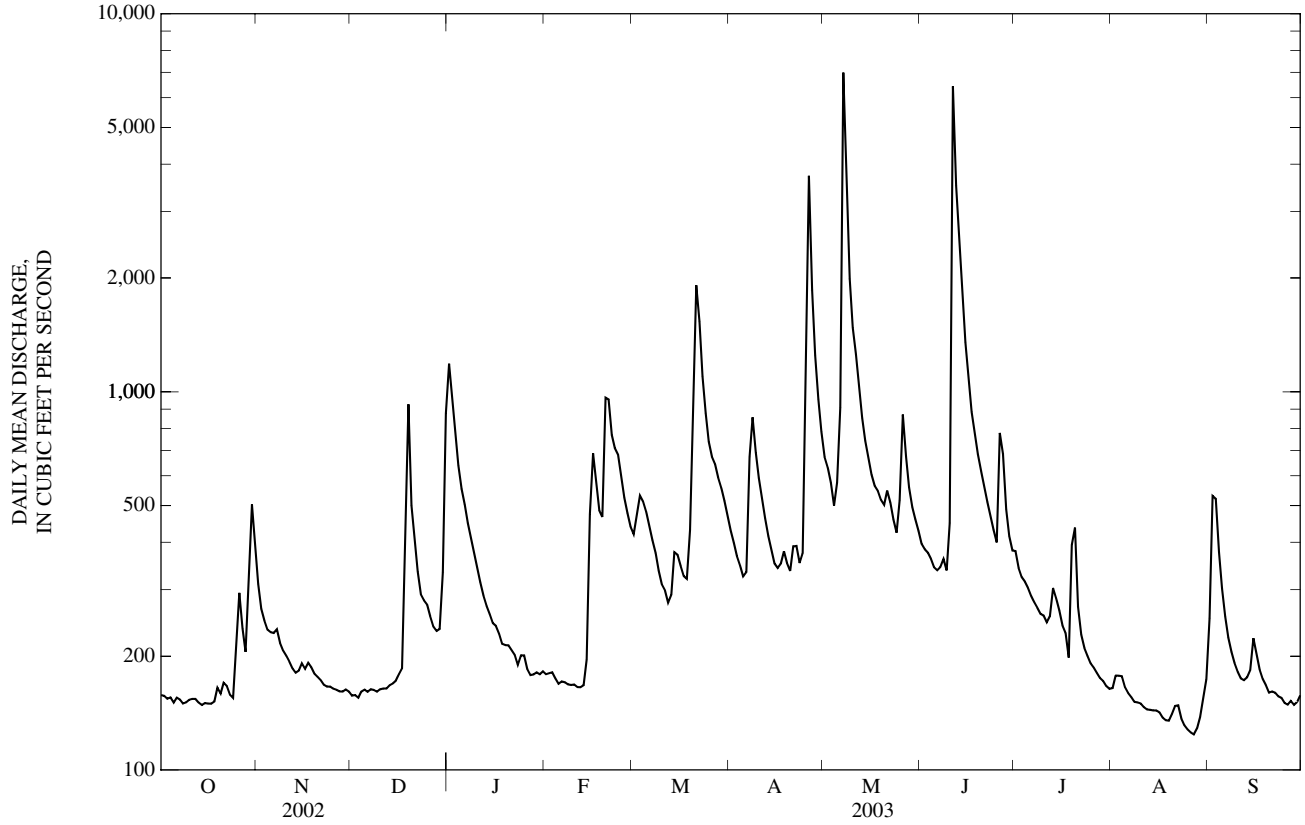
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	158	310	157	1,190	179	421	430	672	397	379	165	252
2	157	267	158	961	180	469	399	630	384	342	178	530
3	154	248	155	783	181	532	368	576	376	324	178	521
4	156	235	161	639	174	513	347	500	362	315	177	377
5	151	231	163	554	169	482	325	575	343	304	165	302
6	155	230	161	503	171	442	334	909	337	289	160	254
7	154	236	163	450	171	405	673	6,990	344	278	156	224
8	150	217	163	411	168	375	857	3,340	361	268	152	205
9	151	207	161	377	168	337	691	1,990	337	259	151	192
10	153	200	163	344	168	309	592	1,480	450	256	150	182
11	154	193	164	314	166	299	521	1,260	6,420	246	147	175
12	154	186	164	289	166	277	464	1,050	3,510	255	145	173
13	151	181	168	272	168	291	416	852	2,540	303	144	176
14	149	183	169	259	196	377	382	742	1,880	285	144	184
15	150	191	172	244	475	371	352	668	1,350	264	144	223
16	150	185	179	240	688	347	342	605	1,090	241	142	203
17	150	192	186	229	582	326	351	565	884	231	138	184
18	152	187	321	216	486	320	379	547	778	198	135	174
19	165	180	926	214	467	431	353	519	684	394	135	168
20	159	176	501	214	965	1,120	336	502	618	437	141	160
21	170	173	400	207	955	1,910	390	548	563	270	148	161
22	167	168	335	201	769	1,540	391	510	512	228	148	160
23	158	166	291	190	710	1,100	352	460	470	210	137	157
24	155	166	281	201	682	877	374	424	432	201	131	155
25	214	164	274	201	595	738	1,020	516	400	191	128	150
26	294	163	255	185	526	674	3,720	871	779	187	126	149
27	237	161	239	178	478	645	1,860	674	685	181	124	152
28	205	161	233	179	441	593	1,250	558	489	175	129	149
29	330	163	236	181	---	556	956	496	415	172	138	151
30	504	161	333	179	---	515	784	460	381	167	155	157
31	388	---	878	182	---	469	---	429	---	164	174	---
MEAN	190	196	268	348	402	583	667	997	952	259	148	213
MAX	504	310	926	1,190	965	1,910	3,720	6,990	6,420	437	178	530
MIN	149	161	155	178	166	277	325	424	337	164	124	149
IN.	0.28	0.28	0.40	0.51	0.54	0.86	0.95	1.47	1.36	0.38	0.22	0.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2003, BY WATER YEAR (WY)

MEAN	281	490	565	562	658	875	1,081	1,001	723	378	266	277
MAX	2,562	2,995	4,712	3,155	2,397	2,842	4,954	4,370	4,644	3,461	1,181	2,664
(WY)	(1950)	(1994)	(1983)	(1950)	(1985)	(1945)	(1994)	(2002)	(1935)	(1998)	(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)

07013000 MERAMEC RIVER NEAR STEELVILLE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1923 - 2003	
ANNUAL MEAN	755		435		596	
HIGHEST ANNUAL MEAN					1,473	1985
LOWEST ANNUAL MEAN					177	1954
HIGHEST DAILY MEAN	21,300	May 18	6,990	May 7	44,600	Jul 27, 1998
LOWEST DAILY MEAN	149	Jan 23,Oct 14	124	Aug 27	76	Jul 22, 1934
ANNUAL SEVEN-DAY MINIMUM	151	Oct 12	130	Aug 23	78	Oct 5, 1956
MAXIMUM PEAK FLOW	---		10,300	May 7	55,800	Jul 27, 1998
MAXIMUM PEAK STAGE	---		11.64	May 7	27.22	Jul 27, 1998
INSTANTANEOUS LOW FLOW	---		123	Aug 26,27	74	Jul 22, 1934
ANNUAL RUNOFF (INCHES)	13.12		7.56		10.36	
10 PERCENT EXCEEDS	1,110		778		1,090	
50 PERCENT EXCEEDS	245		264		266	
90 PERCENT EXCEEDS	160		153		131	



07014000 HUZZAH CREEK NEAR STEELVILLE, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 37°58'29", long 91°12'16", in SW ¼ SW ¼ SE ¼ sec.25, T.38 N., R.3 W., Crawford County, Hydrologic Unit 07140102, at bridge on State Highway 8 at Huzzah Valley Resort, approximately 9 mi east of Steelville.

DRAINAGE AREA.--259 mi^2.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
12...	1320	Environmental	84	15.3	144	8.2	383	11.8	210	43.6	25.2	0.95
JAN												
13...	1220	Environmental	127	14.8	119	7.9	325	5.6	--	--	--	--
MAR												
03...	1215	Environmental	255	13.5	112	7.6	317	6.2	--	--	--	--
MAY												
06...	1420	Environmental	478	9.3	102	7.8	286	18.4	150	30.7	17.1	1.18
JUL												
29...	1240	Environmental	69	8.9	108	8.0	392	23.6	210	39.2	25.0	1.24
SEP												
11...	1215	Environmental	56	10.6	124	8.1	399	22.0	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
12...	4.84	208	208	254	<1	4.78	<0.20	13.6	213	<10	E.08	<0.04	0.12
JAN													
13...	--	184	184	225	<1	--	--	--	--	<10	E.07	<0.04	0.39
MAR													
03...	--	151	151	184	<1	--	--	--	--	<10	E.07	<0.04	0.27
MAY													
06...	4.79	138	136	166	<1	3.07	<0.17	13.1	166	<10	0.12	<0.04	0.17
JUL													
29...	6.44	186	187	228	<1	4.06	<0.20	15.5	197	<10	E.07	<0.04	0.24
SEP													
11...	--	185	186	227	<1	--	--	--	--	<10	E.10n	<0.04	0.18

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
12...	<0.008	<0.02	E.02	<0.04	<1b	13k	5k	<2	5	E.2	<0.04	<0.2	<6
JAN													
13...	<0.008	<0.02	<0.04	<0.04	1k	1k	<1b	--	--	--	--	--	--
MAR													
03...	<0.008	<0.02	<0.04	<0.04	<1b	1k	3k	--	--	--	--	--	--
MAY													
06...	<0.008	<0.02	<0.04	<0.04	8k	46	62	3	92	E.2	<0.04	<0.2	<6
JUL													
29...	<0.008	<0.02	<0.04	<0.04	7k	28	42	Mn	15	E.2n	<0.04	<0.2	<7
SEP													
11...	<0.008	<0.02	<0.04	<0.04	1k	31	24	--	--	--	--	--	--

07014000 HUZZAH CREEK NEAR STEELVILLE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
12...	<10	<0.08	<1	E2.7b	<0.02	E.3	M	2
JAN								
13...	--	--	--	--	--	--	--	--
MAR								
03...	--	--	--	--	--	--	--	--
MAY								
06...	<10	<0.08	<1	6.4	<0.02	<0.5	M	E2
JUL								
29...	E4n	<0.08	<1	5.1	<0.02	<0.5	Mn	<2
SEP								
11...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07014200 COURTOIS CREEK AT BERRYMAN, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 37°55'05", long 91°06'04", in NE ¼ SW ¼ SW ¼ sec.13, T.37 N., R.2 W., Crawford County, Hydrologic Unit 07140102, at bridge on State Highway 8, approximately 13 mi east of Steelville.

DRAINAGE AREA.--173 mi^2.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
12...	0850	Environmental	57	10.9	101	8.3	398	11.3	220	44.7	26.6	0.61
12...	0851	Blank	--	--	--	--	--	--		0.24	0.027	<0.10
JAN												
13...	1035	Environmental	97	15.1	116	7.8	326	3.7	--	--	--	--
13...	1036	Blank	--	--	--	--	--	--	--	--	--	--
MAR												
03...	1010	Environmental	150	13.1	102	7.4	300	3.8	--	--	--	--
03...	1011	Blank	--	--	--	--	--	--	--	--	--	--
MAY												
06...	1045	Blank	--	--	--	--	--	--	--	E.01n	<0.008	<0.16
06...	1130	Environmental	441	9.6	99	7.6	213	15.5	130	28.2	15.6	0.95
JUL												
29...	1010	Blank	--	--	--	--	--	--	--	--	--	--
29...	1030	Environmental	35	7.5	90	7.5	387	23.2	--	--	--	--
SEP												
11...	1020	Blank	--	--	--	--	--	--	--	--	--	--
11...	1030	Environmental	61	8.2	96	7.9	415	21.8	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
12...	2.88	189	186	227	0.0	3.52	<0.2	22.7	236	<10	E.08	<0.04	0.06
12...	0.88	--	--	--	--	<0.20	<0.2	0.2	<10	<10	E.05	<0.04	<0.06
JAN													
13...	--	161	159	194	0.0	--	--	--	--	<10	E.07	<0.04	0.20
13...	--	--	--	--	--	--	--	--	--	<10	<0.10	<0.04	<0.06
MAR													
03...	--	152	150	183	0.0	--	--	--	--	<10	E.06	<0.04	0.12
03...	--	--	--	--	--	--	--	--	--	<10	<0.10	<0.04	<0.06
MAY													
06...	<0.09	--	--	--	--	<0.20	<0.17	<0.2	<10	<10	<0.10	<0.04	<0.06
06...	1.58	125	125	152	0.0	2.08	<0.17	9.2	149	<10	E.10	<0.04	0.07
JUL													
29...	--	--	--	--	--	--	--	--	--	<10	<0.10	<0.04	<0.06
29...	--	185	187	228	0.0	--	--	--	--	<10	<0.10	<0.04	0.10
SEP													
11...	--	--	--	--	--	--	--	--	--	<10	<0.10	<0.04	<0.06
11...	--	189	192	234	0.0	--	--	--	--	<10	E.07n	<0.04	0.06

07014200 COURTOIS CREEK AT BERRYMAN, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
12...	<0.008	<0.02	<0.04	<0.04	<1b	5k	13k	<2	4	E.2	<0.04	<0.2	<6
12...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<6
JAN													
13...	<0.008	<0.02	<0.04	<0.04	1k	21	3k	--	--	--	--	--	--
13...	<0.008	<0.02	<0.04	<0.04	--	--	--	--	--	--	--	--	--
MAR													
03...	E.006	<0.02	<0.04	<0.04	<1b	2k	2k	--	--	--	--	--	--
03...	<0.008	<0.02	<0.04	<0.04	--	--	--	--	--	--	--	--	--
MAY													
06...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<6
06...	<0.008	<0.02	<0.04	<0.04	46	118	156	3	112	E.2	<0.04	<0.2	<6
JUL													
29...	<0.008	<0.02	<0.04	<0.04	--	--	--	--	--	--	--	--	--
29...	<0.008	<0.02	<0.04	<0.04	21	41	35	--	--	--	--	--	--
SEP													
11...	<0.008	<0.02	<0.04	<0.04	--	--	--	--	--	--	--	--	--
11...	<0.008	<0.02	<0.04	<0.04	3k	34	63	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
12...	<10	<0.08	<1	E2.1b	<0.02	<0.5	20	4
12...	<10	<0.08	<1	<2.0	<0.02	<0.5	<1	E1
JAN								
13...	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--
MAR								
03...	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--
MAY								
06...	<10	<0.08	<1	<1.6	<0.02	<0.5	<1	E1n
06...	E6	E.05	M	5.0	<0.02	<0.5	2	4
JUL								
29...	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--
SEP								
11...	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07014500 MERAMEC RIVER NEAR SULLIVAN, MO

LOCATION.--Lat 38°09'30", long 91°06'30", in SE 1/4 NE 1/4 sec.35, T.40 N., R.2 W., Crawford County, Hydrologic Unit 07140102, on right bank at upstream side of Sappington Bridge, 3.8 mi downstream from Brazil Creek, 4.0 mi southeast of Sullivan, and at mile 117.0.

DRAINAGE AREA.--1,475 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. WDR MO-02-1: 1982 peak stage.

GAGE.--Water-stage recorder. Datum of gage is 581.82 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 21, 1952, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Water-discharge 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 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

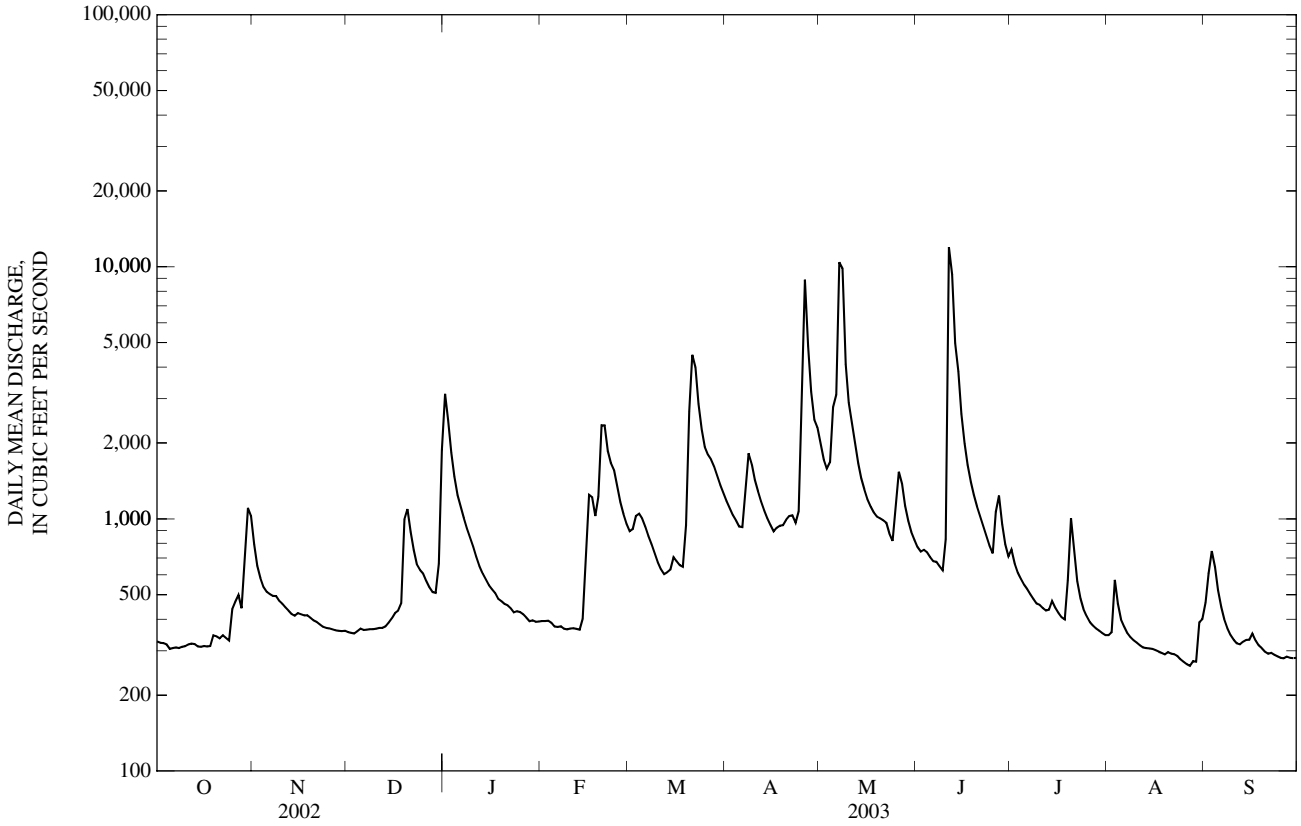
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	326	792	356	3,130	394	894	1,180	1,990	773	755	346	465
2	323	652	353	2,470	393	912	1,100	1,720	742	666	355	607
3	322	582	351	1,830	395	1,030	1,030	1,580	754	614	573	745
4	318	537	358	1,470	387	1,050	985	1,680	738	578	461	644
5	305	514	367	1,240	374	1,000	933	2,780	705	549	399	521
6	307	503	363	1,120	373	931	928	3,110	680	527	375	448
7	309	495	363	1,010	375	857	1,270	10,400	676	502	352	400
8	307	494	365	916	367	794	1,820	9,860	649	482	340	368
9	311	474	365	845	365	733	1,650	4,110	625	461	330	346
10	313	461	367	776	368	672	1,430	2,890	831	456	323	332
11	318	446	370	708	369	631	1,290	2,400	11,900	443	316	321
12	320	433	370	650	367	604	1,170	2,010	9,320	433	309	318
13	319	419	374	607	364	615	1,080	1,660	4,980	437	308	326
14	312	413	388	576	402	629	1,010	1,450	3,840	472	307	331
15	311	423	403	546	646	705	945	1,310	2,610	444	305	332
16	313	418	422	526	1,250	680	892	1,200	1,990	423	302	351
17	312	414	432	508	1,220	655	922	1,120	1,640	408	298	329
18	313	415	463	482	1,030	646	941	1,060	1,400	400	294	315
19	345	405	996	472	1,230	946	944	1,020	1,240	570	290	307
20	342	396	1,090	460	2,350	2,670	992	1,010	1,120	1,010	296	297
21	336	390	887	454	2,350	4,480	1,030	988	1,020	753	292	292
22	345	381	754	442	1,860	3,990	1,030	965	931	566	291	294
23	337	373	659	426	1,670	2,860	967	875	851	484	286	289
24	329	370	628	430	1,560	2,260	1,070	819	783	439	278	285
25	439	368	607	427	1,350	1,930	3,630	1,100	730	411	271	281
26	469	365	568	419	1,170	1,800	8,880	1,540	1,070	391	265	280
27	498	362	536	406	1,050	1,720	4,840	1,380	1,240	378	261	284
28	442	360	512	393	958	1,610	3,200	1,130	951	368	273	281
29	675	359	509	396	---	1,480	2,480	983	793	360	271	280
30	1,110	360	664	391	---	1,360	2,310	889	710	352	389	281
31	1,030	---	1,880	392	---	1,260	---	825	---	346	400	---
MEAN	399	446	552	804	892	1,368	1,732	2,124	1,876	499	328	365
MAX	1,110	792	1,880	3,130	2,350	4,480	8,880	10,400	11,900	1,010	573	745
MIN	305	359	351	391	364	604	892	819	625	346	261	280
IN.	0.31	0.34	0.43	0.63	0.63	1.07	1.31	1.66	1.42	0.39	0.26	0.28

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

MEAN	584	1,032	1,216	1,212	1,449	1,928	2,379	2,038	1,330	755	540	535
MAX	4,307	5,692	8,307	6,304	5,264	5,786	9,435	7,348	8,742	6,142	2,030	5,489
(WY)	(1950)	(1986)	(1983)	(1950)	(1982)	(1945)	(1994)	(2002)	(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)

07014500 MERAMEC RIVER NEAR SULLIVAN, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1,504		948		1,248	
HIGHEST ANNUAL MEAN					3,014	1985
LOWEST ANNUAL MEAN					341	1954
HIGHEST DAILY MEAN	31,500	May 18	11,900	Jun 11	70,600	Jun 9, 1945
LOWEST DAILY MEAN	305	Oct 5	261	Aug 27	131	Sep 20, 1956
ANNUAL SEVEN-DAY MINIMUM	310	Oct 4	272	Aug 23	133	Sep 16, 1956
MAXIMUM PEAK FLOW	---		14,800	May 8	77,300	Jun 9, 1945
MAXIMUM PEAK STAGE	---		13.94	May 8	32.34	Dec 4, 1982
INSTANTANEOUS LOW FLOW	---		258	Aug 26,28	131	Sep 20, 1956
ANNUAL RUNOFF (INCHES)	13.85		8.72		11.49	
10 PERCENT EXCEEDS	2,650		1,750		2,400	
50 PERCENT EXCEEDS	568		527		602	
90 PERCENT EXCEEDS	337		312		272	



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.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
01...	0930	Environmental	327	7.7	88	8.0	327	20.8	--	--	--	--
NOV												
14...	1010	Environmental	411	14.2	129	8.3	362	10.0	190	39.4	23.4	1.07
DEC												
02...	1010	Environmental	351	15.4	123	8.2	365	4.8	--	--	--	--
02...	1011	Replicate	--	15.2	122	8.2	366	4.8	--	--	--	--
JAN												
14...	0930	Environmental	580	13.2	100	8.0	326	3.4	180	35.9	21.3	1.02
FEB												
04...	1150	Environmental	388	12.9	107	8.0	354	6.4	--	--	--	--
MAR												
04...	0945	Environmental	1,050	12.3	102	8.0	315	6.1	--	--	--	--
APR												
08...	1000	Environmental	1,870	9.4	89	7.9	291	12.6	--	--	--	--
08...	1001	Replicate	--	9.4	89	7.8	300	12.6	--	--	--	--
MAY												
05...	1110	Environmental	2,450	8.5	88	7.8	243	15.4	120	25.9	14.6	1.39
JUN												
09...	1220	Environmental	621	8.8	102	7.6	321	21.1	--	--	--	--
JUL												
30...	1400	Environmental	351	8.7	112	7.7	348	26.4	190	38.1	23.2	1.39
AUG												
06...	1450	Environmental	373	7.3	95	8.0	339	27.5	--	--	--	--
SEP												
04...	1350	Environmental	626	8.1	97	7.9	340	23.1	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
01...	--	167	167	204	<1	--	--	--	--	<10	<0.10	<0.04	0.08
NOV													
14...	3.68	204	205	250	<1	4.40	<0.20	9.5	191	<10	0.10	<0.04	E.05
DEC													
02...	--	175	175	213	<1	--	--	--	--	<10	E.06	<0.04	E.05
02...	--	--	--	--	--	--	--	--	--	<10	<0.10	<0.04	E.05
JAN													
14...	5.33	162	159	194	<1	6.57	<0.17	10.8	184	<10	E.09	<0.04	0.24
FEB													
04...	--	167	168	205	<1	--	--	--	--	<10	0.14	<0.04	0.15
MAR													
04...	--	151	151	184	<1	--	--	--	--	<10	0.17	<0.04	0.23
APR													
08...	--	136	136	166	<1	--	--	--	--	25	0.19	<0.04	0.20
08...	--	--	--	--	--	--	--	--	--	11	0.17	<0.04	0.20
MAY													
05...	2.73	112	112	136	<1	3.26	<0.17	8.8	140	46	0.38	<0.04	0.21
JUN													
09...	--	156	157	191	<1	--	--	--	--	<10	0.17	<0.04	0.11
JUL													
30...	4.02	168	169	206	<1	5.17	<0.20	8.3	193	10	0.11	<0.04	0.18
AUG													
06...	--	169	169	206	<1	--	--	--	--	<10	0.13	<0.04	0.15
SEP													
04...	--	162	162	198	<1	--	--	--	--	<10	0.17	<0.04	0.29

07014500 MERAMEC RIVER NEAR SULLIVAN, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
01...	<0.008	<0.02	<0.04	<0.04	27	29	27	--	--	--	--	--	--
NOV													
14...	<0.008	<0.02	<0.04	<0.04	<1b	4k	3k	<2	22	E.2	<0.04	<0.2	<6
DEC													
02...	<0.008	<0.02	<0.04	<0.04	<1b	<1b	1k	--	--	--	--	--	--
02...	<0.008	<0.02	<0.04	<0.04	<1b	2k	2k	--	--	--	--	--	--
JAN													
14...	<0.008	<0.02	<0.04	<0.04	<1b	2k	3k	E1	27	E.2	<0.04	<0.2	<6
FEB													
04...	<0.008	<0.02	<0.04	<0.04	<1b	<1b	2k	--	--	--	--	--	--
MAR													
04...	<0.008	<0.02	<0.04	<0.04	1k	4k	3k	--	--	--	--	--	--
APR													
08...	<0.008	<0.02	<0.04	E.02	31	48	20	--	--	--	--	--	--
08...	<0.008	<0.02	<0.04	<0.04	38	51	24	--	--	--	--	--	--
MAY													
05...	E.006	<0.02	E.02	0.06	590	1,420k	1,720	6	469	0.3	<0.04	<0.2	<6
JUN													
09...	E.004	<0.02	<0.04	<0.04	3k	11k	5k	--	--	--	--	--	--
JUL													
30...	E.006	<0.02	E.02	<0.04	1k	17k	16k	E2n	79	0.5	<0.04	<0.2	<7
AUG													
06...	<0.008	<0.02	<0.04	E.03n	3k	17k	16k	--	--	--	--	--	--
SEP													
04...	<0.008	<0.18d	<0.04	<0.04	8k	83k	24	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT								
01...	--	--	--	--	--	--	--	--
NOV								
14...	E8	<0.08	<1	5.4	<0.02	<0.5	4	2
DEC								
02...	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--
JAN								
14...	<10	0.25	M	7.2	<0.02	E.3	M	E2
FEB								
04...	--	--	--	--	--	--	--	--
MAR								
04...	--	--	--	--	--	--	--	--
APR								
08...	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--
MAY								
05...	18	<0.08	2	9.5	<0.02	<0.5	M	4
JUN								
09...	--	--	--	--	--	--	--	--
JUL								
30...	<8	<0.08	Mn	7.6	<0.02	E.3n	Mn	E1n
AUG								
06...	--	--	--	--	--	--	--	--
SEP								
04...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

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: 1981.

GAGE.--Water-stage recorder. Datum of gage is 802.1 ft above National Geodetic Vertical Datum of 1929 (levels by Missouri State Highway and Transportation Commission). Datum of gage prior to Oct. 1, 1987 was 2 ft higher. Prior to Aug. 17, 1966, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records fair except for discharges below 5 ft^3/s, which are poor. U.S.G.S. satellite telemeter at station.

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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

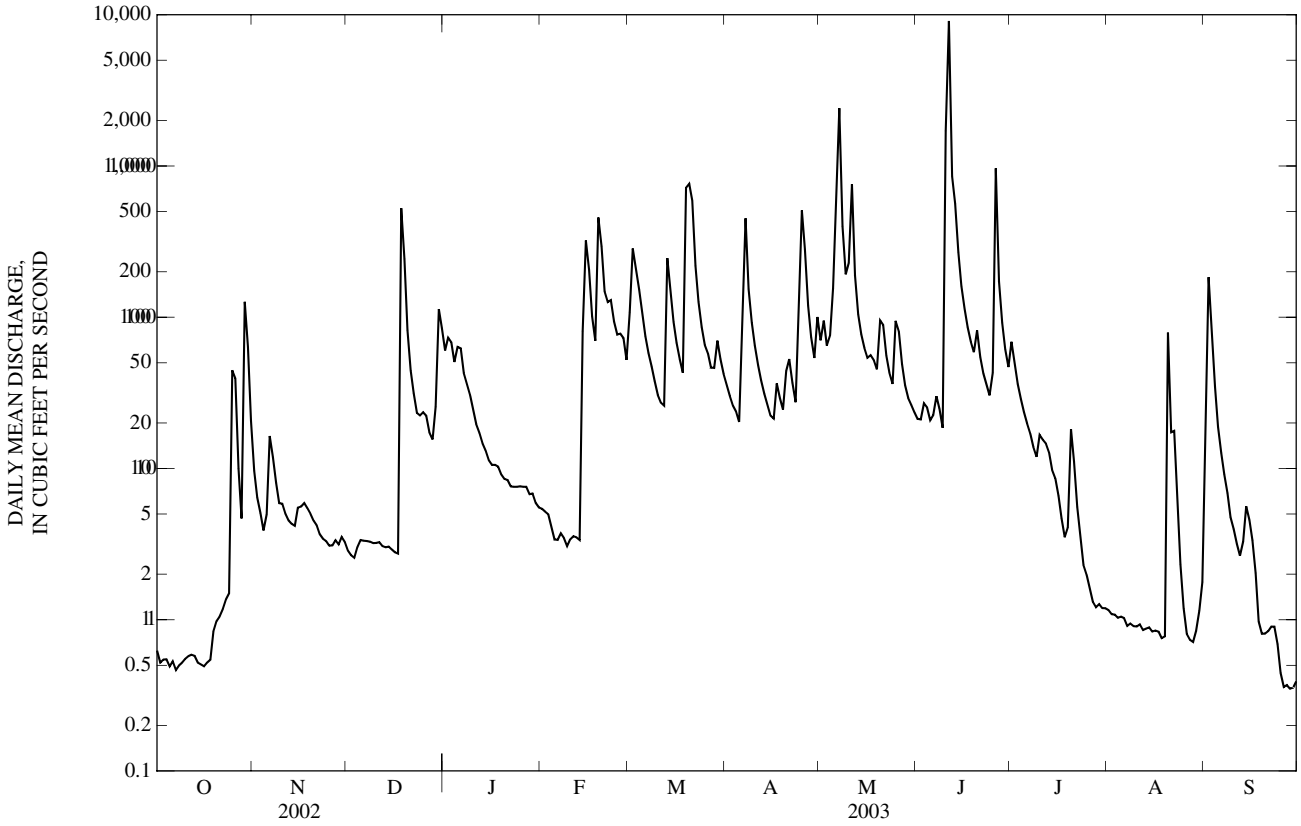
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.62	9.7	2.9	60	5.4	108	36	70	21	69	1.2	38
2	0.52	6.4	2.7	73	5.2	284	30	95	21	49	1.1	184
3	0.55	5.1	2.6	68	5.0	206	26	65	27	36	1.1	82
4	0.55	3.9	3.0	51	4.1	152	24	75	25	29	1.0	35
5	0.49	5.0	3.4	64	3.4	107	20	156	21	24	1.0	19
6	0.53	16	3.3	62	3.4	75	99	625	23	20	1.0	13
7	0.47	12	3.3	43	3.7	58	451	2,410	30	17	0.91	9.1
8	0.50	8.0	3.3	36	3.5	47	153	399	25	14	0.94	6.9
9	0.52	5.9	3.2	31	3.1	38	92	192	19	12	0.91	4.8
10	0.55	5.8	3.2	25	3.4	31	65	228	1,710	17	0.90	4.0
11	0.57	5.0	3.3	20	3.6	27	48	757	9,080	15	0.93	3.2
12	0.59	4.5	3.1	17	3.5	26	38	189	854	15	0.85	2.6
13	0.58	4.3	3.0	15	3.4	246	31	104	562	13	0.87	3.3
14	0.52	4.2	3.0	13	81	149	26	77	269	9.8	0.89	5.6
15	0.51	5.5	2.9	11	322	93	22	63	161	8.6	0.84	4.6
16	0.49	5.6	2.8	11	206	68	21	54	114	6.6	0.85	3.3
17	0.52	5.9	2.7	11	101	53	36	56	86	4.7	0.83	2.0
18	0.54	5.5	525	10	70	43	29	52	69	3.5	0.76	0.97
19	0.83	5.0	243	9.1	457	716	25	45	59	4.1	0.78	0.81
20	0.98	4.5	82	8.5	294	761	44	95	82	18	79	0.81
21	1.0	4.2	44	8.4	148	589	53	89	54	11	17	0.84
22	1.2	3.7	31	7.6	126	219	37	56	43	5.6	18	0.90
23	1.4	3.4	23	7.6	130	126	27	43	36	3.4	7.4	0.90
24	1.5	3.3	22	7.6	94	86	104	36	30	2.3	2.3	0.69
25	45	3.1	24	7.6	77	66	508	95	43	2.0	1.2	0.45
26	40	3.1	22	7.6	78	58	281	81	964	1.6	0.80	0.36
27	10	3.4	17	7.6	73	46	119	49	173	1.3	0.74	0.37
28	4.7	3.2	16	6.8	52	46	74	36	92	1.2	0.71	0.35
29	126	3.5	26	6.8	---	70	54	29	61	1.3	0.84	0.36
30	64	3.3	113	5.9	---	53	100	26	47	1.2	1.1	0.39
31	21	---	85	5.5	---	42	---	23	---	1.2	1.8	---
MEAN	10.6	5.40	42.7	23.1	84.3	151	89.1	205	493	13.5	4.79	14.3
MAX	126	16	525	73	457	761	508	2,410	9,080	69	79	184
MIN	0.47	3.1	2.6	5.5	3.1	26	20	23	19	1.2	0.71	0.35
IN.	0.09	0.04	0.37	0.20	0.65	1.29	0.74	1.76	4.08	0.12	0.04	0.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)

MEAN	43.8	151	177	146	176	232	264	193	138	47.3	34.7	44.3
MAX	552	799	1,213	549	634	747	1,191	894	963	546	373	865
(WY)	(1987)	(1986)	(1983)	(1969)	(1985)	(1984)	(1994)	(1995)	(1985)	(1998)	(1982)	(1993)
MIN	0.34	0.94	1.68	0.65	12.4	1.32	1.57	3.88	0.95	0.25	0.19	0.14
(WY)	(1967)	(1981)	(1990)	(1977)	(1981)	(1981)	(1981)	(1977)	(1972)	(1972)	(1971)	(1971)

07015720 BOURBEUSE RIVER NEAR HIGH GATE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1965 - 2003	
ANNUAL MEAN	179		94.3		136	
HIGHEST ANNUAL MEAN					315	1985
LOWEST ANNUAL MEAN					15.6	2000
HIGHEST DAILY MEAN	6,160	May 17	9,080	Jun 11	21,000	Dec 3, 1982
LOWEST DAILY MEAN	0.37	Aug 12	0.35	Sep 28	0.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	0.46	Aug 7	0.42	Sep 24	0.00	Several Years
MAXIMUM PEAK FLOW	---		21,700	Jun 11	49,300	Dec 3, 1982
MAXIMUM PEAK STAGE	---		21.03	Jun 11	23.65	Dec 3, 1982
INSTANTANEOUS LOW FLOW	---		0.30	Sep 25,26,28	0.00	Several Years
ANNUAL RUNOFF (INCHES)	17.95		9.48		13.70	
10 PERCENT EXCEEDS	299		148		222	
50 PERCENT EXCEEDS	15		17		19	
90 PERCENT EXCEEDS	0.78		0.84		0.81	



07016400 BOURBEUSE RIVER ABOVE UNION, MO
(Ambient Water-Quality Monitoring Network)

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

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

PERIOD OF RECORD.--November 1983 to October 1987, November 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
05...	1515	Environmental	248	9.9	88	7.9	302	9.1	150	27.8	20.3	2.37
JAN												
08...	1140	Environmental	428	12.5	99	8.0	287	4.3	--	--	--	--
MAR												
05...	1250	Environmental	925	11.5	91	7.8	274	4.6	--	--	--	--
MAY												
21...	1315	Environmental	445	7.8	87	7.2	229	20.1	110	21.7	12.7	2.27
JUL												
23...	1130	Environmental	171	4.7	59	7.5	272	26.4	--	--	--	--
SEP												
04...	1120	Environmental	238	4.5	53	7.7	268	23.2	--	--	--	--
04...	1121	Replicate	--	--	--	--	--	--	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
05...	5.51	139	137	167	<1	5.46	<0.2	20.8	167	<10	0.23	<0.04	<0.06
JAN													
08...	--	113	113	138	<1	--	--	--	--	<10	0.20	<0.04	0.30
MAR													
05...	--	78	78	95	<1	--	--	--	--	27	0.36	<0.04	<0.30
MAY													
21...	4.80	87	87	107	<1	7.07	<0.2	13.8	145	17	1.7	<0.04	0.57
JUL													
23...	--	114	114	139	<1	--	--	--	--	<10	0.37	<0.04	<0.06
SEP													
04...	--	125	126	154	<1	--	--	--	--	11	0.34	<0.04	0.07
04...	--	--	--	--	--	--	--	--	--	<10	0.32	<0.04	0.06

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
05...	<0.008	E.01	<0.04	E.03	21	24	28	M	86	0.5	<0.04	<0.2	<6
JAN													
08...	E.005	E.01	<0.04	0.04	1k	10k	20	--	--	--	--	--	--
MAR													
05...	0.019	<0.02	E.02	0.06	5k	23k	40	--	--	--	--	--	--
MAY													
21...	0.017	0.02	E.03	0.06	5k	34k	135	4	301	0.7	<0.04	<0.2	<6
JUL													
23...	<0.008	<0.02	E.02	E.04	7k	26	20k	--	--	--	--	--	--
SEP													
04...	0.023	<0.18d	E.03n	0.04	23	50k	34	--	--	--	--	--	--
04...	0.027	<0.18d	E.03n	E.04n	31	45k	30	--	--	--	--	--	--

07016400 BOURBEUSE RIVER ABOVE UNION, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
05...	19	<0.08	<1	26.9	<0.02	<0.5	M	E2
JAN								
08...	--	--	--	--	--	--	--	--
MAR								
05...	--	--	--	--	--	--	--	--
MAY								
21...	38	E.05	1	70.6	E.01	<0.5	M	2
JUL								
23...	--	--	--	--	--	--	--	--
SEP								
04...	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07016500 BOURBEUSE RIVER AT UNION, MO

LOCATION.--Lat 38°26'39", long 90°59'41", in SW ¼ NW ¼ 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. October 1916 to June 1921 gage heights only in reports of the National Weather Service.

REVISED RECORDS.--WSP 957: 1941. WSP 1147: Drainage area. WSP 1281: 1924.

GAGE.--Water-stage recorder. Datum of gage is 488.58 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1948, datum of all gages 3.00 ft higher. Prior to Oct. 21, 1933, nonrecording gage, at site 30 ft upstream; Oct. 21, 1933, to June 11, 1944, nonrecording gage, at present site.

REMARKS.--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 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	163	52	211	80	349	370	773	196	421	104	210
2	40	179	51	258	81	365	347	600	183	357	85	325
3	65	219	51	415	82	453	308	535	185	315	74	225
4	43	171	52	363	80	858	281	1,520	170	269	65	159
5	43	152	54	331	79	913	255	5,320	167	237	63	132
6	47	122	52	323	77	747	251	5,540	180	223	57	125
7	42	103	51	300	76	609	298	8,050	168	203	53	166
8	39	92	50	278	73	491	373	8,890	156	181	52	152
9	38	85	50	274	70	401	893	5,250	151	163	50	120
10	36	88	51	261	69	335	710	2,040	215	174	48	97
11	34	103	51	229	68	299	535	1,740	806	151	49	81
12	34	96	51	203	60	359	432	2,180	7,730	140	49	71
13	33	90	51	183	55	767	359	1,560	12,200	133	50	75
14	30	91	51	164	74	1,840	304	948	8,420	125	51	65
15	29	94	51	146	89	1,750	263	712	1,630	120	50	56
16	29	85	51	133	106	1,020	246	581	1,010	112	48	50
17	29	78	51	130	397	737	240	499	747	105	45	47
18	35	73	610	e123	748	581	233	445	597	120	41	43
19	49	69	741	e113	734	1,000	250	409	502	123	40	40
20	44	67	1,150	e106	852	3,350	305	387	435	99	38	39
21	39	66	928	e99	1,160	5,410	293	352	379	94	39	39
22	38	64	608	e95	1,050	3,200	268	331	335	97	40	46
23	39	62	468	e90	746	1,830	263	323	298	103	39	40
24	38	60	386	e87	624	1,140	428	340	276	91	37	38
25	114	58	340	e84	588	848	684	440	271	82	36	37
26	75	58	296	e83	522	666	1,660	332	571	76	36	51
27	89	56	267	81	430	550	2,190	325	2,220	71	37	62
28	68	55	247	79	369	482	1,570	298	1,560	71	39	49
29	163	54	231	77	---	439	1,430	313	720	67	79	42
30	179	53	227	76	---	395	1,130	268	523	67	81	45
31	173	---	224	79	---	376	---	226	---	65	90	---
MEAN	57.9	93.5	245	177	337	1,050	572	1,662	1,433	150	53.7	90.9
MAX	179	219	1,150	415	1,160	5,410	2,190	8,890	12,200	421	104	325
MIN	29	53	50	76	55	299	233	226	151	65	36	37
IN.	0.08	0.13	0.35	0.25	0.43	1.50	0.79	2.37	1.98	0.21	0.08	0.13

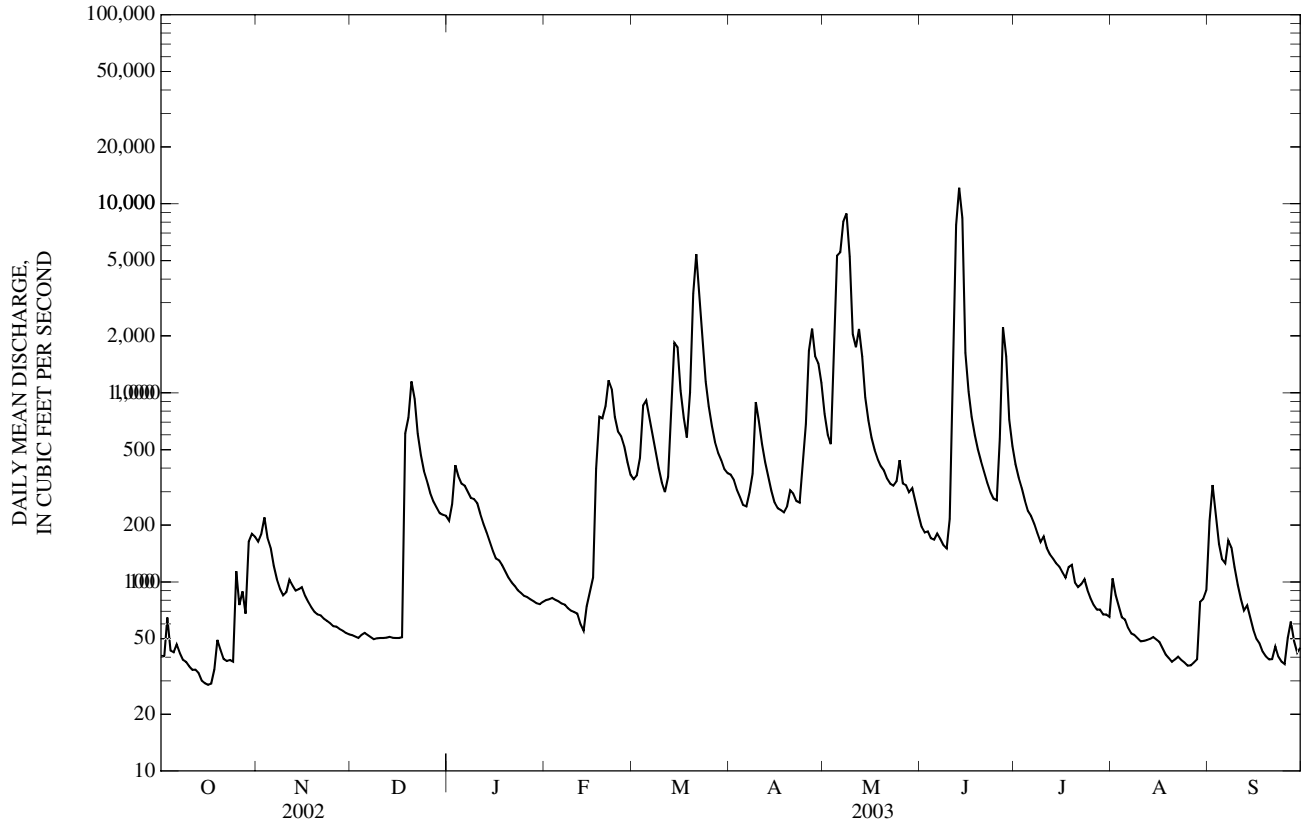
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2003, BY WATER YEAR (WY)

MEAN	295	525	646	637	793	1,124	1,285	1,166	853	331	187	245
MAX	4,575	3,320	6,107	3,518	3,214	4,207	5,303	4,578	4,583	3,650	1,927	4,859
(WY)	(1950)	(1986)	(1983)	(1950)	(1985)	(1984)	(1994)	(1995)	(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)

07016500 BOURBEUSE RIVER AT UNION, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1921 - 2003	
ANNUAL MEAN	725		494		672	
HIGHEST ANNUAL MEAN					1,771	1993
LOWEST ANNUAL MEAN					106	1954
HIGHEST DAILY MEAN	14,500	May 10	12,200	Jun 13	63,000	Dec 5, 1982
LOWEST DAILY MEAN	29	Oct 15-17	29	Oct 15-17	12	Oct 10, 1956
ANNUAL SEVEN-DAY MINIMUM	31	Oct 11	31	Oct 11	13	Oct 6, 1956
MAXIMUM PEAK FLOW	---		15,200	Jun 14	73,300	Dec 5, 1982
MAXIMUM PEAK STAGE	---		17.71	Jun 14	33.80	Dec 5, 1982
INSTANTANEOUS LOW FLOW	---		28	Oct 15-17	11	Oct 10, 1956
ANNUAL RUNOFF (INCHES)	12.19		8.31		11.30	
10 PERCENT EXCEEDS	1,440		919		1,310	
50 PERCENT EXCEEDS	146		156		171	
90 PERCENT EXCEEDS	48		43		41	

e Estimated



07017200 BIG RIVER AT IRONDALE, MO

LOCATION.--Lat 37°49'48", long 90°41'27", in SE 1/4 SW 1/4 sec.15, T.36 N., R.3 E., Washington County, Hydrologic Unit 07140104, on right bank 50 ft upstream from bridge on State Highway U, 0.2 mi upstream from Mill Creek, and 0.8 mi west of Irondale.

DRAINAGE AREA.--175 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 National Geodetic Vertical Datum of 1929 (Missouri State Highway and Transportation Commission bench mark).

REMARKS.--Records good above 1,000 ft^3/s and fair below. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	98	22	741	49	274	146	651	61	22	9.8	17
2	18	72	22	419	48	359	131	577	59	21	14	18
3	18	62	22	306	49	292	118	376	73	21	13	21
4	18	54	24	247	50	261	110	301	65	19	13	19
5	16	53	26	371	46	229	102	491	55	18	11	16
6	17	59	24	287	46	198	121	452	51	16	11	15
7	19	51	24	226	48	176	261	1,840	50	15	11	14
8	19	44	25	198	43	158	194	557	45	14	11	13
9	18	39	25	176	46	136	164	383	41	13	11	13
10	18	38	26	151	47	123	146	301	86	13	10	12
11	18	36	26	131	49	115	134	298	1,110	12	9.9	12
12	18	33	26	115	50	111	122	220	1,170	12	9.6	14
13	16	31	30	107	50	141	109	178	418	11	9.9	16
14	16	30	40	99	342	146	98	154	291	11	10	16
15	16	32	52	89	437	133	85	135	203	11	9.7	15
16	16	32	60	e79	318	124	82	117	151	11	9.8	14
17	16	30	73	e73	238	117	129	112	115	10	9.5	13
18	16	29	129	e70	201	108	138	106	90	10	8.9	13
19	18	28	453	e67	2,150	495	122	96	74	12	8.7	12
20	19	27	289	e64	1,080	1,110	122	273	61	12	9.2	12
21	18	27	180	e61	637	677	112	203	50	11	12	12
22	18	25	133	e58	931	403	101	128	42	10	11	12
23	17	25	107	e55	622	310	90	102	36	9.5	11	12
24	17	24	111	e52	420	256	133	82	32	9.3	9.8	12
25	21	25	97	e49	323	261	1,650	370	29	9.9	9.5	11
26	23	24	78	e47	275	319	934	234	35	9.7	9.0	11
27	22	23	74	e45	244	249	454	144	36	9.2	8.5	11
28	26	23	73	44	220	219	322	108	28	8.7	9.3	11
29	1,440	23	124	48	---	208	271	88	25	8.8	10	11
30	290	23	1,120	45	---	182	909	76	23	8.6	21	12
31	150	---	1,890	46	---	160	---	69	---	8.8	18	---
MEAN	77.1	37.3	174	147	324	260	254	297	154	12.5	10.9	13.7
MAX	1,440	98	1,890	741	2,150	1,110	1,650	1,840	1,170	22	21	21
MIN	16	23	22	44	43	108	82	69	23	8.6	8.5	11
IN.	0.51	0.24	1.15	0.97	1.93	1.71	1.62	1.96	0.98	0.08	0.07	0.09

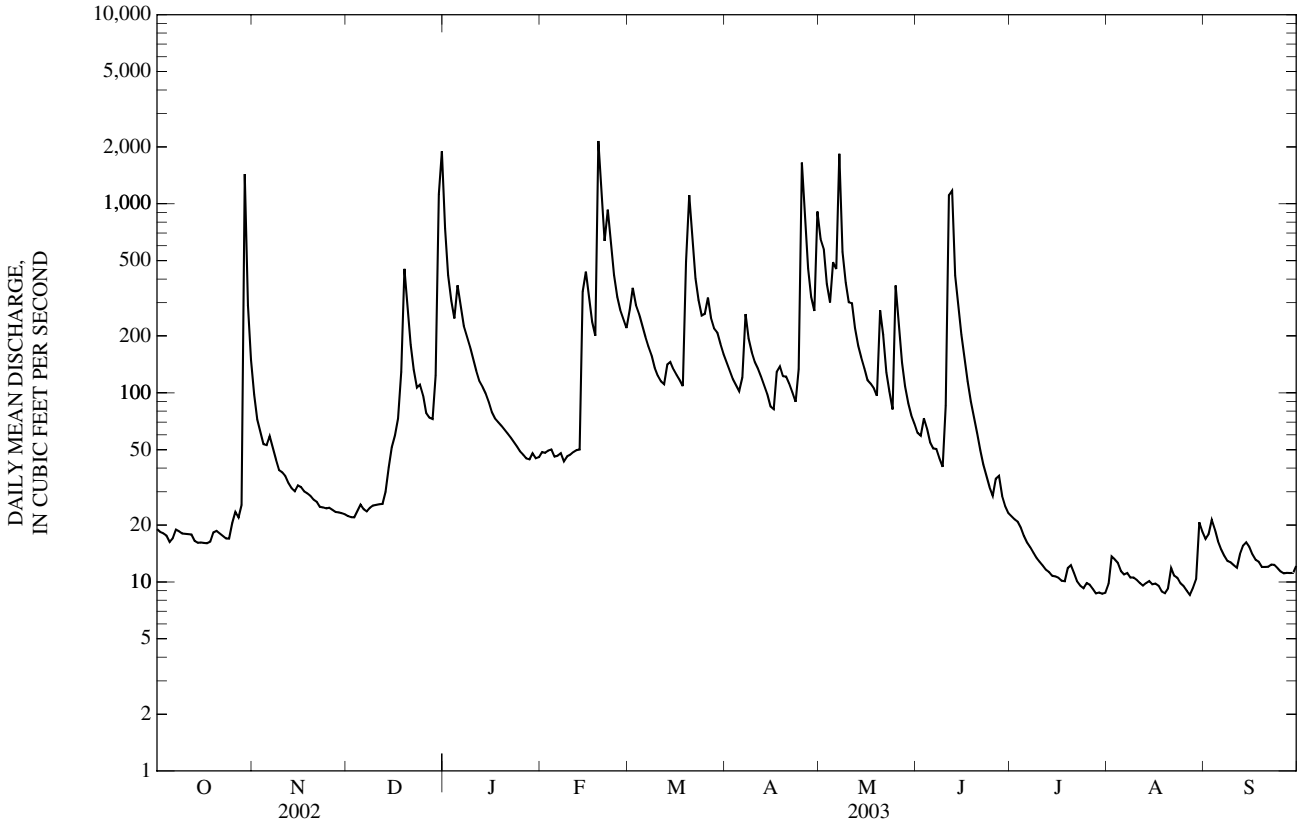
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)

MEAN	58.8	218	260	203	255	325	356	274	118	50.2	54.4	60.8
MAX	339	1,147	1,027	734	695	867	1,329	1,788	872	262	393	669
(WY)	(1971)	(1994)	(1983)	(1969)	(1985)	(1978)	(1994)	(2002)	(1985)	(1981)	(1970)	(1993)
MIN	6.95	10.5	13.7	11.1	24.9	38.9	39.7	17.3	9.95	4.69	4.27	3.10
(WY)	(1981)	(1981)	(1977)	(1981)	(1977)	(1981)	(2000)	(2000)	(1980)	(1980)	(2000)	(2000)

07017200 BIG RIVER AT IRONDALE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1965 - 2003	
ANNUAL MEAN	289		146		186	
HIGHEST ANNUAL MEAN					449	1985
LOWEST ANNUAL MEAN					33.9	2000
HIGHEST DAILY MEAN	16,400	May 8	2,150	Feb 19	21,300	Nov 14, 1993
LOWEST DAILY MEAN	11	Aug 8-10	8.5	Aug 27	1.2	Sep 21, 2000
ANNUAL SEVEN-DAY MINIMUM	12	Aug 4	9.1	Jul 26	1.5	Sep 17, 2000
MAXIMUM PEAK FLOW	---		4,720	Oct 29	49,100	Nov 14, 1993
MAXIMUM PEAK STAGE	---		8.52	Oct 29	28.95	Nov 14, 1993
INSTANTANEOUS LOW FLOW	---		8.3	Aug 27	0.72	Sep 23, 2000
ANNUAL RUNOFF (INCHES)	22.41		11.30		14.41	
10 PERCENT EXCEEDS	511		331		368	
50 PERCENT EXCEEDS	50		49		56	
90 PERCENT EXCEEDS	16		11		10	

e Estimated



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 on 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 (07018000).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 523.00 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1983 at site 5.5 mi downstream at datum 15.79 ft higher.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. 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), discharge, about 70,500 ft^3/s, from rating curve extended above 37,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	146	659	159	4,010	240	782	558	1,780	394	391	187	213
2	141	485	165	1,900	238	1,080	507	1,530	367	294	418	222
3	137	403	164	1,270	239	1,150	472	1,320	401	259	305	207
4	138	356	170	982	237	984	441	1,500	382	240	231	177
5	136	335	175	816	229	878	410	3,500	360	225	181	154
6	137	343	173	799	225	774	415	3,610	346	214	162	140
7	140	325	171	746	226	682	690	10,000	340	203	149	133
8	140	304	174	645	213	613	795	4,500	316	193	139	125
9	137	284	173	571	216	551	687	2,180	298	184	133	119
10	136	267	168	511	213	495	586	1,600	338	180	127	115
11	137	251	168	456	216	457	525	1,330	7,430	173	123	112
12	137	234	168	406	219	439	480	1,190	9,670	162	118	118
13	135	222	178	376	222	450	443	999	4,440	157	119	163
14	131	214	212	354	259	438	417	865	3,500	151	127	149
15	129	218	236	334	753	454	388	767	1,730	147	126	138
16	129	216	248	318	1,160	435	380	684	1,230	145	119	129
17	127	205	264	308	905	415	462	638	998	140	114	119
18	127	201	387	e297	737	397	490	598	816	150	110	114
19	142	196	1,040	e287	1,460	568	496	564	694	230	108	111
20	144	191	1,180	e278	5,060	1,840	484	539	604	294	105	108
21	141	187	901	e266	2,640	2,360	458	598	515	198	105	107
22	137	179	655	e256	2,350	1,590	429	713	445	162	108	111
23	135	175	520	e248	2,710	1,150	391	530	388	150	100	117
24	132	174	472	e240	1,730	942	631	446	346	143	97	117
25	190	170	456	e233	1,250	815	2,660	1,080	317	135	96	114
26	226	167	398	e226	1,010	902	5,070	1,970	916	130	94	115
27	193	163	387	219	884	948	2,290	1,100	647	125	98	122
28	186	161	357	235	798	805	1,540	782	397	122	108	109
29	1,730	161	385	236	---	753	1,470	619	328	124	134	105
30	2,440	160	1,080	230	---	696	1,830	520	299	123	291	105
31	1,020	---	3,790	234	---	615	---	449	---	120	230	---
MEAN	299	254	489	590	951	821	896	1,565	1,308	183	150	133
MAX	2,440	659	3,790	4,010	5,060	2,360	5,070	10,000	9,670	391	418	222
MIN	127	160	159	219	213	397	380	446	298	120	94	105
IN.	0.47	0.38	0.77	0.93	1.35	1.29	1.36	2.45	1.99	0.29	0.24	0.20

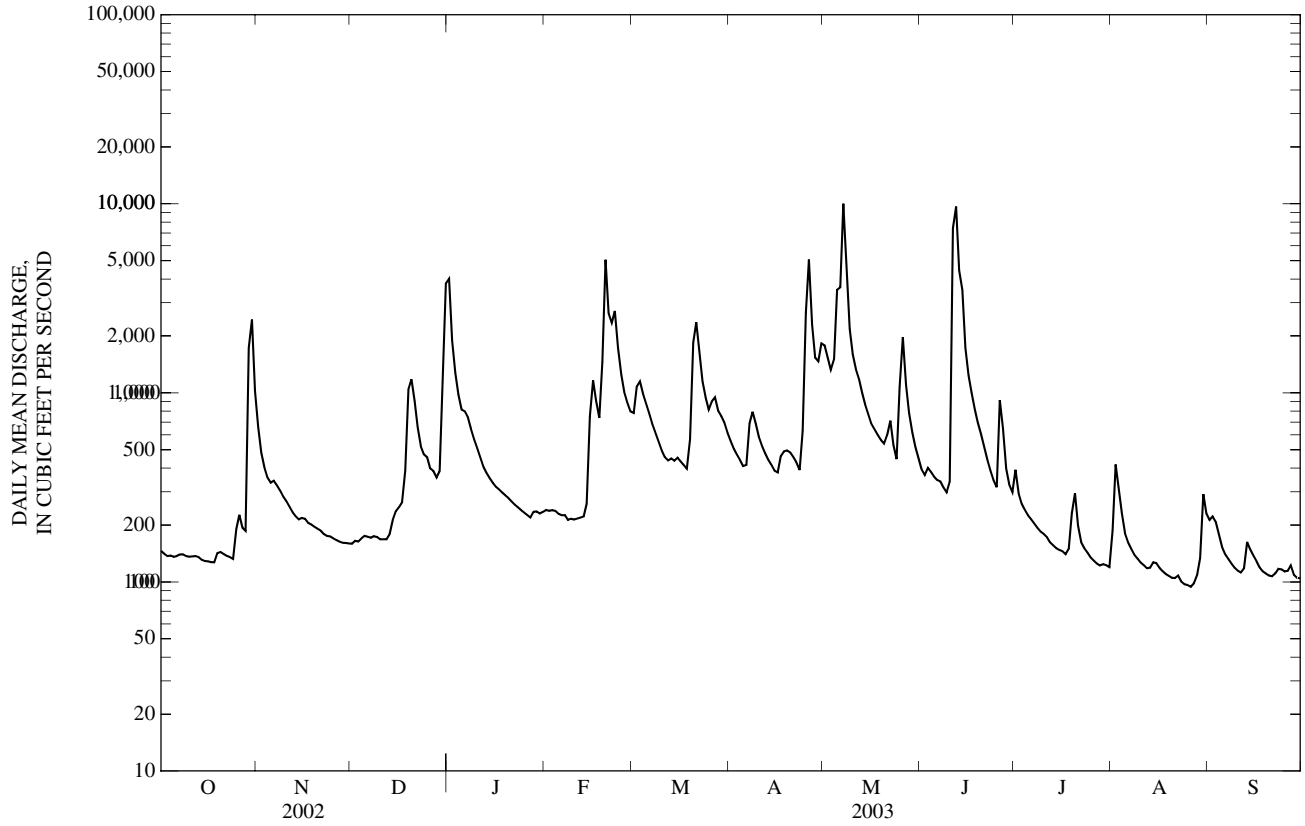
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2003, BY WATER YEAR (WY)

MEAN	268	643	812	710	927	1,211	1,283	1,081	576	384	259	304
MAX	1,641	4,223	4,332	3,845	2,935	2,851	5,642	3,964	3,150	2,492	1,357	4,022
(WY)	(1950)	(1986)	(1983)	(1950)	(1985)	(1998)	(1994)	(2002)	(1985)	(1951)	(1950)	(1993)
MIN	47.5	87.9	90.5	84.0	124	123	175	148	110	86.0	69.9	40.6
(WY)	(1957)	(1977)	(1956)	(1977)	(1954)	(1954)	(2000)	(2001)	(1980)	(1980)	(1955)	(1956)

07018100 BIG RIVER NEAR RICHWOODS, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1949 - 2003	
ANNUAL MEAN	848		634		704	
HIGHEST ANNUAL MEAN					1,766	1985
LOWEST ANNUAL MEAN					171	2000
HIGHEST DAILY MEAN	21,300	May 9	10,000	May 7	44,400	Nov 15, 1993
LOWEST DAILY MEAN	102	Sep 12,13	94	Aug 26	22	Sep 19, 1954
ANNUAL SEVEN-DAY MINIMUM	104	Sep 8	100	Aug 21	26	Sep 13, 1954
MAXIMUM PEAK FLOW	---		11,200	May 7	59,800	Sep 23, 1993
MAXIMUM PEAK STAGE	---		15.91	May 7	30.33	Sep 23, 1993
INSTANTANEOUS LOW FLOW	---		92	Aug 26,27	20	Sep 19, 1954
ANNUAL RUNOFF (INCHES)	15.66		11.71		13.01	
10 PERCENT EXCEEDS	1,680		1,320		1,320	
50 PERCENT EXCEEDS	299		294		281	
90 PERCENT EXCEEDS	137		123		100	

e Estimated



07018100 BIG RIVER NEAR RICHWOODS, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1963 to July 1975, November 1983 to June 1987, November 1992 to current year. August 1963 to July 1975 published as Big River near De Soto (07018000).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
07...	0930	Environmental	326	9.6	84	8.1	464	9.0	250	51.0	28.6	1.82
JAN												
08...	0920	Environmental	672	14.0	109	8.1	375	4.0	--	--	--	--
MAR												
05...	1010	Environmental	886	13.9	113	8.2	373	5.6	--	--	--	--
MAY												
21...	1040	Blank	--	--	--	--	--	--	--	0.01	<0.008	<0.16
21...	1050	Environmental	551	8.5	93	7.9	443	19.0	240	50.1	27.4	1.63
JUL												
23...	0910	Environmental	150	5.7	71	7.6	495	24.9	--	--	--	--
SEP												
04...	0920	Environmental	179	6.6	78	7.8	516	22.6	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
07...	5.24	209	209	255	<1	6.64	<0.2	32.6	268	<10	0.14	<0.04	0.41
JAN													
08...	--	171	170	208	<1	--	--	--	--	<10	0.11	<0.04	0.40
MAR													
05...	--	160	159	194	<1	--	--	--	--	11	0.22	E.02	0.21
MAY													
21...	<0.09	--	--	--	--	<0.20	<0.2	<0.2	<10	<10	<0.10	<0.04	<0.06
21...	5.07	208	209	256	<1	7.26	<0.2	26.8	260	<10	0.21	<0.04	0.19
JUL													
23...	--	215	217	264	<1	--	--	--	--	<10	0.23	<0.04	0.24
SEP													
04...	--	216	217	265	<1	--	--	--	--	<10	0.21	<0.04	0.28

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/100 mL (31625)	Fecal streptococci KF MF, col/100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
07...	<0.008	E.02	E.02	E.02	27	35	12k	M	47	0.5	0.16	0.3	<6
JAN													
08...	<0.008	E.01	<0.04	E.04	<1b	24	24	--	--	--	--	--	--
MAR													
05...	0.020	<0.02	E.03	E.04	4k	30k	25k	--	--	--	--	--	--
MAY													
21...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<6
21...	E.004	<0.02	<0.04	<0.04	7k	15k	52	E1	79	0.4	0.12	0.3	<6
JUL													
23...	<0.008	<0.02	<0.04	E.03	20	40	48	--	--	--	--	--	--
SEP													
04...	<0.008	<0.18d	E.03n	E.03n	22	105	37	--	--	--	--	--	--

07018100 BIG RIVER NEAR RICHWOODS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
07...	E6	2.92	16	37.4	<0.02	<0.5	17	20
JAN								
08...	--	--	--	--	--	--	--	--
MAR								
05...	--	--	--	--	--	--	--	--
MAY								
21...	<10	<0.08	<1	<2.0	<0.02	<0.5	<1	<2
21...	<10	4.13	28	31.5	<0.02	<0.5	6	14
JUL								
23...	--	--	--	--	--	--	--	--
SEP								
04...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07018500 BIG RIVER AT BYRNESVILLE, MO

LOCATION.--Lat 38°23'31", long 90°38'18, 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 National Geodetic Vertical Datum of 1929. Prior to Mar. 9, 1940, nonrecording gage at present site and datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. U.S.G.S. satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	169	936	182	4,650	280	841	637	2,100	503	393	145	293
2	161	640	181	3,210	281	888	585	1,710	469	427	204	307
3	156	520	185	1,680	279	1,190	538	1,630	461	368	359	270
4	152	444	190	1,210	277	1,130	506	3,050	459	329	330	244
5	145	408	193	969	275	978	474	6,210	439	303	267	222
6	146	380	197	826	271	864	454	5,080	427	282	214	202
7	144	373	e196	810	268	763	513	12,600	416	265	188	189
8	143	358	e196	741	264	676	704	12,000	396	250	173	182
9	143	341	e196	657	257	608	758	4,260	367	237	160	172
10	142	326	194	588	256	549	665	2,270	375	238	152	163
11	142	307	192	533	255	500	588	1,970	4,560	222	146	156
12	143	289	191	482	254	480	535	1,470	8,890	209	139	159
13	144	273	195	440	255	540	494	1,210	9,580	200	136	163
14	140	261	203	411	274	508	459	992	5,250	190	135	178
15	137	258	221	390	355	476	440	868	2,640	183	137	192
16	134	250	245	375	986	474	e428	780	1,570	179	139	178
17	132	246	257	359	1,100	453	e487	714	1,150	173	134	168
18	133	238	290	e349	869	430	e531	669	940	178	128	156
19	151	232	495	e338	1,190	559	e555	636	764	188	123	147
20	145	227	929	e328	3,600	1,470	e563	605	681	234	119	141
21	151	221	1,030	e319	4,420	2,730	550	579	618	293	116	136
22	150	215	783	e312	2,480	2,190	506	619	553	240	113	132
23	147	209	617	e306	2,850	1,510	464	647	500	197	114	130
24	145	206	526	e300	2,440	1,140	803	548	456	177	109	133
25	327	203	481	e296	1,620	957	4,280	858	418	168	105	134
26	290	199	452	e292	1,250	878	6,110	1,720	1,700	160	102	135
27	264	194	411	e288	1,040	945	4,460	1,530	1,050	154	103	144
28	232	190	397	284	922	918	2,300	982	692	149	107	144
29	627	187	380	284	---	817	2,080	756	513	144	116	135
30	2,500	185	433	281	---	758	2,390	632	431	141	135	127
31	2,120	---	1,980	280	---	705	---	558	---	140	233	---
MEAN	318	311	407	729	1,031	901	1,162	2,266	1,576	226	157	174
MAX	2,500	936	1,980	4,650	4,420	2,730	6,110	12,600	9,580	427	359	307
MIN	132	185	181	280	254	430	428	548	367	140	102	127
IN.	0.40	0.38	0.51	0.92	1.17	1.13	1.41	2.85	1.92	0.28	0.20	0.21

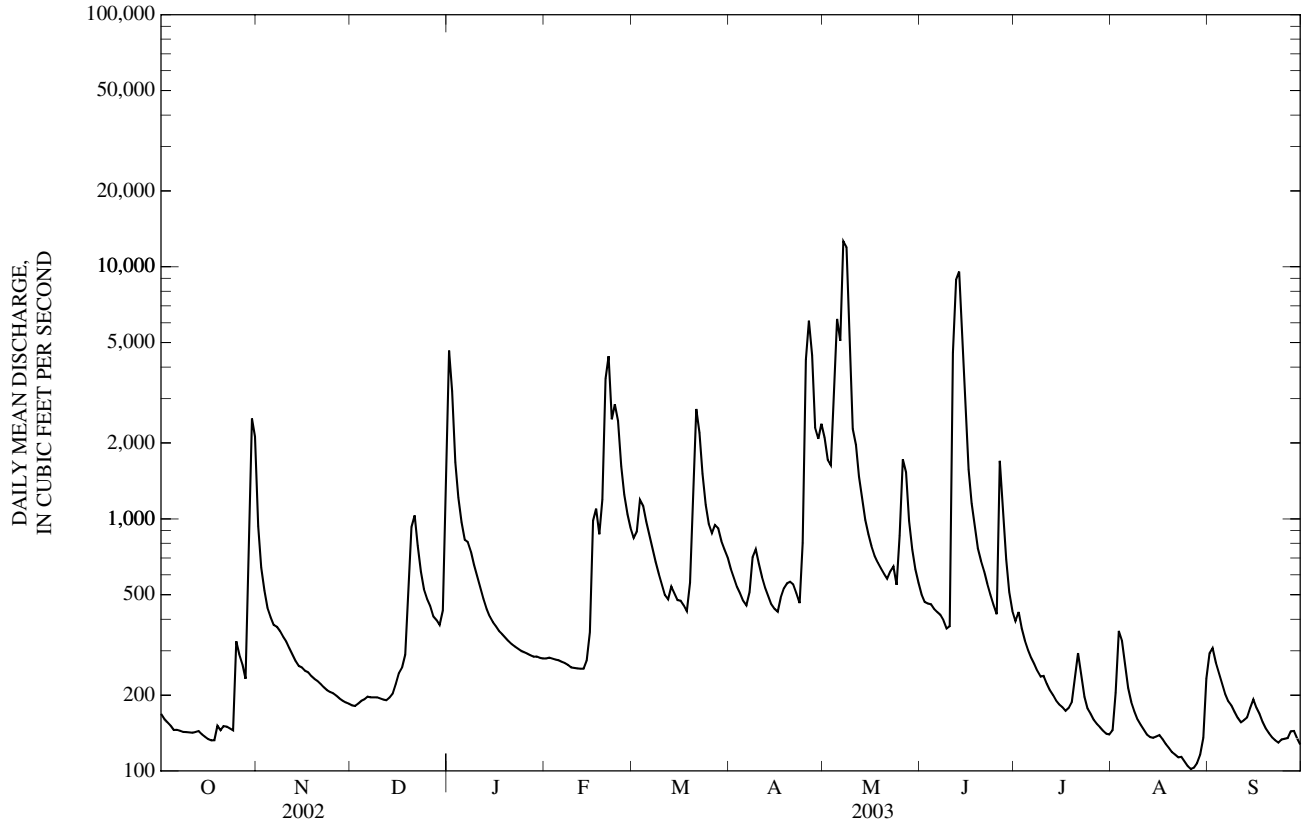
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2003, BY WATER YEAR (WY)

MEAN	324	695	867	903	1,106	1,432	1,665	1,458	830	478	293	344
MAX	2,290	5,084	5,594	5,064	3,696	4,539	7,230	5,196	4,530	3,895	1,490	6,464
(WY)	(1950)	(1994)	(1983)	(1950)	(1982)	(1945)	(1994)	(1990)	(1928)	(1957)	(1950)	(1993)
MIN	49.7	99.6	103	90.4	139	137	237	177	105	56.4	41.4	48.7
(WY)	(1957)	(1977)	(1956)	(1977)	(1954)	(1954)	(2000)	(1932)	(1936)	(1936)	(1936)	(1956)

07018500 BIG RIVER AT BYRNESVILLE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1922 - 2003	
ANNUAL MEAN	970		769		865	
HIGHEST ANNUAL MEAN					1,934	1985
LOWEST ANNUAL MEAN					227	1954
HIGHEST DAILY MEAN	21,600	May 10	12,600	May 7	57,800	Sep 25, 1993
LOWEST DAILY MEAN	110	Sep 14	102	Aug 26	25	Aug 30, 1936
ANNUAL SEVEN-DAY MINIMUM	116	Sep 10	108	Aug 22	34	Aug 28, 1936
MAXIMUM PEAK FLOW	---		13,800	May 7	63,600	Sep 25, 1993
MAXIMUM PEAK STAGE	---		18.71	May 7	29.37	Sep 25, 1993
INSTANTANEOUS LOW FLOW	---		101	Aug 26,27	25	Aug 30, 1936
ANNUAL RUNOFF (INCHES)	14.37		11.39		12.82	
10 PERCENT EXCEEDS	1,750		1,650		1,720	
50 PERCENT EXCEEDS	347		341		338	
90 PERCENT EXCEEDS	145		142		118	

e Estimated



07019000 MERAMEC RIVER NEAR EUREKA, MO

LOCATION.--Lat 38°30'20", long 90°35'30", in SE 1/4 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.

PERIOD OF RECORD.--August 1903 to July 1906, October 1921 to current year. Monthly discharge only for January, February, and March 1904, published in WSP 1311.

REVISED RECORDS.--WSP 877: 1938(M). WSP 977: 1942. WSP 1007: Drainage area. WSP 1281: 1924-25.

GAGE.--Water-stage recorder. Datum of gage is 404.18 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 17, 1933, nonrecording gage at site 200 ft upstream at different datum; Jan. 17, 1933, to Sept. 22, 1937, nonrecording gage; Sept. 23, 1937, to Sept. 30, 1971, water-stage recorder at present site at datum 2.00 ft higher.

REMARKS.--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 Aug. 22, 1915, reached a stage of 42.2 ft, present datum, from floodmarks, discharge, 175,000 ft^3/s, by slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	766	2,570	915	6,530	1,070	3,080	2,870	7,200	2,070	2,130	730	1,060
2	736	2,070	926	7,510	1,070	3,060	2,690	5,980	1,930	1,970	867	1,810
3	812	1,770	925	5,570	1,070	3,350	2,520	5,050	1,910	1,870	940	1,790
4	862	1,600	929	4,290	1,060	3,530	2,370	6,910	1,860	1,700	978	1,410
5	734	1,470	939	3,480	1,050	3,760	2,240	18,300	1,810	1,580	1,110	1,290
6	718	1,390	947	2,940	1,040	3,570	2,110	18,400	1,780	1,480	893	1,120
7	714	1,310	959	2,680	1,040	3,240	2,210	28,100	1,750	1,420	853	989
8	741	1,270	956	2,510	1,030	2,970	2,600	37,200	1,680	1,350	790	943
9	667	1,200	947	2,300	1,020	2,700	3,230	31,400	1,630	1,250	726	860
10	658	1,180	951	2,120	1,010	2,480	3,630	17,100	1,730	1,300	656	802
11	665	1,150	952	1,970	1,010	2,300	3,180	10,600	7,300	1,300	641	763
12	671	1,120	961	1,820	1,010	2,420	2,840	8,400	23,100	1,220	626	743
13	669	1,090	978	1,690	1,000	2,880	2,590	7,300	31,800	1,210	620	721
14	668	1,080	995	1,590	1,040	3,090	2,380	5,620	29,100	1,160	645	696
15	659	1,080	1,010	1,500	1,120	3,890	2,190	4,520	17,600	1,170	623	702
16	659	1,070	1,060	1,440	1,740	3,430	2,070	3,910	8,180	1,110	615	674
17	660	1,060	1,090	1,370	2,690	2,860	2,300	3,610	5,890	1,030	622	666
18	672	1,050	1,220	1,300	3,010	2,510	2,180	3,330	4,640	956	624	679
19	756	1,040	2,040	e1,260	3,520	2,700	2,140	3,200	3,870	936	611	629
20	747	1,040	2,350	e1,220	6,430	6,040	2,340	3,160	3,340	997	594	629
21	745	1,020	3,520	e1,200	9,180	11,600	2,470	2,810	2,970	1,220	571	627
22	745	1,010	2,900	e1,180	7,600	12,700	2,430	2,720	2,690	1,460	589	567
23	737	1,000	2,300	e1,160	6,860	9,620	2,300	2,630	2,420	1,240	568	569
24	739	993	1,990	e1,160	6,230	6,690	2,800	2,350	2,190	1,070	550	557
25	955	973	1,810	e1,150	4,890	5,120	7,230	3,210	2,040	973	550	551
26	1,250	954	1,690	e1,140	4,190	4,300	14,500	4,130	5,530	895	510	542
27	1,120	940	1,590	e1,120	3,670	3,920	17,300	4,470	4,880	857	521	588
28	1,070	936	1,520	e1,110	3,310	3,780	13,100	3,780	5,450	818	515	574
29	1,550	931	1,460	e1,090	---	3,510	10,000	3,110	3,590	799	516	543
30	3,070	924	1,470	1,080	---	3,210	8,400	2,580	2,560	784	557	519
31	3,620	---	2,530	1,070	---	3,050	---	2,320	---	727	642	---
MEAN	962	1,210	1,446	2,179	2,820	4,237	4,374	8,497	6,243	1,225	673	820
MAX	3,620	2,570	3,520	7,510	9,180	12,700	17,300	37,200	31,800	2,130	1,110	1,810
MIN	658	924	915	1,070	1,000	2,300	2,070	2,320	1,630	727	510	519
IN.	0.29	0.36	0.44	0.66	0.78	1.29	1.29	2.59	1.84	0.37	0.20	0.24

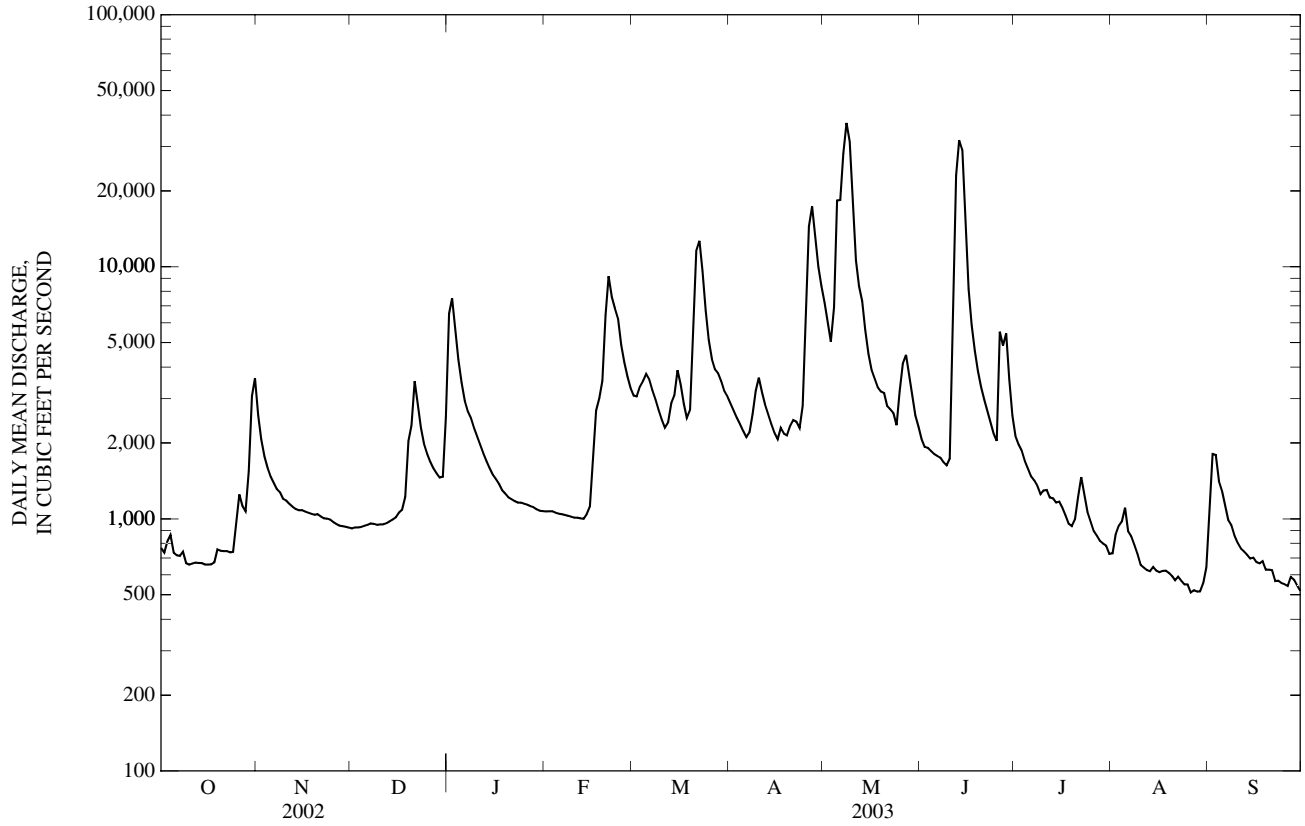
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	1,399	2,465	2,980	3,166	3,883	5,206	6,235	5,480	3,642	1,903	1,189	1,405
MAX	12,120	15,450	23,620	17,320	14,730	13,960	22,580	18,590	18,070	12,600	5,441	18,500
(WY)	(1950)	(1986)	(1983)	(1950)	(1982)	(1978)	(1927)	(2002)	(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)

07019000 MERAMEC RIVER NEAR EUREKA, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	3,880		2,888		3,232	
HIGHEST ANNUAL MEAN					7,407	1985
LOWEST ANNUAL MEAN					751	1954
HIGHEST DAILY MEAN	54,700	May 11	37,200	May 8	139,000	Dec 6, 1982
LOWEST DAILY MEAN	658	Oct 10	510	Aug 26	196	Aug 27, 1936
ANNUAL SEVEN-DAY MINIMUM	664	Oct 10	531	Aug 24	209	Aug 26, 1936
MAXIMUM PEAK FLOW	---		38,200	May 8	145,000	Dec 6, 1982
MAXIMUM PEAK STAGE	---		20.59	May 8	42.89	Dec 6, 1982
INSTANTANEOUS LOW FLOW	---		490	Aug 26-29	196	Aug 27, 1936
ANNUAL RUNOFF (INCHES)	13.91		10.35		11.59	
10 PERCENT EXCEEDS	7,500		5,930		6,750	
50 PERCENT EXCEEDS	1,430		1,410		1,400	
90 PERCENT EXCEEDS	806		659		530	

e Estimated



07019072 KIEFER CREEK NEAR BALLWIN, MO

LOCATION.--Lat 38°33'19", long 90°33'06", in NW ¼ SE ¼ NE ¼ sec.15, T.44 N., R.4 E., St. Louis County, Hydrologic Unit 07140102, on left downstream abutment of Castlewood Road bridge, 0.2 mi upstream of Spring Branch, 3.2 mi west of Highway 141, and 1.3 mi upstream of Meramec River.

DRAINAGE AREA.--3.91 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1996 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 438.90 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records poor. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.0	1.5	3.0	1.9	3.4	3.9	5.5	2.0	2.2	1.3	39
2	1.8	2.1	1.5	3.4	1.5	4.8	3.6	4.7	2.4	1.9	1.0	105
3	31	4.3	1.2	3.0	1.6	4.8	3.6	3.7	7.0	1.7	1.6	12
4	5.3	3.3	1.2	2.4	1.5	4.9	3.6	18	3.3	1.6	1.0	7.3
5	3.3	4.9	1.8	2.7	1.3	4.9	3.4	25	1.9	1.5	0.93	4.5
6	3.4	4.2	2.0	2.6	1.5	3.9	4.9	11	2.8	1.4	0.90	4.0
7	2.8	2.5	1.7	2.3	1.6	3.3	7.1	13	3.4	1.3	0.88	3.5
8	2.2	2.5	1.2	1.8	1.3	3.2	4.2	7.4	1.9	1.2	0.90	2.9
9	1.9	2.3	1.1	1.6	1.3	2.9	3.5	6.0	1.4	1.2	0.85	2.2
10	1.8	2.3	1.4	1.4	1.3	2.7	3.5	20	26	5.3	1.0	1.9
11	1.7	2.0	1.4	1.4	1.3	3.9	3.3	13	23	2.1	1.0	1.8
12	1.7	1.9	1.6	1.6	1.3	15	3.2	7.4	7.9	1.4	0.99	2.2
13	1.9	2.2	1.8	1.6	1.5	17	3.0	5.7	20	1.2	1.5	2.2
14	1.6	2.4	1.7	1.6	5.7	7.2	2.6	4.9	7.4	1.1	2.1	1.9
15	1.6	5.3	1.4	1.2	7.0	5.3	2.0	4.8	4.9	1.1	1.0	1.7
16	1.4	2.4	1.5	1.2	4.7	4.2	4.9	4.1	3.6	1.0	1.00	1.6
17	1.2	1.9	1.5	1.4	2.7	3.5	11	3.5	2.7	0.98	1.0	1.6
18	e1.9	1.8	21	1.4	3.1	3.1	4.8	3.3	2.3	16	0.86	1.5
19	e7.1	1.6	5.0	1.3	12	20	3.5	3.0	2.3	7.6	0.82	1.4
20	e3.5	1.5	2.4	1.1	6.7	26	7.6	3.0	2.0	2.6	0.82	1.3
21	1.6	1.5	1.5	1.1	4.3	11	5.1	2.6	1.7	1.8	0.76	1.3
22	1.5	1.1	1.4	1.2	4.4	7.5	3.7	2.4	1.4	1.4	0.75	1.5
23	1.4	1.1	1.2	1.1	4.4	6.4	3.2	2.3	1.2	1.3	0.72	1.3
24	1.4	1.2	1.2	1.1	3.4	5.9	15	2.2	1.1	1.2	0.62	1.7
25	12	1.2	1.4	1.2	3.1	6.1	16	25	13	1.1	0.62	1.9
26	4.1	1.2	1.4	1.3	2.5	5.2	11	6.3	39	1.1	0.64	13
27	2.3	1.2	1.4	1.3	2.4	4.6	6.7	4.0	6.2	1.0	0.52	9.1
28	2.0	1.2	1.7	1.2	2.7	4.9	12	3.1	3.8	1.2	0.53	3.4
29	22	1.1	2.4	1.5	---	5.1	8.6	2.6	2.7	1.0	0.78	2.1
30	4.7	1.5	2.7	1.6	---	3.9	6.4	2.9	2.1	0.95	0.98	2.4
31	2.7	---	3.9	1.9	---	3.8	---	2.6	---	0.92	1.3	---
MEAN	4.34	2.19	2.39	1.69	3.14	6.72	5.83	7.19	6.68	2.17	0.96	7.91
MAX	31	5.3	21	3.4	12	26	16	25	39	16	2.1	105
MIN	1.2	1.1	1.1	1.1	1.3	2.7	2.0	2.2	1.1	0.92	0.52	1.3
IN.	1.28	0.63	0.70	0.50	0.84	1.98	1.66	2.12	1.91	0.64	0.28	2.26

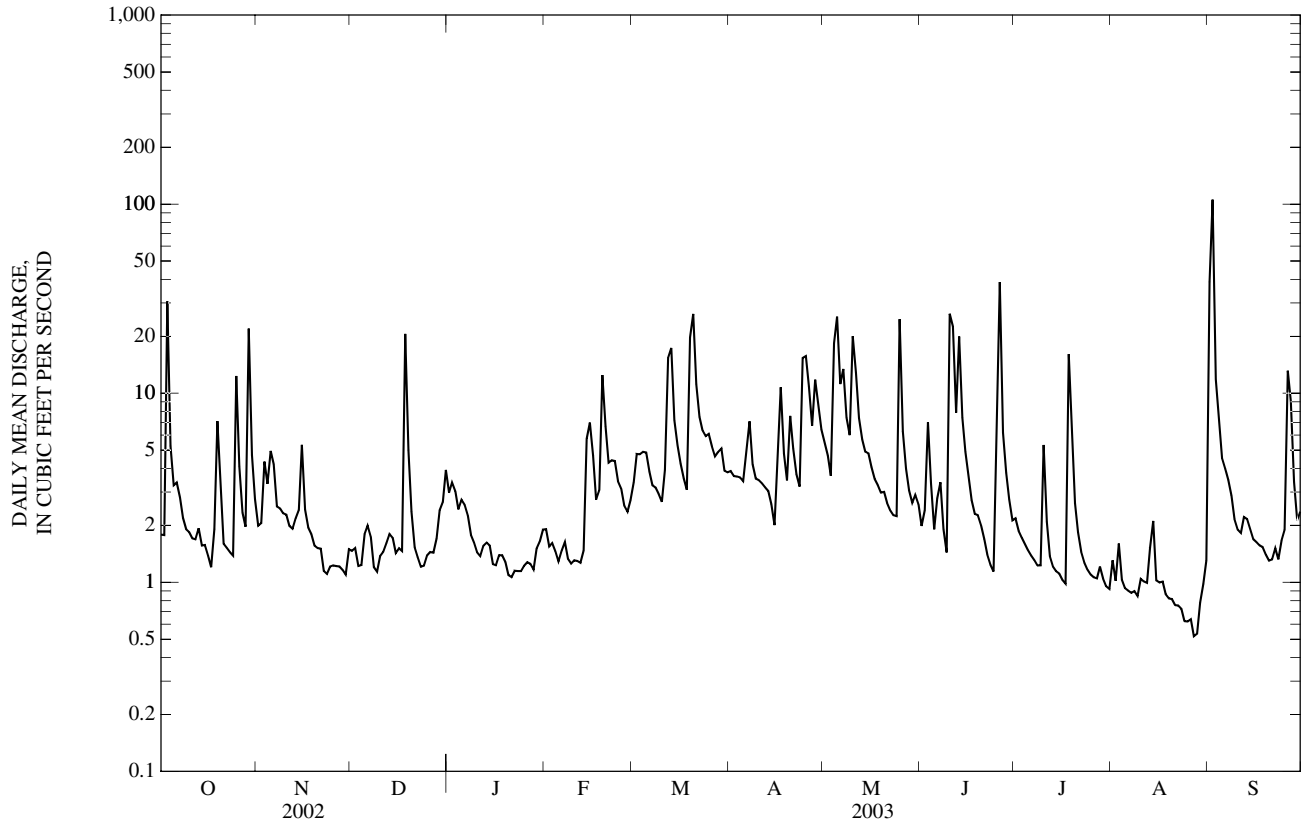
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)

MEAN	3.50	3.85	2.92	4.45	7.19	6.86	5.17	7.75	7.70	3.35	2.58	4.12
MAX	6.61	10.7	6.35	10.3	12.5	16.1	7.65	16.2	16.9	8.87	6.29	12.1
(WY)	(1997)	(1997)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(1998)	(1998)	(1998)	(1996)
MIN	1.86	1.35	1.35	1.41	3.14	2.75	1.97	3.12	1.68	1.70	0.96	0.82
(WY)	(2000)	(2000)	(1999)	(2000)	(2003)	(2001)	(2000)	(1997)	(1999)	(1997)	(2003)	(1999)

07019072 KIEFER CREEK NEAR BALLWIN, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1996 - 2003	
ANNUAL MEAN	5.22		4.26		4.85	
HIGHEST ANNUAL MEAN					7.06	1998
LOWEST ANNUAL MEAN					3.11	2001
HIGHEST DAILY MEAN	116	Jun 12	105	Sep 2	251	May 7, 2000
LOWEST DAILY MEAN	0.95	Sep 13	0.52	Aug 27	0.52	Aug 27, 2003
ANNUAL SEVEN-DAY MINIMUM	1.1	Sep 10	0.63	Aug 22	0.63	Aug 22, 2003
MAXIMUM PEAK FLOW	---		830[a]	Sep 2	Unknown	Jun 12, 2002
MAXIMUM PEAK STAGE	---		5.72	Sep 2	8.20	Jun 12, 2002
INSTANTANEOUS LOW FLOW	---		0.40	Aug 27-29	0.22	Sep 20, 2000
ANNUAL RUNOFF (INCHES)	18.11		14.80		16.85	
10 PERCENT EXCEEDS	10		7.6		9.2	
50 PERCENT EXCEEDS	2.3		2.2		2.2	
90 PERCENT EXCEEDS	1.4		1.1		1.0	

e Estimated
[a] From rating extended above 251 ft^3/s.



07019072 KIEFER CREEK NEAR BALLWIN, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1996 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
25...	0827	Environmental	62	9.4	10.5	102	7.2	2,010	12.9	110	36.0	5.70
DEC												
16...	1345	Environmental	0.97	26	9.1	90	7.2	1,040	13.9	320	99.0	18.0
FEB												
04...	1425	Environmental	1.4	30	9.2	89	7.1	1,530	13.4	350	110	19.0
MAR												
19...	1052	Environmental	46	8.3	10.7	105	7.4	586	13.0	140	43.0	7.20
JUN												
25...	1025	Environmental	1.1	36	9.6	95	7.1	924	14.4	330	104	17.0
AUG												
12...	0815	Environmental	1.1	38	8.8	88	7.1	903	14.1	350	110	19.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
25...	84	84	102	<1	--	225	1.4	0.07	0.840	0.01	0.290	0.45	37
DEC													
16...	220	222	271	<1	110	1	<0.20	<0.01	1.80	<0.01	0.020	0.02	<5
FEB													
04...	202	205	250	<1	310	4	<0.20	<0.01	1.90	<0.01	0.030	0.02	24
MAR													
19...	98	98	120	<1	--	334	1.7	0.10	1.10	0.03	0.180	0.42	18
JUN													
25...	235	237	289	<1	--	1	<0.20	<0.01	2.10	<0.01	0.030	0.02	6
AUG													
12...	229	231	282	<1	--	<1	<0.20	<0.01	2.10	<0.01	0.020	<0.02	<5

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
25...	10,000	28,000	6,800	4	<1	<1	<1.0	1.3	1.6	9	<1	12	<0.1
DEC													
16...	15k	70	40	<3	<1	<1	<1.0	6.6	1.0	<2	<1	9	<0.1
FEB													
04...	1k	73k	40	<3	<1	<1	<1.0	2.7	1.5	<2	<1	11	<0.1
MAR													
19...	13,000	18,300k	14,000	4	1	<1	<1.0	1.4	2.3	16	<1	42	<0.1
JUN													
25...	120	46	33k	<3	<1	<1	<1.0	5.4	<1.0	3	<1	26	<0.1
AUG													
12...	10k	36k	230	<3	<1	<1	<1.0	3.6	1.3	<2	<1	14	<0.1

07019072 KIEFER CREEK NEAR BALLWIN, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
25...	1.3	<1	<1.0	2	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
16...	4.3	2	<1.0	57	--	--	--	--	--	--	--	--	--
FEB													
04...	3.3	1	<1.0	<2	--	--	--	--	--	--	--	--	--
MAR													
19...	1.7	<1	<1.0	3	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
JUN													
25...	4.1	1	<1.0	6	--	--	--	--	--	--	--	--	--
AUG													
12...	3.0	2	<1.0	3	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
25...	<2	<2	<1	<0.9	<2	<3	<2	<4	M	M	<2	--r	--r
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<2	<2	<1	<0.9	<2	<3	<2	<4	M	M	<2	<0.01	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo[a]anthracene, water, unfltrd µg/L (34526)	Benzo[a]pyrene, water, unfltrd µg/L (34247)	Benzo[b]fluoranthene water unfltrd µg/L (34230)	Benzo[g,h,i]perylene, water, unfltrd µg/L (34521)	Benzo[k]fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
25...	M	<1,000	M	M	M	M	M	<2	<3	<2	<2	<2	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	M	<1,000	M	M	M	M	M	<2	<3	<2	<2	<2	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07019072 KIEFER CREEK NEAR BALLWIN, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
25...	--r	<0.01	M	0.18	<1	--r	<2	M	M	<2	<0.10	--r	<0.01
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<0.1	<0.01	M	0.16	M	<0.017	<2	<1	<2	<2	<0.10	<0.02	<0.01
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
25...	M	<0.01	--r	--r	<2	<1	M	M	--r	<0.10	<0.01	--r	<1
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	M	<0.01	<0.009	<0.01	<2	<1	M	M	<0.014	<0.10	<0.02	<0.012	<1
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
25...	<3	<2	<2	--r	--r	--r	--r	<0.01	--r	M	M	<3.0	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<3	<2	<2	<0.016	<0.014	<0.009	<0.020	<0.01	<0.1	M	M	E.4	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07019072 KIEFER CREEK NEAR BALLWIN, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tribuphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
25...	M	--r	<0.02	<2	<2	<2	<1	<1	<2	<2
DEC										
16...	--	--	--	--	--	--	--	--	--	--
FEB										
04...	--	--	--	--	--	--	--	--	--	--
MAR										
19...	M	<1	<0.02	<2	<2	<2	<1	<1	<2	<2
JUN										
25...	--	--	--	--	--	--	--	--	--	--
AUG										
12...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range

Null value qualifier codes used in this table:
r -- Sample ruined in preparation

07019090 WILLIAMS CREEK NEAR PEERLESS PARK, MO

LOCATION.--Lat 38°32'04", long 90°30'51", St. Louis County, Hydrologic Unit 07140102, on left downstream wingwall of Meramec Station Road bridge, 0.1 mi south of Interstate 44, 1.01 mi west of Highway 141, and 0.6 mi upstream of Meramec River.

DRAINAGE AREA.--7.62 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1997 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 415.75 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair except estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.34	e1.0	1.1	4.1	0.80	2.0	1.8	13	3.0	3.0	0.93	9.9
2	0.34	e0.96	1.1	3.0	0.94	4.5	1.7	9.4	2.8	3.0	1.3	42
3	0.96	e1.6	0.93	3.2	1.1	4.8	1.5	7.2	4.0	2.6	1.4	15
4	1.2	e1.2	0.84	2.6	1.2	4.4	1.5	25	3.1	2.2	1.4	6.5
5	1.1	e2.8	0.87	2.4	0.99	4.2	2.3	56	2.5	1.9	1.1	3.7
6	0.78	3.7	0.96	2.2	0.87	3.2	2.1	32	2.3	1.8	1.1	2.6
7	0.97	2.5	0.93	1.9	0.83	2.5	5.2	34	2.7	1.6	0.98	1.9
8	0.73	2.2	0.84	1.8	0.70	2.3	4.3	24	2.1	1.3	0.89	1.6
9	0.59	2.1	0.84	1.7	0.63	1.9	3.4	18	1.7	1.0	0.86	1.3
10	0.54	2.1	0.84	1.2	0.72	1.4	3.0	19	9.4	3.6	0.84	1.1
11	0.60	1.8	0.76	0.90	0.73	1.4	2.8	37	30	2.0	0.84	0.99
12	0.55	1.3	0.65	0.80	0.73	15	2.5	22	23	1.3	0.78	1.2
13	0.65	1.0	0.72	0.73	0.66	21	2.2	15	85	1.0	0.92	2.2
14	0.63	0.96	0.87	0.66	1.9	17	2.0	11	43	0.86	2.2	1.6
15	0.61	1.4	0.92	0.56	5.3	11	1.9	7.9	22	0.87	1.5	1.2
16	0.57	1.8	0.82	0.58	5.9	7.8	4.4	6.2	13	0.89	1.3	0.99
17	0.53	1.3	0.73	0.63	4.0	6.0	25	5.4	9.0	0.76	1.1	0.71
18	0.57	0.98	3.9	0.57	3.3	4.9	15	4.8	6.9	7.3	0.91	0.56
19	4.1	0.80	5.5	0.58	14	13	9.9	4.4	5.5	9.1	0.81	0.53
20	2.4	0.67	2.9	0.63	14	33	16	3.7	4.4	2.9	0.64	0.50
21	1.2	0.65	2.0	0.63	7.8	21	15	3.5	3.7	2.0	0.63	0.53
22	0.70	0.67	1.5	0.56	6.0	12	10	3.3	3.1	1.6	0.53	0.53
23	0.50	0.66	1.2	0.53	6.6	7.8	7.7	3.0	2.7	1.3	0.43	0.53
24	0.41	0.63	0.99	0.50	4.8	6.1	27	2.7	2.3	1.1	0.36	0.53
25	8.0	0.63	0.96	0.45	3.5	4.8	48	29	2.8	1.0	0.36	0.50
26	5.1	0.63	0.96	0.53	2.7	3.8	38	15	38	0.87	0.36	2.1
27	2.1	0.55	0.91	0.53	2.5	3.4	21	7.5	12	0.84	0.36	6.2
28	1.4	0.53	0.89	0.53	2.1	3.1	25	5.5	6.2	0.91	0.36	2.9
29	e6.6	0.67	1.9	0.71	---	2.8	29	4.6	4.1	0.96	0.33	1.8
30	e4.0	1.0	2.2	0.70	---	2.0	20	3.9	2.9	0.87	0.54	1.4
31	e1.3	---	3.4	0.73	---	1.8	---	3.6	---	0.80	0.64	---
MEAN	1.62	1.29	1.42	1.20	3.40	7.42	11.6	14.1	11.8	1.98	0.86	3.77
MAX	8.0	3.7	5.5	4.1	14	33	48	56	85	9.1	2.2	42
MIN	0.34	0.53	0.65	0.45	0.63	1.4	1.5	2.7	1.7	0.76	0.33	0.50
IN.	0.24	0.19	0.21	0.18	0.47	1.12	1.70	2.13	1.72	0.30	0.13	0.55

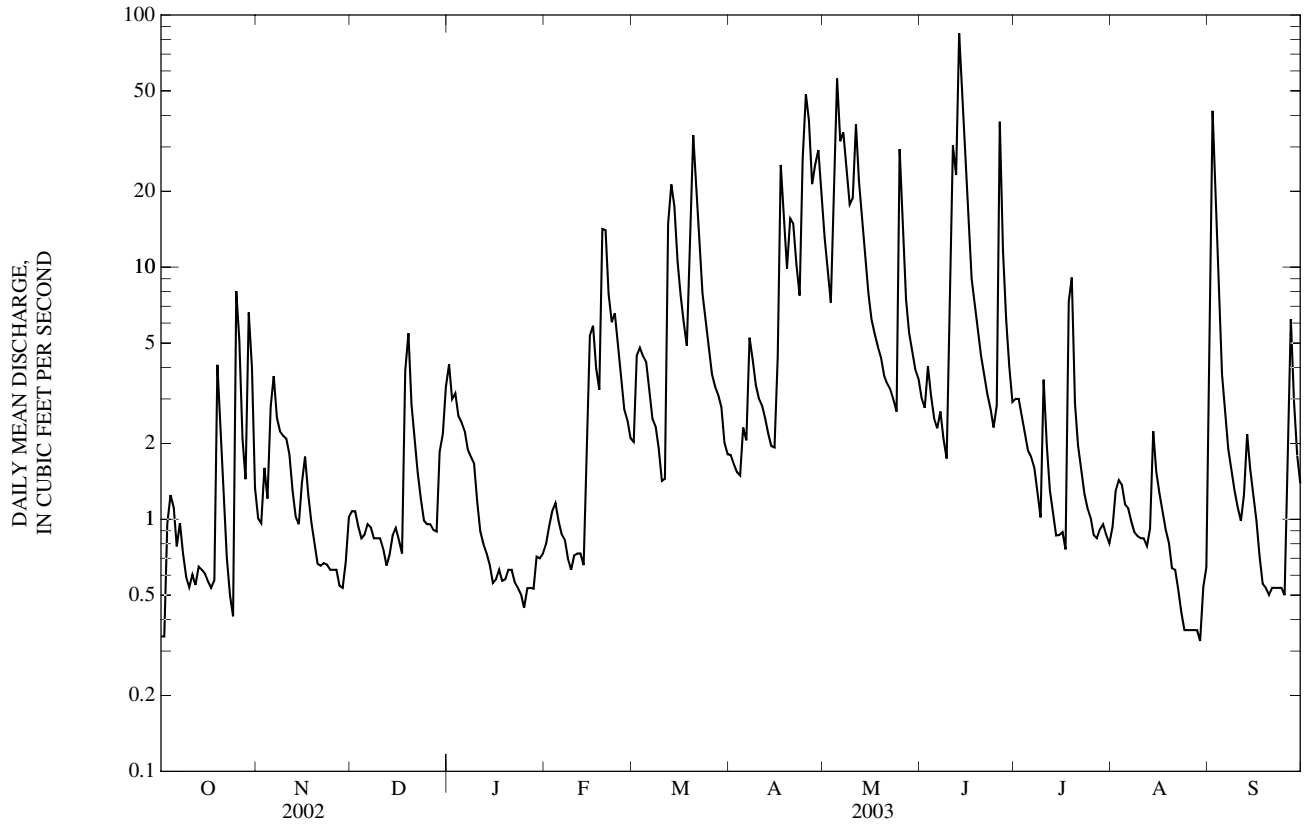
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	1.57	1.72	2.84	4.10	8.89	11.0	9.55	10.7	7.50	3.16	2.21	1.54
MAX	3.22	2.96	10.4	11.1	21.5	30.5	17.8	25.3	16.7	8.27	5.75	3.77
(WY)	(2002)	(2002)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(1998)	(1998)	(1998)	(2003)
MIN	0.75	0.62	0.91	0.76	1.96	1.69	1.25	1.71	1.98	0.93	0.73	0.56
(WY)	(2000)	(2000)	(1999)	(2000)	(2000)	(2000)	(2000)	(2001)	(2001)	(2002)	(2002)	(1999)

07019090 WILLIAMS CREEK NEAR PEERLESS PARK, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	6.26		5.03		5.38	
HIGHEST ANNUAL MEAN					9.20	1998
LOWEST ANNUAL MEAN					2.61	2000
HIGHEST DAILY MEAN	94	May 8	85	Jun 13	208	Mar 20, 1998
LOWEST DAILY MEAN	0.29	Sep 4-7,9,10	0.33	Aug 29	0.29	Several Days 2002,2003
ANNUAL SEVEN-DAY MINIMUM	0.29	Sep 4	0.37	Aug 23	0.29	Sep 4, 2002
MAXIMUM PEAK FLOW	---		161	Jun 13	583[a]	May 7, 2000
MAXIMUM PEAK STAGE	---		6.27	Jun 13	9.31	May 7, 2000
INSTANTANEOUS LOW FLOW	---		0.29	Oct 1,2,Aug 29,30	0.29	Several Days 2002,2003
ANNUAL RUNOFF (INCHES)	11.16		8.96		9.60	
10 PERCENT EXCEEDS	18		14		13	
50 PERCENT EXCEEDS	1.5		1.8		1.6	
90 PERCENT EXCEEDS	0.52		0.57		0.63	

e Estimated
a From rating extended above 305 ft^3/s.



07019090 WILLIAMS CREEK NEAR PEERLESS PARK, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
29...	0322	Environmental	91	4.5	7.8	73	7.5	227	11.2	84	27.0	4.00
DEC												
16...	1040	Environmental	.84	10	9.8	87	7.7	1,130	9.3	290	88.0	18.0
FEB												
04...	1630	Environmental	1.1	9.2	11.7	86	7.6	904	2.0	280	86.0	17.0
MAR												
20...	0029	Environmental	30	17	9.6	92	7.1	548	12.2	170	54.0	9.30
JUN												
25...	0820	Environmental	2.1	13	9.2	92	7.5	573	14.7	240	76.0	11.0
AUG												
12...	1110	Environmental	.84	15	9.0	94	7.4	635	16.3	260	81.0	15.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
29...	75	75	91	<1	--	83	0.90	<0.01	0.830	0.01	0.230	0.30	12
DEC													
16...	277	278	340	<1	200	5	0.40	<0.01	4.60	<0.01	0.410	0.43	6
FEB													
04...	208	210	256	<1	120	13	<0.20	0.02	5.40	<0.01	0.340	0.30	13
MAR													
20...	124	124	152	<1	--	69	0.90	0.04	1.70	0.02	0.190	0.25	14
JUN													
25...	203	204	249	<1	--	<1	<0.20	<0.01	1.60	<0.01	0.130	0.12	<5
AUG													
12...	201	203	248	<1	--	<1	0.20	0.02	2.40	<0.01	0.240	0.22	<5

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
29...	5,400	28,000	12,500	4	<1	<1	<1.0	<1.0	1.9	11	<1	19	0.1
DEC													
16...	86	148k	510	<3	<1	<1	<1.0	6.8	2.3	8	<1	14	<0.1
FEB													
04...	4k	65k	31k	<3	<1	<1	<1.0	2.1	2.1	5	<1	9	<0.1
MAR													
20...	2,200	2,800	4,560	<3	1	<1	<1.0	2.1	3.0	13	<1	10	<0.1
JUN													
25...	270	107	98	<3	<1	<1	<1.0	4.3	<1.0	4	<1	11	<0.1
AUG													
12...	790	740k	760	<3	<1	<1	<1.0	2.7	1.5	7	<1	15	<0.1

07019090 WILLIAMS CREEK NEAR PEERLESS PARK, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
29...	1.2	3	<1.0	3	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
16...	4.1	<1	<1.0	4	--	--	--	--	--	--	--	--	--
FEB													
04...	4.0	<1	<1.0	5	--	--	--	--	--	--	--	--	--
MAR													
20...	2.2	<1	<1.0	6	<7	<1	<3	M	<2.0	<3	<3	<2	<2
JUN													
25...	3.0	<1	<1.0	3	--	--	--	--	--	--	--	--	--
AUG													
12...	3.0	<1	<1.0	4	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
29...	<2	<2	M	<0.9	<2	<3	<2	<4	M	<2	M	--r	--r
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
20...	<2	<2	<1	<0.9	<2	<3	<2	<4	<2	<2	<2	<0.01	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo-[a]-anthracene, water, unfltrd µg/L (34526)	Benzo-[a]-pyrene, water, unfltrd µg/L (34247)	Benzo-[b]-fluoranthene water unfltrd µg/L (34230)	Benzo-[g,h,i]-perylene, water, unfltrd µg/L (34521)	Benzo-[k]-fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
29...	<2	<1,000	<2	M	M	M	M	<2	<3	<2	<2	<2	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
20...	<2	<1,000	<2	M	M	<2	M	<2	<3	<2	<2	<2	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07019090 WILLIAMS CREEK NEAR PEERLESS PARK, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
29...	--r	<0.01	M	<0.02	<1	--r	<2	M	<2	<2	<0.10	--r	<0.01
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
20...	<0.1	<0.01	M	<0.02	<1	<0.017	M	M	<2	<2	<0.10	<0.02	<0.01
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
29...	M	<0.01	--r	--r	<2	<1	M	M	--r	<0.10	<0.01	--r	<1
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
20...	M	<0.01	<0.009	<0.01	<2	<1	<3	M	<0.014	<0.10	<0.02	<0.012	<1
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
29...	<3	<2	<2	--r	--r	--r	--r	<0.01	--r	M	M	E.2	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
20...	<3	<2	<2	<0.016	<0.014	<0.009	<0.020	<0.01	<0.1	<2	M	E.1	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07019090 WILLIAMS CREEK NEAR PEERLESS PARK, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tribuphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
29...	M	--r	<0.02	<2	<2	<2	<1	<1	<2	M
DEC										
16...	--	--	--	--	--	--	--	--	--	--
FEB										
04...	--	--	--	--	--	--	--	--	--	--
MAR										
20...	M	<1	<0.02	<2	<2	M	<1	<1	<2	<2
JUN										
25...	--	--	--	--	--	--	--	--	--	--
AUG										
12...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range

Null value qualifier codes used in this table:
r -- Sample ruined in preparation

07019120 FISHPOT CREEK AT VALLEY PARK, MO

LOCATION.--Lat 38°33'07", long 90°30'41", in NE 1/4 NE 1/4 SE 1/4 sec.13, T.44 N., R.4 E., St. Louis County, Hydrologic Unit 07140102, on right downstream abutment of Hanna Road bridge, 4.4 mi west of Interstate 270, 1.0 mi north of Interstate 44, and 1.7 mi upstream of confluence of Meramec River.

DRAINAGE AREA.--9.58 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1996 to current year. Annual peaks only for 1972-1974 water years published in WRD MO 1974.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 422.02 ft above National Geodetic Vertical Datum of 1929. Prior to July 1996, at datum 420.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 11, 1979 reached a stage of 12.00 ft, former datum, discharge 6,200 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	e0.44	e0.02	0.12	0.15	0.06	e0.34	0.66	0.02	126
2	0.00	0.00	0.00	e0.80	e0.01	0.13	0.15	0.04	e0.28	0.37	0.03	e817
3	13	0.01	0.00	e0.34	e0.00	0.10	0.13	0.03	e0.61	0.33	0.03	6.7
4	0.35	0.00	0.00	e0.06	e0.00	0.09	0.12	47	e0.33	0.32	0.02	3.8
5	0.22	0.02	0.00	e0.19	e0.00	0.10	0.12	28	e0.23	0.28	0.01	2.0
6	0.25	0.00	0.00	e0.02	e0.03	0.09	0.18	6.8	e0.18	0.22	0.00	1.6
7	0.15	0.00	0.00	e0.00	e0.10	0.09	0.09	8.7	e0.13	0.18	0.00	0.44
8	0.08	0.00	0.00	e0.00	e0.02	0.11	0.06	0.57	e0.11	0.14	0.00	0.09
9	0.04	0.01	0.00	e0.00	e0.01	0.13	0.05	0.38	e0.09	0.11	0.00	0.02
10	0.01	0.02	0.00	e0.00	e0.00	0.13	0.05	45	e41	4.9	0.00	e0.00
11	0.00	0.02	0.00	e0.00	e0.00	4.1	0.06	4.6	e19	0.43	0.00	e0.00
12	0.00	0.01	0.00	e0.00	e0.00	19	0.06	1.1	e36	0.34	0.00	e4.1
13	0.00	0.01	0.00	e0.00	e0.00	16	0.08	0.77	e63	0.31	0.08	e0.40
14	0.00	0.01	0.00	e0.00	0.80	0.64	0.09	0.62	e2.8	0.29	0.06	e0.14
15	0.00	0.06	0.00	e0.00	0.61	0.50	0.12	2.3	e1.1	0.25	0.07	e0.08
16	0.00	0.02	0.00	e0.00	e0.20	0.45	20	0.54	e0.58	0.18	0.05	e0.02
17	0.00	0.01	0.00	e0.00	0.13	0.42	2.9	0.44	e0.47	0.15	0.03	e0.00
18	0.27	0.01	16	e0.00	0.16	0.42	0.12	0.42	e0.41	43	0.01	e0.00
19	0.40	0.01	0.90	e0.00	6.7	16	0.09	0.34	e0.55	1.1	0.00	e0.00
20	0.07	0.00	e0.04	e0.00	0.45	21	7.2	0.33	e0.39	0.17	0.00	e0.00
21	0.01	0.00	e0.01	e0.00	0.14	0.59	0.11	0.26	e0.31	0.13	0.00	e0.00
22	0.09	0.00	e0.00	e0.00	0.22	0.34	0.08	0.24	e0.19	0.13	0.00	e0.00
23	0.08	0.00	e0.00	e0.00	0.19	0.29	0.06	0.22	e0.15	0.13	0.00	e0.00
24	0.05	0.00	e0.01	e0.00	0.16	0.25	27	0.22	e0.12	0.12	0.00	e0.00
25	18	0.00	e0.06	e0.00	e0.14	0.26	9.2	74	130	0.10	0.00	e0.20
26	0.05	0.00	e0.15	e0.00	e0.13	0.23	0.31	1.5	159	0.08	0.00	e12
27	0.00	0.00	e0.08	e0.00	0.12	0.21	0.08	0.80	0.88	0.05	0.00	e1.8
28	0.00	0.00	e0.20	e0.00	0.09	0.25	11	0.60	0.56	0.05	0.00	e0.26
29	53	0.00	e0.30	e0.00	---	0.18	0.20	0.52	0.43	0.04	0.03	e0.10
30	0.03	0.00	e0.14	e0.00	---	0.15	0.07	e0.50	0.37	0.01	0.04	e0.26
31	0.00	---	e1.6	0.12	---	0.15	---	e0.42	---	0.01	0.17	---
MEAN	2.78	0.01	0.63	0.06	0.37	2.66	2.66	7.33	15.3	1.76	0.02	32.6
MAX	53	0.06	16	0.80	6.7	21	27	74	159	43	0.17	817
MIN	0.00	0.00	0.00	0.00	0.00	0.09	0.05	0.03	0.09	0.01	0.00	0.00
IN.	0.33	0.00	0.08	0.01	0.04	0.32	0.31	0.88	1.78	0.21	0.00	3.79

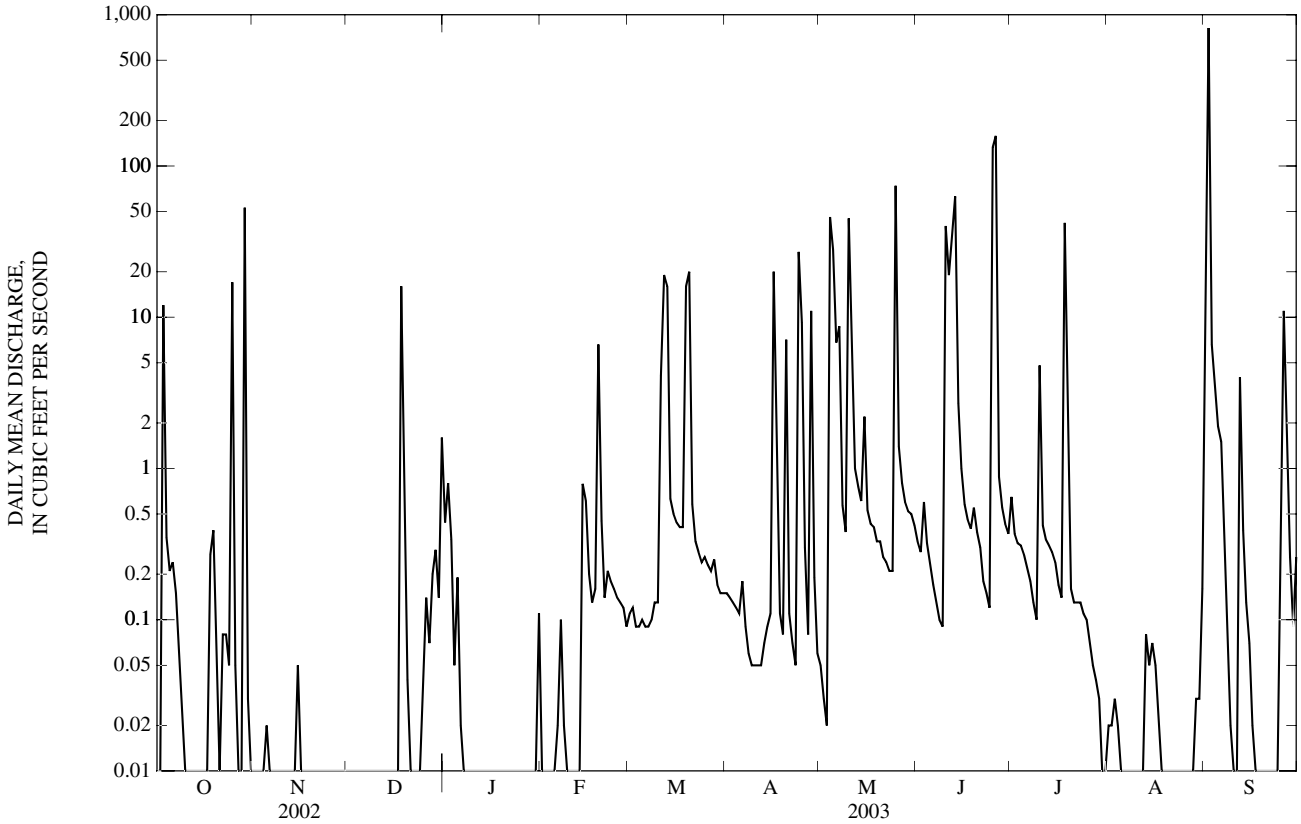
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)

MEAN	2.69	4.95	2.05	4.80	10.4	6.09	3.78	10.8	13.3	3.57	1.93	6.93
MAX	8.26	20.9	9.44	9.61	19.0	21.5	6.23	28.2	31.5	12.5	4.95	32.6
(WY)	(2002)	(1997)	(2002)	(2002)	(2000)	(1998)	(1998)	(2000)	(2000)	(1998)	(1998)	(2003)
MIN	0.42	0.01	0.16	0.06	0.37	0.78	0.26	1.48	0.80	0.83	0.02	0.07
(WY)	(1999)	(2003)	(1999)	(2003)	(2003)	(2000)	(2000)	(1997)	(1999)	(1997)	(2003)	(1999)

07019120 FISHPOT CREEK AT VALLEY PARK, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1996 - 2003	
ANNUAL MEAN	5.37		5.48		5.80	
HIGHEST ANNUAL MEAN					7.88	1998
LOWEST ANNUAL MEAN					3.38	2001
HIGHEST DAILY MEAN	288	Jun 12	817	Sep 2	817	Sep 2, 2003
LOWEST DAILY MEAN	0.00	Many Days	0.00	Many Days	0.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	0.00	At Times	0.00	At Times	0.00	At TImes
MAXIMUM PEAK FLOW	---		Unknown	Sep 2	Unknown	Sep 2, 2003
MAXIMUM PEAK STAGE	---		9.20	Sep 2	10.08	Jun 24, 2000
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Many Years
ANNUAL RUNOFF (INCHES)	7.61		7.77		8.23	
10 PERCENT EXCEEDS	3.6		3.3		4.9	
50 PERCENT EXCEEDS	0.10		0.09		0.20	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated



07019120 FISHPOT CREEK AT VALLEY PARK, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1996 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
25...	0855	Environmental	6.1	1.8	8.9	85	7.8	164	12.5	66	21.0	3.40
DEC												
16...	1240	Environmental	e.01	15	10.0	84	7.4	869	7.0	300	96.0	15.0
FEB												
04...	1525	Environmental	e.01	18	10.2	80	7.2	1,090	4.3	250	78.0	13.0
MAR												
19...	1112	Environmental	54	2.5	10.7	105	7.8	632	12.9	87	26.0	5.30
JUN												
25...	1155	Environmental	0.05	13	5.2	65	7.4	632	25.3	200	64.0	9.80
AUG												
12...	1015	Environmental	e.01	44	2.0	23	6.9	626	23.3	230	72.0	11.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
25...	54	54	66	<1	--	459	1.4	0.05	0.670	0.02	0.240	0.51	16
DEC													
16...	176	179	218	<1	91.0	5	0.20	<0.01	0.120	<0.01	0.090	0.12	<5
FEB													
04...	161	162	198	<1	180	4	<0.20	<0.01	0.490	<0.01	0.100	0.10	11
MAR													
19...	83	83	102	<1	--	228	1.9	0.15	0.950	0.04	0.200	0.40	21
JUN													
25...	172	172	210	<1	--	2	0.20	0.02	0.160	<0.01	0.140	0.14	5
AUG													
12...	179	180	220	<1	--	7	0.30	0.02	<0.020	<0.01	0.120	0.21	6

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
25...	6,000k	39,000	20,800	5	<1	<1	<1.0	<1.0	2.0	16	<1	24	<0.1
DEC													
16...	1k	9k	6k	<3	<1	<1	<1.0	4.4	<1.0	40	<1	80	<0.1
FEB													
04...	<1b	3k	3k	<3	<1	<1	<1.0	1.8	<1.0	11	<1	90	<0.1
MAR													
19...	5,200	6,200	12,000	5	2	<1	<1.0	2.7	3.9	20	<1	86	<0.1
JUN													
25...	42	54	62	<3	1	<1	<1.0	1.0	1.3	8	<1	112	<0.1
AUG													
12...	28k	12k	1,540k	<3	2	<1	<1.0	2.2	<1.0	8	<1	343	<0.1

07019120 FISHPOT CREEK AT VALLEY PARK, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
25...	1.1	<1	<1.0	3	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
16...	3.8	<1	<1.0	49	--	--	--	--	--	--	--	--	--
FEB													
04...	2.4	<1	<1.0	<2	--	--	--	--	--	--	--	--	--
MAR													
19...	1.9	<1	<1.0	3	<7	<1	<3	M	<2.0	<3	<3	<2	<2
JUN													
25...	2.9	<1	<1.0	4	--	--	--	--	--	--	--	--	--
AUG													
12...	2.9	<1	<1.0	3	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
25...	<2	<2	<1	<0.9	<2	<3	<2	<4	M	M	M	<0.01	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<2	M	<1	<0.9	<2	<3	<2	<4	M	M	<2	<0.01	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo[a]anthracene, water, unfltrd µg/L (34526)	Benzo[a]pyrene, water, unfltrd µg/L (34247)	Benzo[b]fluoranthene water unfltrd µg/L (34230)	Benzo[g,h,i]perylene, water, unfltrd µg/L (34521)	Benzo[k]fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
25...	M	<1,000	M	M	M	M	M	M	<3	<2	<2	E2	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	M	<1,000	M	M	M	M	M	E3	<3	<2	<2	<2	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07019120 FISHPOT CREEK AT VALLEY PARK, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
25...	<0.1	<0.01	M	0.05	M	E.001	M	M	<2	<2	<0.10	<0.02	<0.01
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<0.1	<0.01	M	0.08	M	<0.017	M	M	M	<2	<0.10	<0.02	<0.01
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
25...	M	<0.01	<0.009	<0.01	<2	<1	M	M	<0.014	<0.10	<0.01	<0.012	<1
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	E1	<0.01	<0.009	<0.01	<2	<1	M	M	<0.014	<0.10	<0.02	<0.012	<1
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
25...	<3	<2	<2	E.002	<0.014	<0.009	<0.020	<0.01	<0.1	M	M	<3.0	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<3	<2	M	<0.016	<0.014	<0.009	<0.020	<0.01	<0.1	M	M	E.3	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07019120 FISHPOT CREEK AT VALLEY PARK, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tribuphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
25...	M	<1	<0.02	<2	<2	<2	<1	<1	<2	<2
DEC										
16...	--	--	--	--	--	--	--	--	--	--
FEB										
04...	--	--	--	--	--	--	--	--	--	--
MAR										
19...	E1	<1	<0.02	<2	<2	<2	<1	<1	<2	<2
JUN										
25...	--	--	--	--	--	--	--	--	--	--
AUG										
12...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
e -- Estimated discharge
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range

07019150 GRAND GLAIZE CREEK NEAR MANCHESTER, MO

LOCATION.--Lat 38°35'33", long 90°29'35", in NE ¼ SE ¼ SE ¼ sec.31, T.45 N., R.5 E., St. Louis County, Hydrologic Unit 07140102, on left downstream abutment of Weidmann Road bridge, 0.15 mi south of Highway 100, 1.1 mi west of Interstate 270, and 6.9 mi upstream of confluence of Meramec River.

DRAINAGE AREA.--5.09 mi^2.

PERIOD OF RECORD.--May 1997 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage unknown.

REMARKS.--No estimated daily discharges. Records fair except for discharges above 900 ft^3/s and below 1 ft^3/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

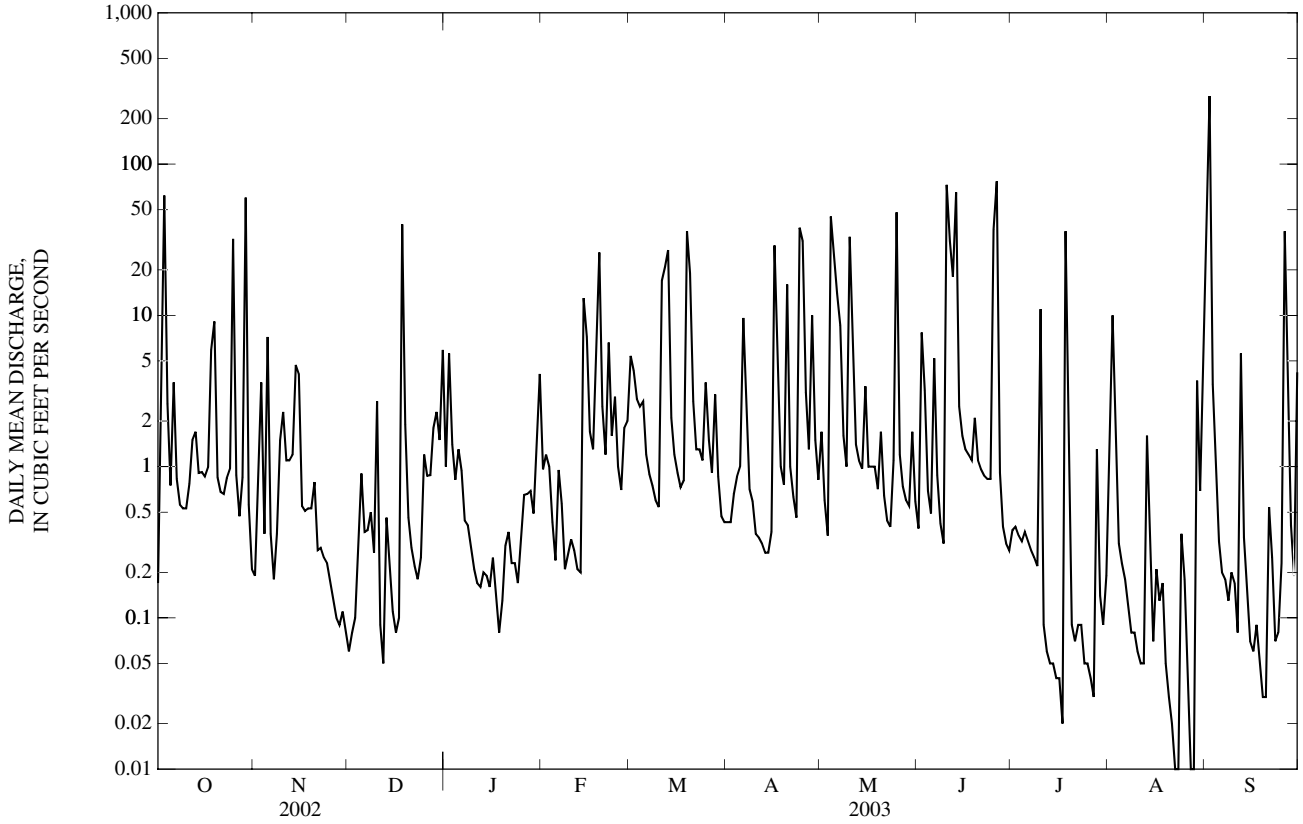
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.18	0.19	0.06	1.0	0.96	5.5	0.44	1.7	0.40	0.38	0.97	80
2	3.4	1.2	0.08	5.6	1.2	4.4	0.44	0.60	7.7	0.40	10	283
3	63	3.7	0.10	1.4	1.0	2.8	0.67	0.36	3.2	0.35	1.8	3.6
4	2.6	0.37	0.30	0.83	0.43	2.6	0.86	45	0.69	0.33	0.32	1.00
5	0.76	7.2	0.91	1.4	0.25	2.7	1.0	26	0.50	0.38	0.23	0.33
6	3.6	0.36	0.37	0.95	0.95	1.3	9.7	14	5.2	0.33	0.18	0.20
7	0.83	0.18	0.39	0.44	0.58	0.90	3.1	8.6	0.88	0.29	0.13	0.19
8	0.57	0.36	0.51	0.41	0.22	0.75	0.72	1.7	0.43	0.25	0.08	0.13
9	0.53	1.5	0.28	0.30	0.27	0.60	0.59	1.0	0.31	0.22	0.09	0.20
10	0.54	2.3	2.8	0.22	0.34	0.54	0.37	34	73	11	0.07	0.18
11	0.78	1.1	0.09	0.17	0.28	18	0.34	4.8	31	0.09	0.06	0.09
12	1.6	1.2	0.05	0.16	0.21	21	0.32	1.5	19	0.07	0.06	5.6
13	1.8	1.2	0.46	0.21	0.20	27	0.27	1.2	66	0.06	1.7	0.34
14	0.91	4.7	0.25	0.19	14	2.2	0.28	0.97	2.6	0.05	0.42	0.15
15	0.92	4.2	0.11	0.16	7.2	1.3	0.37	3.5	1.7	0.04	0.07	0.08
16	0.87	0.55	0.09	0.26	1.8	0.91	30	1.1	1.4	0.05	0.22	0.06
17	1.00	0.52	0.10	0.16	1.4	0.74	6.4	1.1	1.2	0.03	0.14	0.09
18	6.0	0.53	40	0.09	6.9	0.82	1.0	1.0	1.1	36	0.17	0.06
19	9.2	0.53	1.9	0.13	26	36	0.77	0.72	2.1	0.85	0.05	0.03
20	0.85	0.80	0.46	0.31	2.5	19	16	1.8	1.1	0.09	0.04	0.04
21	0.69	0.28	0.30	0.38	1.3	2.8	1.1	0.64	0.96	0.08	0.03	0.55
22	0.66	0.29	0.23	0.23	6.6	1.3	0.63	0.45	0.88	0.10	0.02	0.26
23	0.84	0.26	0.19	0.23	1.6	1.3	0.47	0.40	0.83	0.09	0.02	0.07
24	0.98	0.23	0.26	0.18	2.9	1.2	39	1.1	0.83	0.06	0.37	0.08
25	32	0.17	1.3	0.36	1.0	3.7	32	48	38	0.05	0.19	0.23
26	0.89	0.14	0.88	0.66	0.70	1.5	3.2	1.2	78	0.05	0.05	36
27	0.48	0.11	0.89	0.66	1.8	0.91	1.3	0.74	0.92	0.04	0.01	3.1
28	0.86	0.10	1.8	0.70	2.1	3.1	11	0.61	0.41	1.4	0.01	0.41
29	60	0.11	2.4	0.49	---	0.87	1.5	0.56	0.32	0.14	3.8	0.19
30	0.56	0.09	1.5	1.5	---	0.48	0.83	1.7	0.29	0.09	0.70	4.2
31	0.22	---	5.9	4.2	---	0.43	---	0.60	---	0.19	11	---
MEAN	6.39	1.15	2.10	0.77	3.02	5.38	5.49	6.67	11.4	1.73	1.06	14.0
MAX	63	7.2	40	5.6	26	36	39	48	78	36	11	283
MIN	0.18	0.09	0.05	0.09	0.20	0.43	0.27	0.36	0.29	0.03	0.01	0.03
IN.	1.45	0.25	0.47	0.18	0.62	1.22	1.20	1.51	2.49	0.39	0.24	3.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	3.50	2.91	2.45	4.91	6.95	7.45	5.68	9.85	11.2	3.30	2.73	3.49
MAX	6.39	5.17	7.17	13.0	12.6	19.9	9.61	22.0	27.7	9.57	5.92	14.0
(WY)	(2003)	(2002)	(2002)	(1999)	(1999)	(1998)	(1999)	(2000)	(2000)	(1998)	(1998)	(2003)
MIN	1.39	1.03	0.38	0.77	1.43	2.96	2.92	3.61	2.13	0.43	0.78	0.30
(WY)	(2000)	(2000)	(1999)	(2003)	(2002)	(2001)	(2000)	(1998)	(1997)	(1997)	(2001)	(1999)

07019150 GRAND GLAIZE CREEK NEAR MANCHESTER, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	4.79		4.91		5.52	
HIGHEST ANNUAL MEAN					7.66	1998
LOWEST ANNUAL MEAN					3.41	2001
HIGHEST DAILY MEAN	194	Jun 12	283	Sep 2	562	Jun 24, 2000
LOWEST DAILY MEAN	0.00	Sep 12	0.01	Aug 27,28	0.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	0.08	Sep 7	0.06	Jul 11	0.00	At Times
MAXIMUM PEAK FLOW	---		Unknown	Sep 2	Unknown	Jun 24, 2000
MAXIMUM PEAK STAGE	---		7.78	Sep 2	9.37	Jun 24, 2000
INSTANTANEOUS LOW FLOW	---		0.00	Jul 17,18,Aug 23,27,28	0.00	Several Years
ANNUAL RUNOFF (INCHES)	12.78		13.10		14.75	
10 PERCENT EXCEEDS	8.2		8.8		11	
50 PERCENT EXCEEDS	0.78		0.69		0.54	
90 PERCENT EXCEEDS	0.13		0.09		0.12	



07019175 SUGAR CREEK AT KIRKWOOD, MO

LOCATION.--Lat 38°34'36", long 90°27'52", in SE ¼ SE ¼ SW ¼ sec.4, T.44 N., R.5 E., St. Louis County, Hydrologic Unit 07140102, gage attached to left upstream abutment of Barrett Station Road bridge, 2.3 mi north of Interstate 44, 1.1 mi west of Interstate 270, and 4.7 mi upstream from confluence of Meramec River.

DRAINAGE AREA.--5.08 mi^2.

PERIOD OF RECORD.--June 1997 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage unknown.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.14	0.43	0.19	e1.3	e0.93	e3.4	e0.75	2.1	0.75	0.90	0.41	93
2	0.11	0.44	0.19	e3.4	e0.70	e3.5	e0.70	1.3	3.8	0.75	1.8	e380
3	37	1.7	e0.21	e1.5	e0.71	e2.3	e0.69	0.99	3.1	0.65	1.4	4.1
4	0.78	0.79	e0.23	e1.2	e0.57	e2.4	e0.66	46	0.94	0.57	0.37	1.2
5	0.23	2.7	e0.44	e1.5	e0.28	e2.3	e0.66	21	0.71	0.55	0.37	0.76
6	0.64	0.66	e0.30	e1.4	0.25	e1.3	4.3	11	3.2	0.53	0.38	0.57
7	0.33	e0.36	e0.30	e1.1	e0.27	e1.1	e2.2	9.2	1.2	0.58	0.29	0.50
8	0.23	e0.48	e0.36	e0.95	e0.41	e1.0	e1.0	3.3	0.70	0.57	0.24	0.42
9	0.22	e0.63	e0.27	e0.90	e0.32	e1.00	e0.84	2.3	0.61	0.65	0.19	0.42
10	e0.22	e0.79	e1.1	e0.69	e0.37	e1.00	e0.75	40	86	10	0.19	0.39
11	e0.21	e0.72	e0.45	e0.58	e0.51	9.4	e0.58	9.1	22	0.60	0.15	0.38
12	e0.20	e1.4	e0.29	e0.47	e0.38	18	e0.47	3.0	60	0.45	0.14	8.9
13	e0.38	e1.2	e0.55	e0.51	e0.31	18	e0.38	2.0	75	0.41	0.21	1.0
14	e0.28	e2.7	e0.82	e0.51	15	2.6	0.31	1.5	4.2	0.37	0.27	0.53
15	e0.25	e3.0	e0.37	e0.41	7.8	1.6	0.33	3.4	2.4	0.38	0.18	0.43
16	e0.25	e0.84	0.33	e0.45	e1.5	1.2	e23	1.4	1.6	0.41	0.17	0.38
17	e0.24	e0.61	0.36	e0.41	e1.1	0.97	e6.0	1.3	1.3	0.35	0.15	0.40
18	1.1	e0.45	27	e0.30	5.2	0.95	1.7	1.2	1.1	47	0.13	0.37
19	5.3	0.32	1.0	e0.34	17	8.4	1.2	1.5	1.9	2.2	0.12	0.51
20	0.52	e0.70	e0.54	e0.58	4.8	8.8	14	1.6	1.2	0.68	0.12	0.55
21	0.40	e0.61	e0.28	e0.55	3.6	1.9	1.9	1.0	1.00	0.50	0.17	0.57
22	0.29	e0.51	e0.27	e0.38	6.3	0.97	1.3	0.74	0.93	0.40	0.12	0.74
23	0.24	e0.44	e0.25	e0.33	3.7	0.77	1.0	0.66	0.83	0.36	0.14	0.59
24	0.38	e0.38	e0.40	e0.47	e2.9	1.00	31	0.63	0.72	0.36	0.07	0.56
25	14	0.40	e1.2	e0.53	e1.2	1.5	27	50	11	0.35	0.07	0.54
26	0.67	0.42	e0.94	e0.59	e0.90	e0.69	5.0	2.5	156	0.33	0.07	22
27	0.41	0.37	e1.0	e0.39	e1.1	e0.63	2.5	1.4	2.3	0.33	0.09	2.1
28	0.44	0.36	e1.6	e0.55	e1.6	2.2	6.1	1.1	1.1	0.74	0.11	0.47
29	32	0.29	e2.1	e0.66	---	e1.0	2.3	0.96	0.81	0.41	0.56	0.90
30	0.67	0.19	e1.4	e0.83	---	e0.87	1.7	1.8	0.69	0.31	0.49	1.5
31	0.43	---	e3.6	e1.8	---	e0.76	---	0.96	---	0.31	4.1	---
MEAN	3.18	0.83	1.56	0.83	2.85	3.27	4.68	7.26	14.9	2.35	0.43	17.5
MAX	37	3.0	27	3.4	17	18	31	50	156	47	4.1	380
MIN	0.11	0.19	0.19	0.30	0.25	0.63	0.31	0.63	0.61	0.31	0.07	0.37
IN.	0.72	0.18	0.35	0.19	0.58	0.74	1.03	1.65	3.27	0.53	0.10	3.84

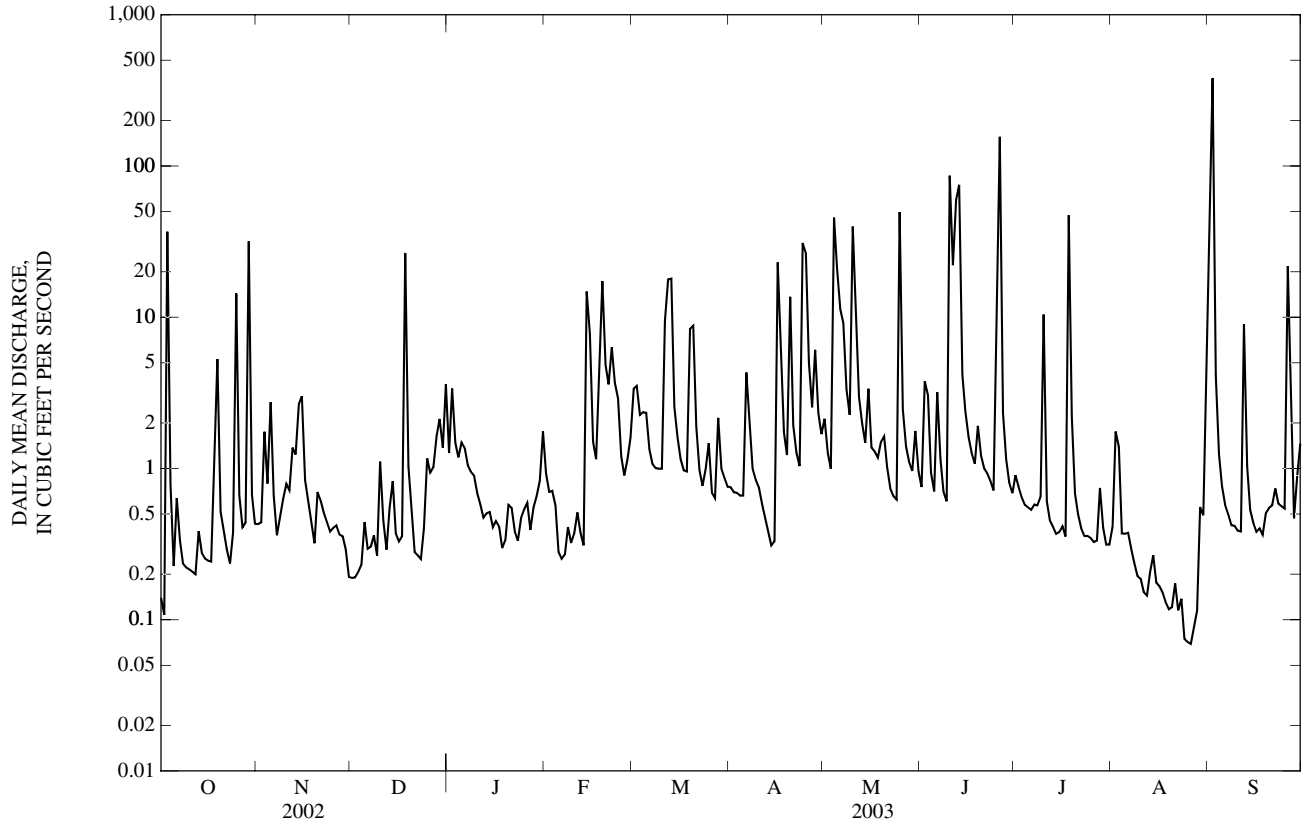
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	2.35	2.20	2.26	4.06	6.23	6.07	4.61	9.20	11.7	3.58	1.82	3.28
MAX	5.06	4.44	5.91	10.1	16.2	19.4	7.97	18.7	19.2	10.6	3.64	17.5
(WY)	(2002)	(2002)	(2002)	(1999)	(1999)	(1998)	(1998)	(2000)	(2000)	(1998)	(2000)	(2003)
MIN	1.19	0.71	0.75	0.83	1.60	1.89	1.43	2.31	2.54	0.27	0.40	0.20
(WY)	(1998)	(2000)	(2001)	(2003)	(2002)	(2001)	(2000)	(1998)	(1999)	(2002)	(2001)	(1999)

07019175 SUGAR CREEK AT KIRKWOOD, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	4.28		4.94		4.82	
HIGHEST ANNUAL MEAN					6.73	1998
LOWEST ANNUAL MEAN					2.46	2001
HIGHEST DAILY MEAN	186	Jun 12	380	Sep 2	465	May 7, 2000
LOWEST DAILY MEAN	0.10	Sep 13,14	0.07	Aug 24-26	0.02	Sep 26, 1999
ANNUAL SEVEN-DAY MINIMUM	0.13	Sep 8	0.10	Aug 22	0.04	Sep 5, 1999
MAXIMUM PEAK FLOW	---		Unknown	Sep 2	Unknown	Jun 24, 2000
MAXIMUM PEAK STAGE	---		16.28	Sep 2	17.50	Jun 24, 2000
INSTANTANEOUS LOW FLOW	---		0.07	Aug 24-26	0.01	Sep 25,26, 1999
ANNUAL RUNOFF (INCHES)	11.45		13.20		12.88	
10 PERCENT EXCEEDS	6.0		6.2		6.7	
50 PERCENT EXCEEDS	0.62		0.70		0.74	
90 PERCENT EXCEEDS	0.20		0.25		0.24	

e Estimated



07019185 GRAND GLAIZE CREEK NEAR VALLEY PARK, MO

LOCATION.--Lat 38°33'59", long 90°28'21", in NW ¼ NW ¼ SW ¼ sec.9, T.44 N., R.5 E., St. Louis County, Hydrologic Unit 07140102, on right upstream abutment of Quinette Road bridge, 1.7 mi north of Interstate 44, 1.8 mi west of Interstate 270, and 3.46 mi upstream of confluence of Meramec River.

DRAINAGE AREA.--21.8 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1997 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage unknown.

REMARKS.--Water-discharge records fair except for estimated daily discharges and discharges below 1 ft^3/s and above 3,000 ft^3/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.73	e1.8	1.1	e7.6	5.4	18	4.0	11	3.7	5.3	3.7	364
2	0.70	e5.4	1.1	e21	3.8	20	3.7	6.9	21	5.2	14	e1,430
3	181	e16	1.2	e9.5	3.9	13	3.6	5.1	27	5.2	20	31
4	10	e3.6	1.2	6.5	3.2	13	3.6	185	6.4	3.1	1.9	11
5	3.7	e21	2.4	7.8	1.5	13	3.6	144	4.5	2.7	1.5	6.2
6	8.6	2.8	1.8	8.2	1.9	8.2	29	39	23	2.5	1.3	4.1
7	3.2	1.3	1.7	5.9	4.0	6.3	16	79	9.3	2.3	0.94	3.2
8	1.3	1.9	2.1	4.7	1.5	5.5	6.3	17	3.6	2.2	0.88	2.5
9	1.2	2.8	1.6	4.3	1.6	5.2	5.4	13	2.2	2.3	0.79	2.5
10	1.1	5.0	7.5	3.3	1.9	5.4	4.1	166	330	51	0.70	2.8
11	1.1	4.3	3.2	2.7	2.8	29	3.2	45	185	2.7	0.70	3.2
12	2.2	e8.9	1.7	2.2	1.9	124	3.1	15	197	1.4	0.65	38
13	4.1	e8.6	2.9	2.3	1.6	110	2.6	12	338	1.1	1.1	7.1
14	1.7	e18	5.5	2.4	45	16	2.1	8.4	23	0.94	3.0	3.5
15	1.6	20	2.2	1.9	34	11	2.2	20	12	1.0	0.98	2.7
16	1.5	4.7	1.8	2.1	11	8.3	114	8.7	9.1	2.2	0.77	2.5
17	1.5	2.9	2.0	1.9	6.6	7.4	49	8.2	7.0	0.74	0.81	2.2
18	11	2.7	e63	1.3	20	6.9	10	8.2	5.5	175	0.72	2.2
19	34	3.0	11	1.4	101	82	7.3	7.9	11	19	0.72	2.7
20	3.6	e3.8	3.0	2.6	15	85	77	11	5.3	4.7	1.1	2.9
21	2.3	3.1	1.4	2.5	8.6	17	12	5.9	3.2	2.8	1.1	3.9
22	e1.1	2.4	e1.3	1.8	26	11	7.5	3.8	2.5	1.8	0.77	6.9
23	e1.4	2.3	e1.2	1.5	11	9.1	5.6	3.1	2.0	1.7	0.68	4.4
24	e1.9	2.0	e1.8	2.2	11	7.9	164	3.1	1.5	1.5	0.57	4.4
25	e70	2.1	e6.4	2.4	7.4	16	152	237	15	1.3	0.67	4.5
26	8.2	2.1	e5.3	2.9	5.0	8.2	29	14	587	1.2	0.71	113
27	4.8	1.8	e5.3	2.0	6.3	6.7	15	7.5	14	1.1	0.63	33
28	6.3	1.8	e9.1	2.7	9.1	14	40	6.0	7.0	5.1	0.72	5.7
29	e109	e1.4	e13	3.2	---	8.8	13	5.4	4.8	2.6	6.6	2.8
30	e6.5	1.2	e8.0	4.2	---	5.2	9.4	9.8	3.9	1.5	5.4	9.3
31	e1.8	---	e21	10	---	4.2	---	5.3	---	1.4	27	---
MEAN	15.7	5.29	6.19	4.35	12.6	22.4	26.6	35.8	62.1	10.1	3.26	70.4
MAX	181	21	63	21	101	124	164	237	587	175	27	1,430
MIN	0.70	1.2	1.1	1.3	1.5	4.2	2.1	3.1	1.5	0.74	0.57	2.2
IN.	0.83	0.27	0.33	0.23	0.60	1.19	1.36	1.90	3.18	0.53	0.17	3.60

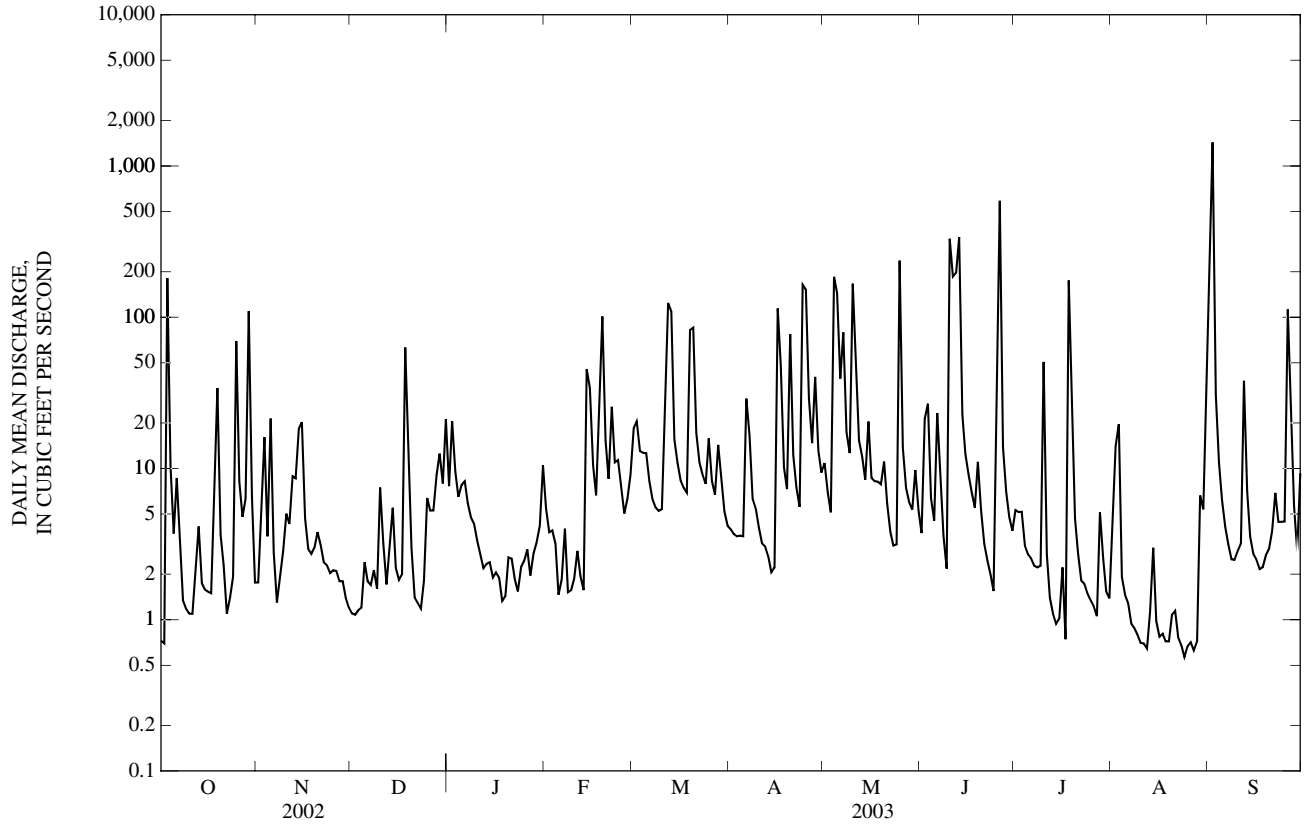
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	11.8	10.4	11.4	19.2	27.6	30.2	23.2	32.8	37.3	13.9	10.1	17.7
MAX	25.5	21.9	33.5	47.2	64.3	78.5	35.3	64.6	67.2	39.4	19.2	70.4
(WY)	(2002)	(2002)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(1998)	(1998)	(1998)	(2003)
MIN	5.23	3.68	4.52	4.35	10.8	11.1	5.64	12.5	8.40	2.80	2.01	5.04
(WY)	(2000)	(2000)	(2001)	(2003)	(2002)	(2001)	(2000)	(1998)	(1999)	(2002)	(2001)	(1998)

07019185 GRAND GLAIZE CREEK NEAR VALLEY PARK, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	20.6		22.8		20.9	
HIGHEST ANNUAL MEAN					28.4	1998
LOWEST ANNUAL MEAN					11.4	2001
HIGHEST DAILY MEAN	718	Jun 12	1,430	Sep 2	1,430	Sep 2, 2003
LOWEST DAILY MEAN	0.35	Sep 14	0.57	Aug 24	0.21	Jun 22, 1999
ANNUAL SEVEN-DAY MINIMUM	0.41	Sep 8	0.68	Aug 22	0.26	Jun 16, 1999
MAXIMUM PEAK FLOW	---		Unknown	Sep 2	Unknown	Jun 24, 2000
MAXIMUM PEAK STAGE	---		13.23	Sep 2	14.95	Jun 24, 2000
INSTANTANEOUS LOW FLOW	---		0.53	Aug 24	0.01	Sep 30, 1997
ANNUAL RUNOFF (INCHES)	12.86		14.20		13.00	
10 PERCENT EXCEEDS	41		33		40	
50 PERCENT EXCEEDS	4.3		4.4		4.0	
90 PERCENT EXCEEDS	0.73		1.2		0.93	

e Estimated



07019185 GRAND GLAIZE CREEK NEAR VALLEY PARK, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
25...	0724	Environmental	130	3.1	10.6	99	8.0	497	11.6	230	64.0	17.0
DEC												
16...	1500	Blank	--	--	--	--	--	--	--	--	0.04	<0.03
16...	1530	Environmental	1.8	4.5	13.0	102	7.9	2,440	4.0	410	112	31.0
FEB												
04...	1210	Environmental	2.7	5.4	8.6	64	7.7	3,260	2.0	360	100	27.0
MAR												
19...	0947	Environmental	178	1.5	9.9	99	8.4	1,240	13.5	240	65.0	18.0
JUN												
25...	1605	Environmental	1.4	4.7	9.7	123	8.0	1,160	26.2	360	100	27.0
AUG												
12...	0915	Environmental	0.60	12	4.2	51	7.4	881	24.1	270	75.0	20.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
25...	155	155	189	<1	--	114	0.70	0.05	0.170	<0.01	0.080	0.17	9
DEC													
16...	--	--	--	--	0.30	2	<0.20	<0.01	<0.020	<0.01	<0.010	<0.02	<5
16...	196	197	240	<1	590	25	0.60	0.02	0.130	<0.01	0.040	0.10	16
FEB													
04...	155	156	191	<1	850	15	0.40	0.08	0.430	0.02	0.040	0.06	20
MAR													
19...	183	179	200	9	--	596	2.1	0.13	0.380	0.02	0.090	0.39	17
JUN													
25...	221	223	272	<1	--	8	0.50	0.01	0.260	0.01	0.040	0.06	10
AUG													
12...	176	175	214	<1	--	23	0.50	0.07	0.050	<0.01	0.040	0.08	12

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
25...	1,000k	4,400	1,500k	<3	2	<1	<1.0	2.1	1.5	11	<1	64	<0.1
DEC													
16...	--	--	--	<3	<1	<1	<1.0	<1.0	<1.0	<2	<1	<1	<0.1
16...	12k	48	16k	<3	<1	<1	<1.0	5.9	2.4	7	<1	170	<0.1
FEB													
04...	15k	36k	56	<3	<1	<1	<1.0	1.9	4.2	15	<1	283	<0.1
MAR													
19...	5,500	8,160k	9,170	<3	2	<1	<1.0	2.2	2.4	14	<1	253	<0.1
JUN													
25...	80k	76	40	<3	2	<1	<1.0	4.3	1.9	4	<1	130	<0.1
AUG													
12...	340k	840	108	4	3	<1	<1.0	2.9	1.8	4	<1	222	<0.1

07019185 GRAND GLAIZE CREEK NEAR VALLEY PARK, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
25...	2.2	<1	<1.0	3	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
16...	<1.0	<1	<1.0	<2	--	--	--	--	--	--	--	--	--
16...	4.8	2	<1.0	35	--	--	--	--	--	--	--	--	--
FEB													
04...	3.8	1	<1.0	3	--	--	--	--	--	--	--	--	--
MAR													
19...	3.4	1	<1.0	<2	<7	<1	<3	M	<2.0	<3	<3	<2	<2
JUN													
25...	5.1	1	<1.0	4	--	--	--	--	--	--	--	--	--
AUG													
12...	4.0	1	<1.0	3	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
25...	<2	<2	<1	<0.9	<2	<3	<2	<4	M	M	M	<0.01	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<2	<2	<1	<0.9	<2	<3	<2	<4	M	M	M	<0.01	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo[a]anthracene, water, unfltrd µg/L (34526)	Benzo[a]pyrene, water, unfltrd µg/L (34247)	Benzo[b]fluoranthene water unfltrd µg/L (34230)	Benzo[g,h,i]-perylene, water, unfltrd µg/L (34521)	Benzo[k]fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
25...	M	<1,000	M	M	M	M	M	<2	<3	<2	<2	E5	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<2	<1,000	M	M	M	M	M	<2	<3	<2	<2	<4	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07019185 GRAND GLAIZE CREEK NEAR VALLEY PARK, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
25...	<0.1	<0.01	M	E.01	<1	<0.017	<2	<1	<2	<2	<0.10	<0.02	<0.01
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<0.1	<0.01	M	0.03	<1	<0.017	M	M	<2	<2	<0.10	<0.02	<0.01
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
25...	M	<0.01	<0.009	<0.01	<2	<1	M	M	<0.014	<0.10	<0.01	<0.012	<1
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	M	<0.01	<0.009	<0.01	<2	<1	M	M	<0.014	<0.10	<0.02	<0.012	<1
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
25...	<3	<2	<2	<0.016	<0.014	<0.009	<0.020	<0.01	<0.1	M	M	<3.0	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	<3	<2	<2	<0.016	<0.014	<0.009	<0.020	<0.01	<0.1	<2	M	E.2	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07019185 GRAND GLAIZE CREEK NEAR VALLEY PARK, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tributphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
25...	M	<1	<0.02	<2	<2	<2	<1	<1	<2	<2
DEC										
16...	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--
FEB										
04...	--	--	--	--	--	--	--	--	--	--
MAR										
19...	M	<1	<0.02	<2	<2	<2	<1	<1	<2	<2
JUN										
25...	--	--	--	--	--	--	--	--	--	--
AUG										
12...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range

07019195 YARNELL CREEK AT FENTON, MO

LOCATION.--Lat 38°31'38", long 90°26'50", St. Louis County, Hydrologic Unit 07140102, on right downstream abutment of Fabick Drive bridge, 0.9 mi north of Highway 30, 1.05 mi south of Interstate 44, and 1.09 mi upstream from confluence of Meramec River.

DRAINAGE AREA.--2.71 mi^2.

PERIOD OF RECORD.--May 1997 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage unknown.

REMARKS.--Records fair except estimated daily discharges and discharges below 1 ft^3/s and above 400 ft^3/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.15	0.33	e0.26	e0.69	e0.25	1.5	0.29	1.0	0.61	0.49	0.47	27
2	0.15	0.58	e0.26	e1.9	e0.22	1.1	0.38	0.48	4.2	0.55	0.33	e138
3	7.2	2.1	e0.24	e0.71	e0.24	0.38	0.27	0.36	2.9	0.38	0.38	2.3
4	1.0	0.69	e0.28	e0.51	e0.21	0.33	0.77	27	0.77	0.35	0.27	0.84
5	0.31	3.2	e0.27	e0.53	e0.20	0.52	0.59	15	0.56	0.35	0.27	0.58
6	0.95	0.67	e0.25	e0.33	e0.23	0.37	4.4	7.3	2.6	0.35	0.25	0.47
7	0.32	0.39	e0.29	e0.30	e0.21	0.25	1.1	7.1	0.91	0.35	0.24	0.45
8	0.20	0.31	e0.24	e0.30	e0.20	0.20	0.40	0.98	0.57	0.35	0.24	0.43
9	0.18	0.32	e0.23	e0.28	e0.19	0.18	0.35	0.66	0.51	4.8	0.24	0.39
10	0.16	0.34	e0.23	e0.26	e0.21	e0.17	0.30	23	28	2.9	0.24	0.38
11	0.17	0.35	e0.22	e0.26	e0.19	3.9	0.44	5.0	29	0.31	0.22	0.41
12	0.16	0.32	e0.21	e0.25	e0.18	11	0.27	0.92	17	0.29	0.25	8.0
13	0.24	0.32	e0.63	e0.26	e0.20	10	0.28	0.64	24	0.27	0.71	0.62
14	0.18	1.2	e0.25	e0.23	4.8	0.97	0.25	0.56	2.3	0.27	0.51	0.43
15	0.18	2.4	e0.22	e0.23	1.9	0.65	0.26	2.0	1.2	0.27	0.33	0.44
16	0.16	e0.34	e0.21	e0.26	e0.66	0.51	27	0.66	0.86	0.27	0.30	0.42
17	0.16	e0.29	e0.20	e0.27	0.39	0.43	3.4	0.59	0.74	0.27	0.29	0.43
18	3.3	e0.26	e6.9	e0.26	2.4	0.38	0.51	0.49	0.66	22	0.29	0.42
19	8.4	e0.24	e0.93	e0.26	9.3	7.6	0.36	0.54	2.3	0.70	0.31	0.43
20	0.35	e0.25	e0.47	e0.30	1.1	7.3	11	3.8	0.65	0.31	0.29	0.45
21	0.22	e0.25	e0.36	e0.28	0.57	1.2	0.59	0.50	0.43	0.27	0.26	0.43
22	0.21	e0.27	e0.33	e0.26	2.5	0.62	0.39	0.45	0.42	0.27	0.27	0.38
23	0.21	e0.26	e0.28	e0.32	0.61	0.72	0.34	0.43	0.35	0.27	0.27	0.42
24	0.18	e0.26	e0.29	e0.27	0.77	0.45	22	0.33	0.52	0.27	0.25	0.41
25	23	e0.24	e0.35	e0.24	0.33	0.63	16	43	7.5	0.27	0.24	0.43
26	0.66	e0.25	e0.37	e0.23	0.28	0.43	1.7	1.9	68	0.27	0.26	17
27	0.33	e0.28	e0.41	e0.22	0.28	0.35	0.67	1.5	1.1	0.25	0.30	1.8
28	0.27	e0.29	e0.61	e0.28	0.32	1.7	11	1.1	0.63	0.30	0.28	0.54
29	32	e0.30	e0.60	e0.25	---	0.58	1.5	0.78	0.52	0.27	1.4	0.45
30	0.91	e0.27	e0.66	e0.23	---	0.36	0.68	1.6	0.47	0.27	0.73	1.3
31	0.42	---	e3.1	e0.66	---	0.33	---	0.86	---	0.27	2.6	---
MEAN	2.66	0.59	0.65	0.38	1.03	1.78	3.58	4.86	6.68	1.25	0.43	6.87
MAX	32	3.2	6.9	1.9	9.3	11	27	43	68	22	2.6	138
MIN	0.15	0.24	0.20	0.22	0.18	0.17	0.25	0.33	0.35	0.25	0.22	0.38
IN.	1.13	0.24	0.28	0.16	0.40	0.76	1.48	2.07	2.75	0.53	0.18	2.83

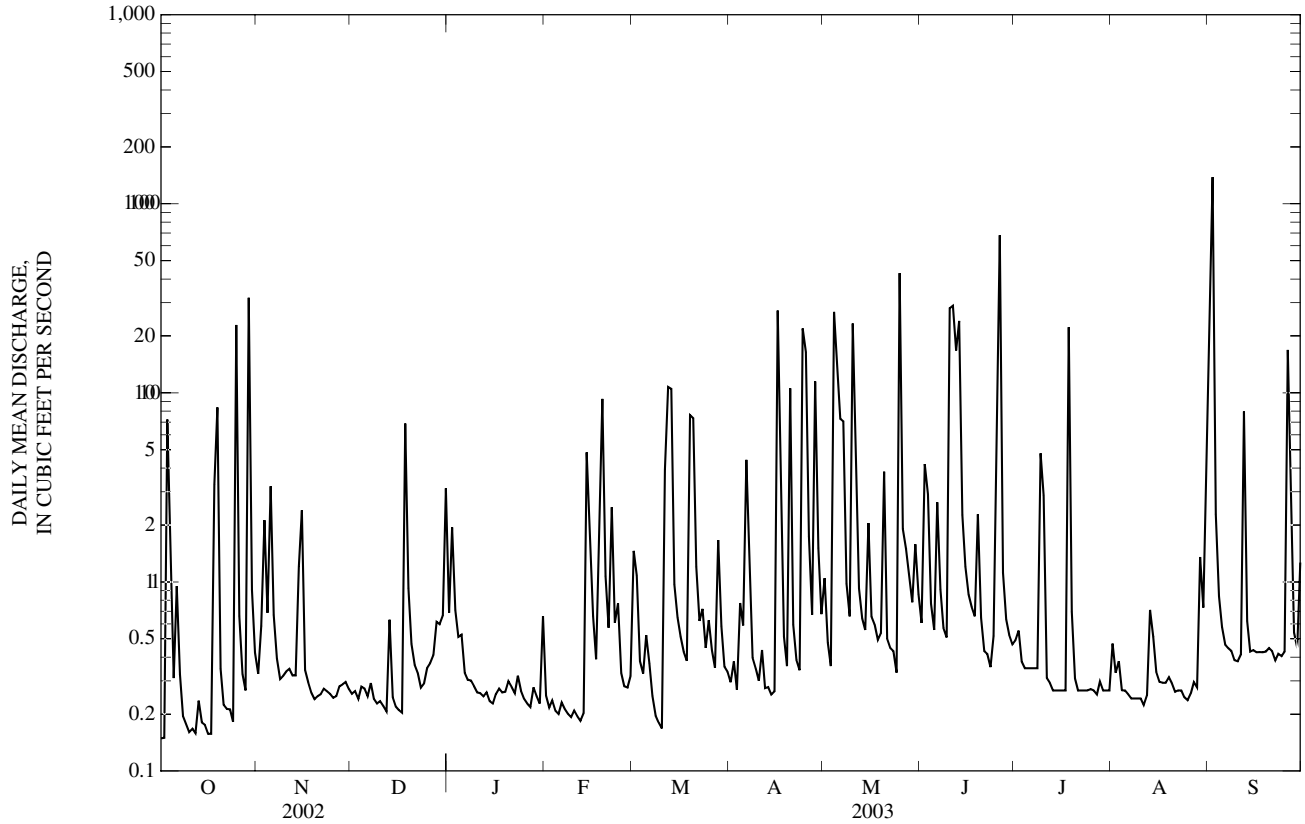
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	1.99	1.60	1.52	2.63	3.81	4.01	3.60	4.80	6.06	2.71	1.83	2.03
MAX	2.96	2.57	4.32	6.59	9.37	11.8	6.08	11.1	11.7	7.82	3.76	6.87
(WY)	(2002)	(2002)	(2002)	(1999)	(1999)	(1998)	(1998)	(2002)	(1998)	(1998)	(1997)	(2003)
MIN	1.37	0.40	0.44	0.38	1.03	1.18	0.81	1.61	2.17	0.48	0.43	0.34
(WY)	(2000)	(2000)	(1999)	(2003)	(2003)	(2000)	(2000)	(1998)	(2001)	(2002)	(2003)	(1999)

07019195 YARNELL CREEK AT FENTON, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	2.87		2.55		3.05	
HIGHEST ANNUAL MEAN					4.64	1998
LOWEST ANNUAL MEAN					1.88	2001
HIGHEST DAILY MEAN	65	Jan 31	138	Sep 2	165	Feb 7, 1999
LOWEST DAILY MEAN	0.15	Sep 29,30,Oct 1,2	0.15	Oct 1,2	0.13	Oct 4, 2001
ANNUAL SEVEN-DAY MINIMUM	0.17	Sep 5	0.18	Oct 10	0.15	Sep 28, 2001
MAXIMUM PEAK FLOW	---		Unknown	Sep 2	Unknown	Sep 2, 2003
MAXIMUM PEAK STAGE	---		8.11	Sep 2	8.11	Sep 2, 2003
INSTANTANEOUS LOW FLOW	---		0.09	Oct 24	0.09	Oct 24, 2002
ANNUAL RUNOFF (INCHES)	14.38		12.80		15.28	
10 PERCENT EXCEEDS	4.8		4.3		5.3	
50 PERCENT EXCEEDS	0.53		0.38		0.50	
90 PERCENT EXCEEDS	0.21		0.23		0.23	

e Estimated



07019220 FENTON CREEK NEAR FENTON, MO

LOCATION.--Lat 38°30'41", long 90°26'41", St. Louis County, Hydrologic Unit 07140102, on left bank 100 ft downstream of Highway 141 bridge, 0.66 mi north of county line, 0.24 mi south of Highway 30, and 1.4 mi upstream from confluence of Meramec River.

DRAINAGE AREA.--4.29 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1997 to current year.

GAGE.--Water-stage recorder. Datum of gage is 416.09 ft above National Geodetic Vertical Datum of 1929. Prior to May 1, 2001, gage was located on left downstream abutment of Highway 141 bridge, 100 ft upstream at same datum.

REMARKS.--Water-discharge records fair except for estimated daily discharges and discharges above 650 ft^3/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.32	0.48	0.43	1.3	0.49	2.9	0.86	e3.2	1.4	0.80	0.63	38
2	0.32	0.94	0.45	2.9	0.41	2.6	0.82	2.5	8.3	0.79	0.74	e120
3	6.4	1.8	0.38	1.4	0.45	1.2	0.86	2.3	4.9	0.74	0.44	4.0
4	1.0	0.83	0.51	1.1	0.37	0.85	2.5	59	1.5	0.72	0.35	1.7
5	0.52	4.1	0.49	1.1	0.32	0.84	1.2	41	1.4	0.65	0.34	1.1
6	1.1	0.90	0.43	0.90	0.42	0.74	8.8	19	4.7	0.64	0.32	0.72
7	0.54	0.59	0.54	0.82	0.37	0.75	3.1	16	1.8	0.63	0.32	0.59
8	0.50	0.74	0.40	0.83	0.35	0.76	1.3	3.4	1.5	0.68	0.30	0.56
9	0.50	0.65	0.38	0.73	0.35	0.72	1.0	2.6	1.5	0.60	0.30	0.56
10	0.49	0.66	0.39	0.66	0.38	0.66	0.95	45	46	14	0.29	0.58
11	0.50	0.59	0.37	0.66	0.33	5.9	0.87	9.9	49	0.70	0.30	0.59
12	0.57	0.58	0.32	0.64	0.31	18	0.84	2.6	32	0.61	0.31	18
13	0.47	0.56	0.83	0.66	0.32	19	0.75	2.0	68	0.57	1.5	0.99
14	0.41	1.3	0.38	0.60	7.8	1.9	0.73	1.8	5.6	0.56	0.46	0.71
15	0.41	1.2	0.33	0.58	5.4	1.1	0.56	2.5	2.9	0.54	0.38	0.62
16	0.39	0.69	0.33	0.61	1.3	0.89	35	1.9	2.3	0.51	0.34	0.58
17	0.38	0.64	0.37	0.56	0.77	0.81	10	1.9	2.1	0.74	0.33	0.57
18	3.4	0.63	12	0.54	4.6	0.87	2.5	1.8	2.1	41	0.31	0.60
19	14	0.63	2.0	0.54	25	16	e0.79	1.8	4.3	2.2	0.30	0.61
20	0.55	0.63	1.1	0.61	2.5	14	e15	6.0	1.7	0.74	0.28	0.66
21	0.44	0.62	0.83	0.55	1.3	2.6	e2.0	2.0	1.6	0.63	0.27	0.55
22	0.42	0.64	0.67	0.51	5.7	1.4	e1.2	1.8	1.5	0.50	0.25	0.57
23	0.42	0.64	0.55	0.66	1.5	1.4	e0.99	1.9	1.4	0.44	0.25	0.50
24	0.41	0.55	0.63	0.52	1.6	0.95	e33	2.4	1.2	0.41	0.25	0.51
25	30	0.54	0.76	0.47	0.88	1.2	e23	83	13	0.40	0.25	0.52
26	0.91	0.51	0.71	0.44	0.69	0.90	e4.2	3.4	99	0.38	0.26	28
27	0.45	0.58	0.75	0.39	0.79	0.87	e2.6	2.0	2.5	0.39	0.34	5.0
28	0.48	0.58	1.3	0.51	0.73	3.3	e17	1.6	1.2	0.45	0.28	1.8
29	39	0.59	1.2	0.53	---	1.2	e3.8	1.6	1.00	0.38	1.4	1.5
30	1.2	0.45	1.3	0.45	---	0.89	e2.7	2.3	0.90	0.37	0.38	2.6
31	0.54	---	5.1	0.85	---	0.87	---	1.5	---	0.36	1.5	---
MEAN	3.45	0.83	1.17	0.76	2.34	3.42	5.96	10.6	12.2	2.36	0.45	7.78
MAX	39	4.1	12	2.9	25	19	35	83	99	41	1.5	120
MIN	0.32	0.45	0.32	0.39	0.31	0.66	0.56	1.5	0.90	0.36	0.25	0.50
IN.	0.93	0.22	0.31	0.20	0.57	0.92	1.55	2.86	3.18	0.63	0.12	2.02

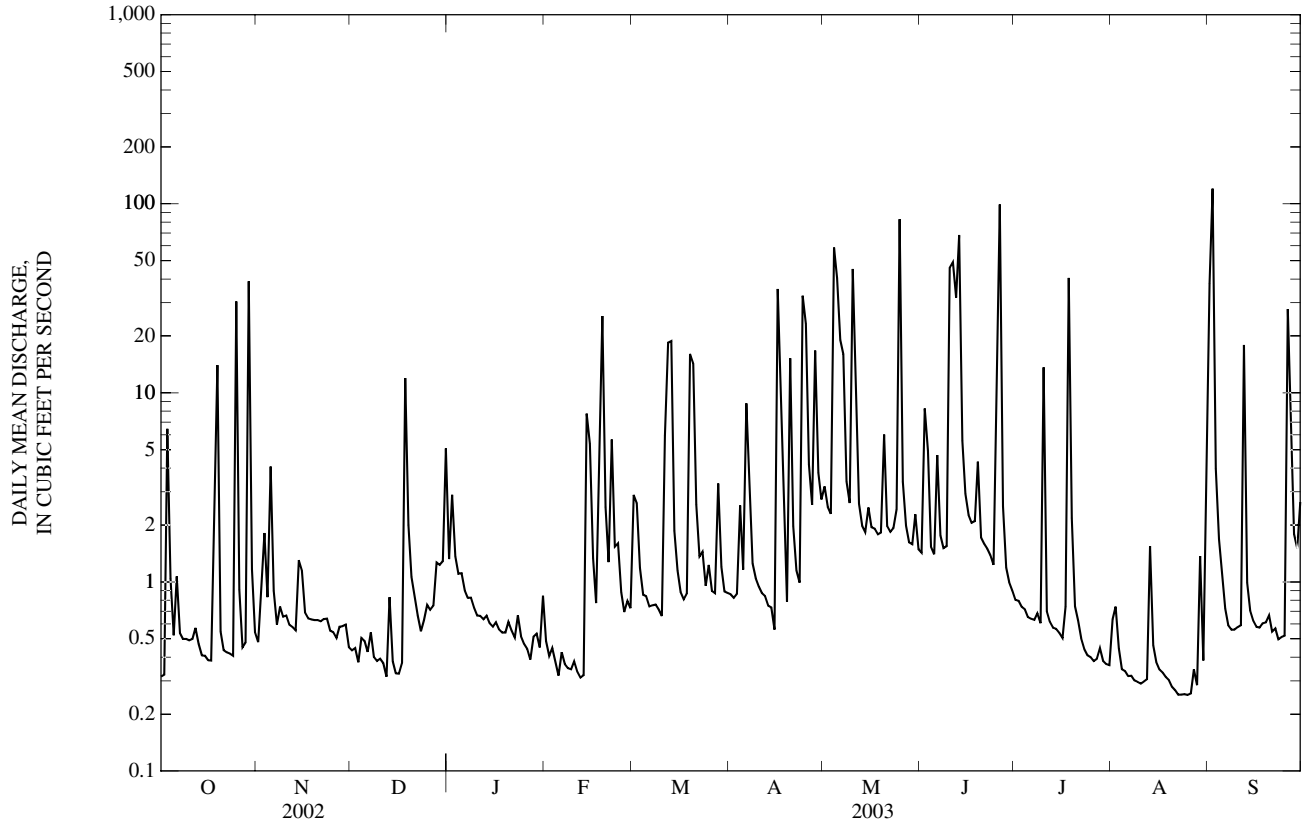
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

MEAN	2.36	2.14	2.35	4.33	5.69	6.31	5.84	7.32	7.82	3.18	2.25	2.02
MAX	3.45	3.36	7.10	12.7	12.6	18.1	10.4	15.3	14.3	8.12	4.80	7.78
(WY)	(2003)	(2002)	(2002)	(1999)	(1999)	(1998)	(2002)	(2002)	(1998)	(1998)	(2000)	(2003)
MIN	1.08	0.83	0.37	0.76	1.76	1.69	1.23	1.87	2.83	0.64	0.45	0.26
(WY)	(1998)	(2003)	(1999)	(2003)	(2002)	(2000)	(2000)	(1998)	(2001)	(2002)	(2003)	(1999)

07019220 FENTON CREEK NEAR FENTON, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1997 - 2003	
ANNUAL MEAN	4.35		4.27		4.31	
HIGHEST ANNUAL MEAN					6.07	1998
LOWEST ANNUAL MEAN					2.51	2001
HIGHEST DAILY MEAN	95	Apr 27	120	Sep 2	171	Feb 7, 1999
LOWEST DAILY MEAN	0.31	Sep 12,13,16,30	0.25	Aug 22-25	0.13	Sep 27, 1999
ANNUAL SEVEN-DAY MINIMUM	0.34	Sep 26	0.26	Aug 20	0.17	Sep 21, 1999
MAXIMUM PEAK FLOW	---		Unknown	Sep 2	Unknown	Jun 11, 1998
MAXIMUM PEAK STAGE	---		5.31	Sep 2	9.71	Jun 11, 1998
INSTANTANEOUS LOW FLOW	---		0.23	Aug 20-27	0.07	Sep 22, 1999
ANNUAL RUNOFF (INCHES)	13.75		13.51		13.65	
10 PERCENT EXCEEDS	7.2		8.0		8.3	
50 PERCENT EXCEEDS	0.76		0.76		0.74	
90 PERCENT EXCEEDS	0.39		0.37		0.30	

e Estimated



07019220 FENTON CREEK NEAR FENTON, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1997 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
25...	0830	Environmental	160	1.9	8.7	83	7.8	203	12.6	92	26.0	6.50
DEC												
16...	1145	Environmental	0.33	8.5	11.1	96	7.8	1,740	7.5	510	141	38.0
FEB												
03...	1520	Environmental	0.60	25	10.2	94	7.2	3,140	9.9	430	120	32.0
MAR												
13...	0257	Environmental	138	4.1	10.1	96	7.8	840	11.9	150	40.0	11.0
JUN												
25...	0915	Environmental	1.1	8.2	6.5	75	7.8	1,410	21.3	600	163	46.0
AUG												
12...	1225	Environmental	0.26	12	7.0	82	7.6	1,360	22.3	600	166	45.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
25...	65	66	81	<1	--	1,070	2.2	0.08	0.540	<0.01	0.130	0.57	13
DEC													
16...	252	254	310	<1	230	3	0.40	<0.01	1.50	0.04	<0.010	0.02	12
FEB													
03...	189	188	229	<1	740	94	1.2	0.11	1.20	0.03	0.020	0.13	37
MAR													
13...	124	139	170	<1	--	385	1.9	0.13	0.910	0.06	0.230	0.49	17
JUN													
25...	245	246	300	<1	--	6	0.40	0.04	4.00	0.02	0.030	0.04	7
AUG													
12...	248	249	304	<1	--	2	0.30	0.04	2.30	0.02	<0.010	0.03	7

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
25...	12,000	15,800k	24,000	11	1	<1	<1.0	<1.0	2.0	22	<1	21	<0.1
DEC													
16...	8k	78	168	3	<1	<1	<1.0	6.3	1.9	8	<1	222	<0.1
FEB													
03...	640	1,450	18,400	6	<1	<1	<1.0	2.2	6.6	7	<1	208	<0.1
MAR													
13...	600k	2,670k	6,200	5	1	<1	<1.0	1.7	2.3	23	<1	56	<0.1
JUN													
25...	1,100	1,200	580	<3	1	<1	<1.0	<1.0	1.2	3	<1	96	<0.1
AUG													
12...	220	460	144	<3	2	<1	<1.0	2.4	1.5	5	<1	152	<0.1

07019220 FENTON CREEK NEAR FENTON, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
25...	2.3	<1	<1.0	2	<7	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
16...	7.7	1	<1.0	38	--	--	--	--	--	--	--	--	--
FEB													
03...	5.8	<1	<1.0	36	--	--	--	--	--	--	--	--	--
MAR													
13...	2.4	<1	<1.0	6	<7	<1	M	M	<2.0	E3	<3	<2	<2
JUN													
25...	6.9	2	<1.0	6	--	--	--	--	--	--	--	--	--
AUG													
12...	6.6	1	<1.0	6	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
25...	<2	<2	<1	<0.9	<2	<3	<2	<4	M	M	<2	<0.01	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
13...	<2	E1	M	<0.9	<2	<3	<2	E2	M	M	M	<0.01	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo-[a]-anthracene, water, unfltrd µg/L (34526)	Benzo-[a]-pyrene, water, unfltrd µg/L (34247)	Benzo-[b]-fluoranthene water unfltrd µg/L (34230)	Benzo-[g,h,i]-perylene, water, unfltrd µg/L (34521)	Benzo-[k]-fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
25...	M	<1,000	M	M	E1	M	M	<2	<3	<2	<2	E6	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
13...	M	<1,000	E1	E2	E2	E2	M	<2	<3	<2	<2	E1	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07019220 FENTON CREEK NEAR FENTON, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
25...	<0.1	<0.01	M	0.03	M	<0.017	<2	<1	<2	<2	<0.10	<0.02	<0.01
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
13...	<0.1	<0.01	E2	0.04	M	<0.017	<2	<1	<2	<2	<0.10	<0.02	<0.01
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
25...	E2	<0.01	<0.009	<0.01	<2	<1	M	M	<0.014	<0.10	<0.01	<0.012	<1
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
13...	5	<0.01	<0.009	<0.01	<2	<1	E1	M	<0.014	<0.10	<0.02	<0.012	<1
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
25...	<3	<2	<2	E.002	<0.014	<0.009	<0.020	<0.01	<0.1	M	E1	E.3	<0.02
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
13...	<3	<2	M	<0.016	<0.014	<0.009	<0.020	<0.01	<0.1	M	3	E.2	<0.02
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

07019220 FENTON CREEK NEAR FENTON, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tributphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
25...	E1	<1	<0.02	<2	<2	<2	<1	<1	<2	M
DEC										
16...	--	--	--	--	--	--	--	--	--	--
FEB										
03...	--	--	--	--	--	--	--	--	--	--
MAR										
13...	4	<1	<0.02	<2	<2	<2	<1	<1	<2	M
JUN										
25...	--	--	--	--	--	--	--	--	--	--
AUG										
12...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range

07019280 MERAMEC RIVER AT PAULINA HILLS, MO
(Ambient Water-Quality Monitoring Network)

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 of Meramec River.

DRAINAGE AREA.--3,950 mi^2, approximately.

PERIOD OF RECORD.--August 1963 to July 1975, October 1981 to current year. August 1963 to September 1970 published as Meramec River at Paulina Hills, Mo. (07019045).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
09...	0925	Environmental	756	7.3	79	7.8	415	18.2	--	--	--	--
09...	0926	Replicate	--	--	--	--	--	--	--	--	--	--
NOV												
06...	0815	Environmental	1,550	8.2	72	7.8	379	9.3	170	37.3	19.8	2.16
DEC												
19...	0845	Environmental	2,600	12.4	107	7.9	479	7.8	--	--	--	--
JAN												
07...	1435	Environmental	2,930	11.7	92	8.2	351	4.6	170	35.7	18.6	1.59
FEB												
26...	1045	Environmental	4,640	13.3	100	7.9	336	3.1	--	--	--	--
MAR												
05...	0800	Environmental	4,150	11.8	95	8.0	404	5.2	--	--	--	--
APR												
09...	0830	Environmental	3,410	9.5	87	7.7	378	11.2	--	--	--	--
MAY												
21...	0845	Environmental	3,050	5.3	58	7.5	340	19.5	170	36.5	18.2	1.90
JUN												
17...	1500	Environmental	6,270	7.2	85	7.4	277	23.2	--	--	--	--
17...	1501	Replicate	--	7.2	86	7.3	276	23.2	--	--	--	--
JUL												
22...	1500	Environmental	1,540	8.7	117	7.8	413	29.3	190	40.2	20.6	2.08
AUG												
06...	1210	Environmental	963	7.5	100	8.0	443	28.9	--	--	--	--
SEP												
03...	1405	Environmental	2,040	5.5	66	7.4	360	23.6	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
09...	--	167	167	204	<1	--	--	--	--	27	0.57	0.08	0.39
09...	--	--	--	--	--	--	--	--	--	44	0.65	0.07	0.39
NOV													
06...	8.31	160	162	198	<1	10.4	<0.20	19.6	212	13	0.48	0.15	0.45
DEC													
19...	--	187	188	230	<1	--	--	--	--	49	0.80	0.42	0.14
JAN													
07...	8.71	141	142	173	<1	14.2	<0.17	18.1	201	44	0.47	0.09	0.23
FEB													
26...	--	120	121	147	<1	--	--	--	--	15	0.39	0.10	0.39
MAR													
05...	--	147	148	180	<1	--	--	--	--	13	0.34	0.10	0.33
APR													
09...	--	155	155	189	<1	--	--	--	--	24	0.42	0.13	0.13
MAY													
21...	7.67	146	148	181	<1	10.4	<0.20	15.7	200	18	0.39	E.04	0.56
JUN													
17...	--	117	117	143	<1	--	--	--	--	53	0.59	<0.04	0.39
17...	--	--	--	--	--	--	--	--	--	58	0.56	<0.04	0.39
JUL													
22...	10.5	172	173	211	<1	15.7	<0.20	18.3	231	93	0.80	<0.04	0.26
AUG													
06...	--	173	174	212	<1	--	--	--	--	33	0.60	<0.04	0.15
SEP													
03...	--	124	123	150	<1	--	--	--	--	57	0.80	0.04	0.52

07019280 MERAMEC RIVER AT PAULINA HILLS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
09...	0.042	0.07	0.08	0.13	38	37	39	--	--	--	--	--	--
09...	0.043	0.07	0.08	0.16	--	--	--	--	--	--	--	--	--
NOV													
06...	0.032	0.07	0.06	0.10	110	175	24	E1	253	0.6	0.04	E.1	<6
DEC													
19...	0.017	0.07	0.09	0.13	140	270	680	--	--	--	--	--	--
JAN													
07...	<0.008	0.02	<0.04	0.07	21	145	67	E2	394	0.3	0.04	<0.4	<6
FEB													
26...	E.007	0.02	0.04	0.06	17k	180	116	--	--	--	--	--	--
MAR													
05...	E.007	E.02	E.03	0.05	130	330k	135	--	--	--	--	--	--
APR													
09...	0.015	E.02	<0.04	E.03	20k	28k	13k	--	--	--	--	--	--
MAY													
21...	0.031	0.02	E.03	0.08	23k	50	64	2	335	0.6	<0.04	<0.2	<6
JUN													
17...	0.010	0.03	0.04	0.12	150k	240	220k	--	--	--	--	--	--
17...	0.010	0.02	0.04	0.11	150k	240	188	--	--	--	--	--	--
JUL													
22...	0.028	0.04	0.08	0.21	110	213k	48	4	869	1.1	E.02	<0.2	<7
AUG													
06...	0.024	E.01n	0.04	0.13	13k	20k	25k	--	--	--	--	--	--
SEP													
03...	0.017	<0.18d	0.12	0.23	950k	600k	3,350k	--	--	--	--	--	--

07019280 MERAMEC RIVER AT PAULINA HILLS, MO—Continued

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT								
09...	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--
NOV								
06...	E6	0.39	13	8.7	<0.02	<0.5	3	8
DEC								
19...	--	--	--	--	--	--	--	--
JAN								
07...	E9	0.40	27	12.2	<0.02	E.4	4	16
FEB								
26...	--	--	--	--	--	--	--	--
MAR								
05...	--	--	--	--	--	--	--	--
APR								
09...	--	--	--	--	--	--	--	--
MAY								
21...	E5	0.29	12	49.9	<0.02	E.3	1	6
JUN								
17...	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--
JUL								
22...	<8	0.43	29	15.4	E.01	<0.5	1	15
AUG								
06...	--	--	--	--	--	--	--	--
SEP								
03...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07019317 MATTESE CREEK NEAR MATTESE, MO

LOCATION.--Lat 38°28'59",long 90°20'27", in SW ¼ NW ¼ NW ¼ sec.10, T.43 N., R.6 E., St. Louis County, Hydrologic Unit 07140102, on right downstream pier of Ringer Road bridge, 0.86 mi east of Interstate 55, 1.4 mi south of Interstate 255, and 3.4 mi above confluence to Meramec River.

DRAINAGE AREA.--7.88 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1996 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 413.57 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records poor.

REVISIONS.--Revised maximum discharges for water years 1996-2002 are given below. They supersede figures published in the reports of 1998-2002.

Water Year	Date	Maximum Discharge (ft^3/s)	Gage height (ft)
1996	Sept. 23, 1996	2,070[a]	9.25
1997	June 17, 1997	2,760[a]	10.15
1998	April 15, 1998	4,850[a]	12.40
1999	Feb. 7, 1999	2,600[a]	9.95
2000	June 24, 2000	4,780[a]	12.33
2001	July 24, 2001	5,290[a]	12.82
2002	June 12, 2002	2,710[a]	10.09

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.10	0.00	2.1	0.31	4.4	0.78	4.4	1.1	3.0	0.35	81
2	0.00	0.52	0.00	7.2	0.08	4.0	0.65	2.6	7.1	1.6	0.32	367
3	9.2	4.7	0.15	2.3	0.04	1.7	0.50	2.1	5.6	1.4	0.55	5.9
4	3.6	1.0	0.01	1.7	0.03	1.6	14	87	1.6	1.1	0.01	0.67
5	0.36	6.3	e0.05	2.0	0.00	1.6	2.2	36	1.1	0.90	0.00	0.09
6	2.4	0.79	e0.12	1.4	0.09	1.1	6.9	41	7.5	0.96	0.00	0.00
7	0.38	0.16	e0.06	0.81	e0.20	0.89	3.1	12	2.0	0.74	0.00	0.00
8	0.00	0.06	0.00	0.74	e0.08	0.85	1.5	4.0	1.0	0.52	0.32	0.00
9	0.12	0.02	0.00	0.50	e0.02	0.62	1.1	1.9	0.74	0.37	0.00	0.00
10	0.50	0.00	0.00	0.26	e0.01	0.45	0.96	75	96	36	0.00	0.00
11	0.00	0.00	0.00	e0.16	e0.00	8.9	0.70	13	52	1.0	0.05	0.00
12	0.00	0.00	0.00	e0.10	0.00	27	0.56	5.4	152	0.57	0.00	15
13	0.08	0.00	2.2	e0.04	0.00	22	0.41	4.0	136	0.35	0.00	0.16
14	0.00	0.53	0.36	e0.00	12	2.9	0.31	3.2	7.7	0.24	0.00	0.00
15	0.00	4.4	0.00	e0.00	14	2.1	0.25	8.1	4.0	0.21	0.00	0.00
16	0.00	0.06	0.00	e0.00	e3.6	1.6	33	3.8	3.2	0.13	0.00	0.00
17	0.00	0.00	0.00	e0.00	e2.6	1.2	6.0	3.2	2.5	0.02	0.00	0.00
18	7.1	0.00	29	e0.00	6.7	1.0	1.6	2.6	2.1	103	0.00	0.00
19	21	0.00	3.4	e0.00	30	23	1.1	2.1	7.6	4.0	0.00	0.00
20	0.91	0.00	1.1	e0.00	4.6	13	22	16	2.0	1.0	0.04	0.00
21	0.02	0.00	0.31	e0.00	2.6	3.5	2.2	2.4	1.5	0.63	0.00	0.00
22	0.16	0.00	0.09	e0.00	6.2	2.2	1.4	1.7	1.4	1.4	0.00	0.00
23	0.35	0.00	0.01	e0.00	2.4	2.4	1.1	1.4	1.3	1.0	0.00	0.00
24	0.00	0.00	0.07	e0.00	e4.0	1.5	49	1.2	1.1	0.30	0.00	0.00
25	64	0.00	0.28	e0.00	e3.0	3.8	77	86	44	0.14	0.00	0.00
26	1.3	0.00	0.31	e0.00	e2.0	1.3	7.3	4.1	244	0.27	0.00	58
27	0.22	0.00	0.32	e0.00	e2.8	1.0	4.1	2.5	4.6	0.00	0.00	4.5
28	0.11	0.00	3.1	e0.00	1.5	8.5	28	2.0	2.4	0.07	0.00	0.05
29	56	0.00	2.5	e0.00	---	1.9	15	1.6	1.8	0.01	3.5	0.01
30	1.6	0.00	10	e0.00	---	1.2	5.4	3.1	10	0.00	0.48	2.5
31	0.42	---	13	e0.00	---	0.94	---	1.7	---	0.01	7.0	---
MEAN	5.48	0.62	2.14	0.62	3.53	4.78	9.60	14.0	26.8	5.19	0.41	17.8
MAX	64	6.3	29	7.2	30	27	77	87	244	103	7.0	367
MIN	0.00	0.00	0.00	0.00	0.00	0.45	0.25	1.2	0.74	0.00	0.00	0.00
IN.	0.80	0.09	0.31	0.09	0.47	0.70	1.36	2.05	3.80	0.76	0.06	2.53

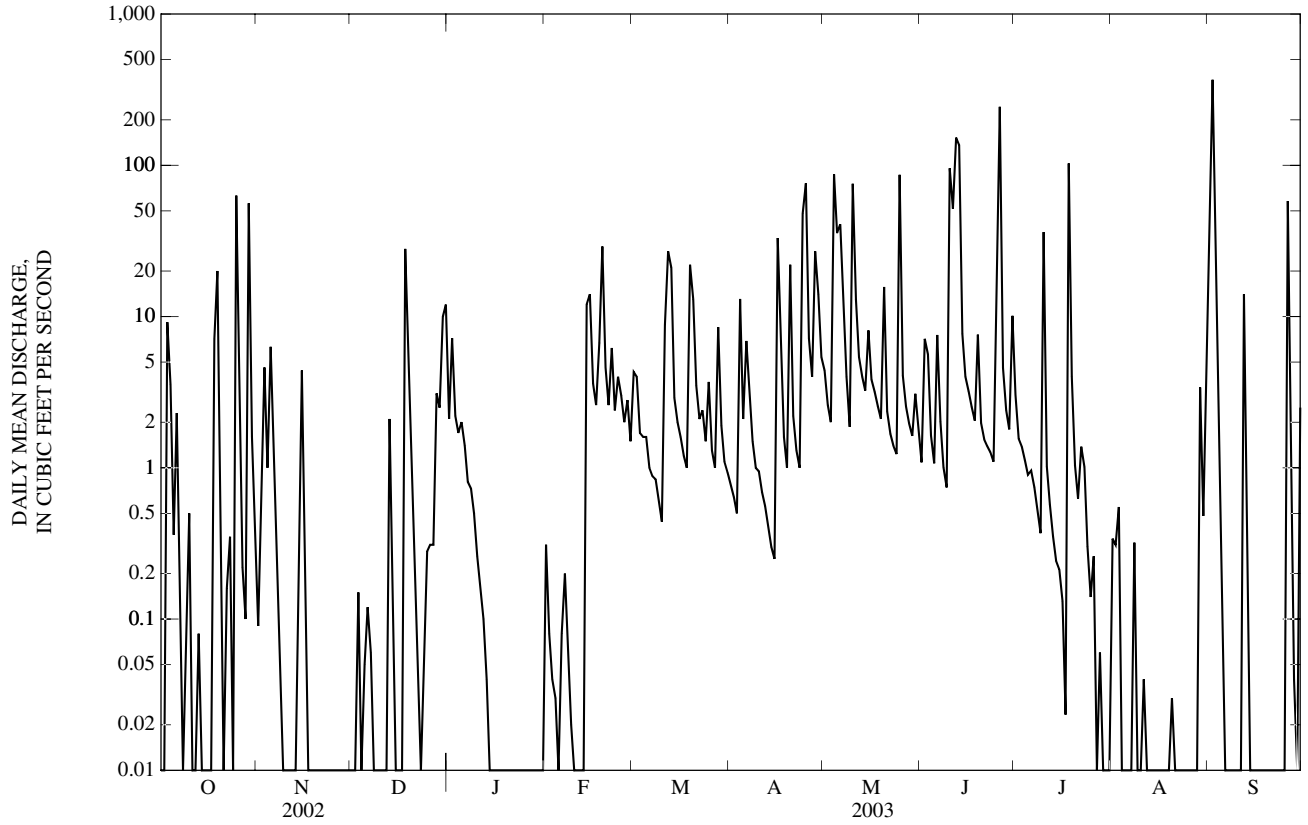
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)

MEAN	3.78	5.94	3.81	6.88	10.3	10.5	8.76	11.3	17.9	8.08	4.55	5.67
MAX	8.11	19.7	11.3	16.0	23.9	31.9	19.6	19.3	30.8	18.7	10.7	17.8
(WY)	(2002)	(1997)	(2002)	(1997)	(1997)	(1998)	(1998)	(2002)	(2000)	(1998)	(1998)	(2003)
MIN	1.58	0.62	0.66	0.62	3.00	2.63	2.33	3.50	3.01	1.12	0.41	0.27
(WY)	(2000)	(2003)	(1999)	(2003)	(2002)	(2001)	(2000)	(1999)	(2001)	(2002)	(2003)	(1999)

07019317 MATTESE CREEK NEAR MATTESE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1996 - 2003	
ANNUAL MEAN	6.40		7.56		8.06	
HIGHEST ANNUAL MEAN					12.0	1998
LOWEST ANNUAL MEAN					4.85	2001
HIGHEST DAILY MEAN	150	Jun 12	367	Sep 2	512	Jun 24, 2000
LOWEST DAILY MEAN	0.00	Many Days	0.00	Many Days	0.00	Many Days 1997, 2001-2003
ANNUAL SEVEN-DAY MINIMUM	0.00	At Times	0.00	At Times	0.00	At Times
MAXIMUM PEAK FLOW	---		5,010[a]	Sep 2	5,290[ab]	Jul 24, 2001
MAXIMUM PEAK STAGE	---		12.56	Sep 2	12.82	Jul 24, 2001
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Many Days 1997, 2001-2003
ANNUAL RUNOFF (INCHES)	11.02		13.02		13.90	
10 PERCENT EXCEEDS	14		13		16	
50 PERCENT EXCEEDS	0.70		0.70		0.83	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated
[a] From rating extended above 571 ft^3/s on basis of indirect measurement of peak flow.
[b] Revised.



07019317 MATTESE CREEK NEAR MATTESE, MO—Continued
(Metropolitan St. Louis Sewer District Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1996 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Carbon dioxide water, unfltrd mg/L (00405)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT												
19...	0345	Environmental	121	3.0	7.7	77	7.6	309	14.5	60	19.0	3.00
DEC												
17...	1410	Environmental	<0.01	5.0	12.5	111	7.9	2,340	8.6	270	84.0	15.0
FEB												
03...	1400	Environmental	0.01	6.1	11.0	99	7.8	2,490	8.6	430	132	25.0
APR												
16...	2010	Environmental	236	4.1	8.7	94	7.7	734	17.4	84	26.0	4.70
JUN												
24...	1005	Environmental	1.1	9.3	9.5	110	7.7	1,200	21.7	370	114	21.0
AUG												
11...	1515	Environmental	<0.01	4.9	9.5	122	7.9	1,200	26.9	370	112	22.0

Date	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)
OCT													
19...	56	54	66	<1	--	421	1.5	0.03	0.580	0.02	0.150	0.44	12
DEC													
17...	207	209	255	<1	580	24	0.60	0.04	0.670	<0.01	0.090	0.14	14
FEB													
03...	209	211	257	<1	640	6	0.50	0.18	0.950	0.02	0.060	0.06	15
APR													
16...	95	93	113	<1	--	1,420	4.8	0.15	0.600	0.05	0.060	0.89	36
JUN													
24...	253	256	312	<1	--	2	0.20	0.02	0.280	<0.01	0.030	0.04	6
AUG													
11...	190	191	234	<1	--	16	0.40	0.02	0.050	<0.01	0.030	0.05	10

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Arsenic water, fltrd, µg/L (01000)	Beryllium, water, fltrd, µg/L (01010)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Manganese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recoverable, µg/L (71900)
OCT													
19...	5,200	13,800	11,500	6	<1	<1	<1.0	<1.0	1.6	15	<1	6	0.1
DEC													
17...	130	440	84	<3	<1	<1	<1.0	5.5	2.0	12	<1	24	<0.1
FEB													
03...	120	357k	92	<3	<1	<1	<1.0	1.9	3.0	19	<1	122	<0.1
APR													
16...	4,200	4,400	2,850	6	1	<1	<1.0	3.9	2.8	28	<1	119	0.1
JUN													
24...	150	30k	32k	<3	2	<1	<1.0	4.6	1.7	10	<1	71	<0.1
AUG													
11...	100	280	460	3	2	<1	<1.0	<1.0	2.3	14	<1	16	<0.1

07019317 MATTESE CREEK NEAR MATTESE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Oil and grease, water, unfltrd freon extract mg/L (00556)	1,2-Diphenylhydrazine, water, unfltrd µg/L (82626)	2,4,6-Trichlorophenol, water, unfltrd µg/L (34621)	2,4-Dichlorophenol, water, unfltrd µg/L (34601)	2,4-Dimethylphenol, water, unfltrd µg/L (34606)	2,4-Dinitrophenol, water, unfltrd µg/L (34616)	2,4-Dinitrotoluene water unfltrd µg/L (34611)	2,6-Dinitrotoluene water unfltrd µg/L (34626)	2-Chloronaphthalene, water, unfltrd µg/L (34581)
OCT													
19...	<1.0	<1	<1.0	3	E5n	<1	<3	<2	<2.0	<3	<3	<2	<2
DEC													
17...	4.7	<1	<1.0	6	--	--	--	--	--	--	--	--	--
FEB													
03...	4.3	1	<1.0	6	--	--	--	--	--	--	--	--	--
APR													
16...	2.4	<1	<1.0	11	<7	<1	<3	M	<2.0	<3	<3	<2	<2
JUN													
24...	4.6	3	<1.0	4	--	--	--	--	--	--	--	--	--
AUG													
11...	4.2	2	<1.0	5	--	--	--	--	--	--	--	--	--

Date	2-chlorophenol, water, unfltrd µg/L (34586)	2-Methyl-4,6-dinitrophenol, wat unf µg/L (34657)	2-nitrophenol, water unfltrd µg/L (34591)	3,3-Di'chlorobenzidine, water, unfltrd µg/L (34631)	4-Bromophenyl phenyl ether, wat unf µg/L (34636)	4-Chloro-3-methylphenol, wat unf µg/L (34452)	4-Chlorophenyl phenyl ether, wat unf µg/L (34641)	4-Nitrophenol, water, unfltrd µg/L (34646)	9H-Fluorene, water, unfltrd µg/L (34381)	Acenaphthene, water, unfltrd µg/L (34205)	Acenaphthylene, water, unfltrd µg/L (34200)	Aldrin, water, unfltrd µg/L (39330)	alpha-Endosulfan, water, unfltrd µg/L (39388)
OCT													
19...	<2	<2	<1	<0.9	<2	<3	<2	E2	M	M	M	<0.01	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
16...	<2	<2	<1	<0.9	<2	<3	<2	E2	M	M	M	<0.002	<0.002
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Anthracene, water, unfltrd µg/L (34220)	Benzidine, water, unfltrd µg/L (39120)	Benzo[a]anthracene, water, unfltrd µg/L (34526)	Benzo[a]pyrene, water, unfltrd µg/L (34247)	Benzo[b]fluoranthene water unfltrd µg/L (34230)	Benzo[g,h,i]perylene, water, unfltrd µg/L (34521)	Benzo[k]fluoranthene water unfltrd µg/L (34242)	Benzyl n-butyl phthalate, water, unfltrd µg/L (34292)	Bis(2-chloroethoxy) methane water unfltrd µg/L (34278)	Bis(2-chloroethyl) ether, water, unfltrd µg/L (34273)	Bis(2-chloroisopropyl) ether, wat unf µg/L (34283)	Bis(2-ethylhexyl) phthalate, wat unf µg/L (39100)	Carbophenothion, water, unfltrd µg/L (39786)
OCT													
19...	M	<1,000	M	E1	E2	M	M	M	<3	<2	<2	<2	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
16...	M	<1,000	M	E1	E2	E1	M	M	<3	<2	<2	E2	<0.02
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

07019317 MATTESE CREEK NEAR MATTESE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chlordane, technical, water, unfltrd µg/L (39350)	Chlorpyrifos water unfltrd µg/L (38932)	Chrysene, water, unfltrd µg/L (34320)	Diazinon, water, unfltrd µg/L (39570)	Dibenzo-[a,h]-anthracene, wat unf µg/L (34556)	Dieldrin, water, unfltrd µg/L (39380)	Diethyl phthalate, water, unfltrd µg/L (34336)	Dimethyl phthalate, water, unfltrd µg/L (34341)	Di-n-butyl phthalate, water, unfltrd µg/L (39110)	Di-n-octyl phthalate, water, unfltrd µg/L (34596)	Disulfoton, water, unfltrd µg/L (39011)	Endrin, water, unfltrd µg/L (39390)	Ethion, water, unfltrd µg/L (39398)
OCT													
19...	<0.1	<0.01	E1	0.03	M	E.001	M	M	<2	<2	<0.10	<0.02	<0.01
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
16...	<0.1	<0.01	E2	0.03	M	<0.002	<2	M	M	<2	<0.10	<0.002	<0.01
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Fluoranthene water unfltrd µg/L (34376)	Fonofos water unfltrd µg/L (82614)	Heptachlor epoxide water unfltrd µg/L (39420)	Heptachlor, water, unfltrd µg/L (39410)	Hexachlorobenzene water unfltrd µg/L (39700)	Hexachlorocyclopentadiene, wat unf µg/L (34386)	Indeno-[1,2,-3-cd]-pyrene, water, unfltrd µg/L (34403)	Isophorone water unfltrd µg/L (34408)	Lindane water, unfltrd µg/L (39340)	Malathion, water, unfltrd µg/L (39530)	Methyl parathion, water, unfltrd µg/L (39600)	Mirex, water, unfltrd µg/L (39755)	Nitrobenzene water unfltrd µg/L (34447)
OCT													
19...	3	<0.01	<0.009	<0.01	<2	<1	M	M	<0.014	E.01	<0.01	<0.012	<1
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
16...	3	<0.01	<0.003	<0.002	<2	<1	E1	M	<0.002	E.02	<0.01	<0.002	<1
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	N-NItroso-dimethylamine, wat unf µg/L (34438)	N-NItroso-di-n-propylamine, wat unf µg/L (34428)	N-NItroso-diphenylamine, wat unf µg/L (34433)	p,p-' DDD, water, unfltrd µg/L (39360)	p,p-' DDE, water, unfltrd µg/L (39365)	p,p-' DDT, water, unfltrd µg/L (39370)	p,p-' Methoxychlor, water, unfltrd µg/L (39480)	Parathion, water, unfltrd µg/L (39540)	PCBs, water, unfltrd µg/L (39516)	Pentachlorophenol, water, unfltrd µg/L (39032)	Phenanthrene, water, unfltrd µg/L (34461)	Phenol, water, unfltrd µg/L (34694)	Phorate water unfltrd µg/L (39023)
OCT													
19...	<3	<2	<2	E.002	E.001	<0.009	E.001	<0.01	<0.1	M	E2	E.2	<0.02
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
16...	<3	<2	<2	<0.002	<0.002	<0.002	<0.003	<0.01	<0.1	M	E2	E.2	<0.02
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

07019317 MATTESE CREEK NEAR MATTESE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pyrene, water, unfltrd µg/L (34469)	Toxaphene, water, unfltrd µg/L (39400)	Tribuphos, water, unfltrd µg/L (39040)	1,2,4-Trichlorobenzene water unfltrd µg/L (34551)	1,2-Dichlorobenzene water unfltrd µg/L (34536)	1,3-Dichlorobenzene water unfltrd µg/L (34566)	1,4-Dichlorobenzene water unfltrd µg/L (34571)	Hexachlorobutadiene, water, unfltrd µg/L (39702)	Hexachloroethane, water, unfltrd µg/L (34396)	Naphthalene, water, unfltrd µg/L (34696)
OCT										
19...	E2	<1	<0.02	<2	<2	<2	<1	<1	<2	M
DEC										
17...	--	--	--	--	--	--	--	--	--	--
FEB										
03...	--	--	--	--	--	--	--	--	--	--
APR										
16...	3	<1	<0.02	<2	<2	<2	<1	<1	<2	M
JUN										
24...	--	--	--	--	--	--	--	--	--	--
AUG										
11...	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07020500 MISSISSIPPI RIVER AT CHESTER, IL

LOCATION.--Lat 37°54'10", long 89°50'10", in SW 1/4 sec.24, T.7 S., R.7 W., third principal meridian, Randolph County, Hydrologic Unit 07140105, on downstream side of left pier of main truss of highway bridge at Chester, 8.1 mi downstream from Kaskaskia River, and at mile 109.9 above Ohio River.

DRAINAGE AREA.--708,600 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--
DISCHARGE: October 1927 to current year. Monthly discharge only for some periods, published in WSP 1311. Since August 1873, results of discharge measurements in reports of the Mississippi River Commission.
GAGE HEIGHT: July 1942 to current year. Since May 1891, in reports of the Mississippi River Commission and National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area. WDR MO-98-1: Extreme outside period of record.

GAGE.--Water-stage recorder. Datum of gage is 341.05 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 1, 1962, nonrecording gage 0.4 mi downstream at present datum.

REMARKS.--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 at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 30, 1844, reached a gage height of 39.8 ft, discharge, 1,050,000 ft^3/s, computed by the U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

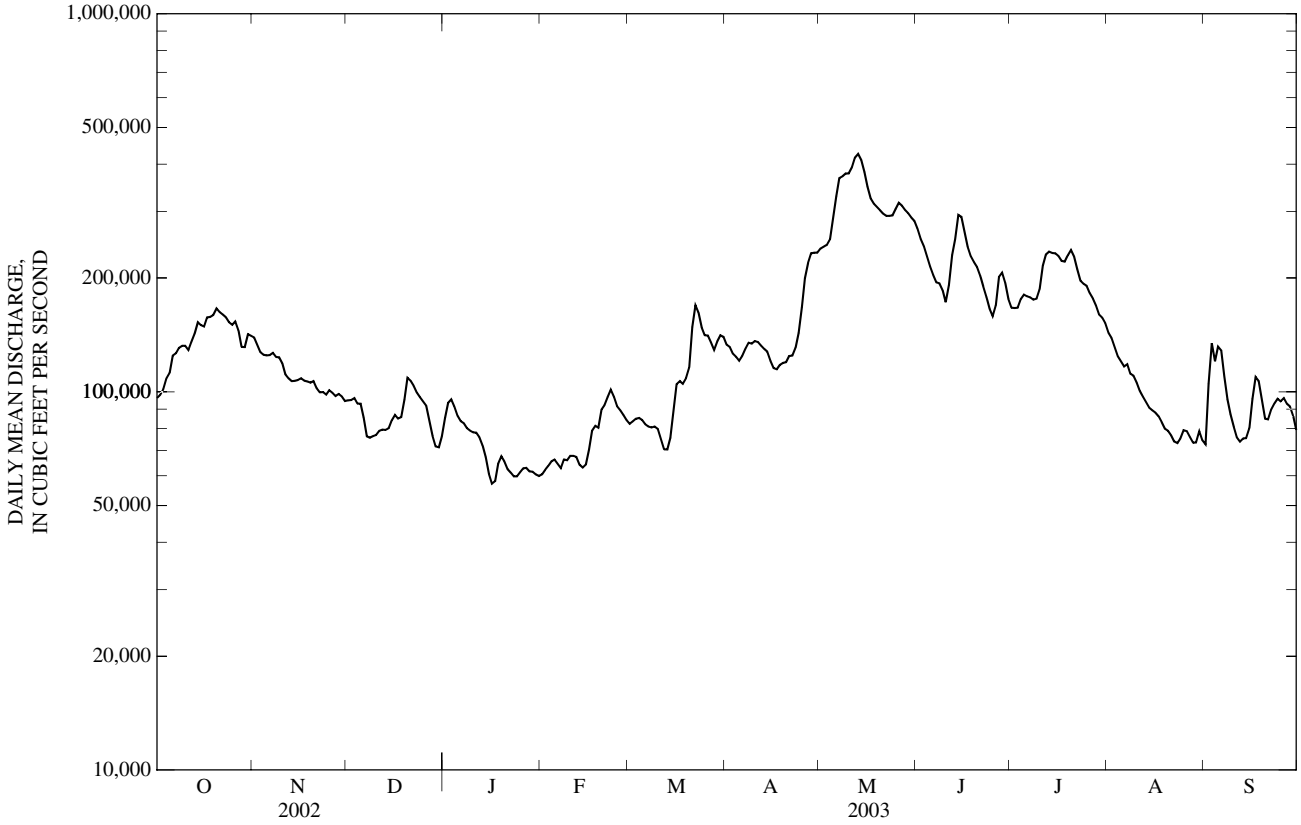
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96,400	139,000	95,000	85,400	60,500	82,300	133,000	239,000	270,000	167,000	143,000	72,600
2	98,300	133,000	95,200	93,500	62,200	83,500	131,000	242,000	254,000	167,000	139,000	105,000
3	102,000	127,000	96,300	95,500	63,700	84,900	126,000	245,000	243,000	167,000	131,000	134,000
4	109,000	125,000	93,100	91,500	65,500	85,300	124,000	253,000	228,000	176,000	124,000	120,000
5	112,000	125,000	93,100	86,500	66,200	84,200	121,000	287,000	214,000	181,000	120,000	132,000
6	125,000	125,000	85,600	83,600	64,500	82,100	125,000	329,000	204,000	179,000	117,000	129,000
7	126,000	127,000	76,300	82,600	62,800	80,900	130,000	367,000	195,000	178,000	118,000	110,000
8	131,000	124,000	75,600	80,200	66,200	80,500	135,000	371,000	194,000	175,000	112,000	95,500
9	132,000	123,000	76,300	79,000	66,000	81,000	134,000	378,000	186,000	176,000	110,000	87,200
10	132,000	119,000	76,900	78,200	67,700	79,800	136,000	378,000	173,000	187,000	106,000	81,000
11	129,000	111,000	78,800	78,000	67,700	75,000	135,000	392,000	192,000	216,000	101,000	75,700
12	136,000	108,000	79,400	75,800	67,300	70,500	132,000	416,000	230,000	231,000	97,000	73,900
13	143,000	107,000	79,300	72,100	64,200	70,400	130,000	426,000	253,000	235,000	94,000	75,300
14	153,000	107,000	80,100	67,200	63,100	75,600	128,000	411,000	294,000	233,000	90,800	75,400
15	150,000	107,000	84,000	60,700	64,300	88,900	121,000	381,000	290,000	232,000	89,400	80,200
16	149,000	109,000	86,900	57,200	70,500	105,000	116,000	349,000	265,000	229,000	88,100	95,700
17	157,000	107,000	85,000	58,000	79,000	107,000	115,000	325,000	242,000	222,000	86,200	109,000
18	158,000	107,000	85,700	64,600	81,300	105,000	118,000	314,000	228,000	221,000	83,200	107,000
19	160,000	106,000	95,300	67,500	80,400	109,000	119,000	308,000	221,000	229,000	79,900	95,300
20	166,000	107,000	109,000	65,500	89,900	116,000	120,000	302,000	214,000	237,000	78,900	85,000
21	163,000	102,000	107,000	62,500	92,300	148,000	124,000	296,000	203,000	228,000	76,700	84,600
22	160,000	99,700	104,000	61,200	97,000	170,000	125,000	292,000	190,000	211,000	73,900	89,900
23	157,000	99,900	99,500	59,800	101,000	162,000	131,000	292,000	178,000	197,000	73,200	93,100
24	153,000	98,400	96,900	59,800	97,000	148,000	143,000	293,000	166,000	193,000	75,300	95,900
25	150,000	101,000	94,300	61,300	91,500	141,000	167,000	304,000	159,000	191,000	79,100	94,400
26	153,000	99,400	92,000	62,800	89,400	141,000	200,000	316,000	169,000	183,000	78,700	96,200
27	145,000	97,500	83,700	63,000	86,800	135,000	219,000	310,000	201,000	177,000	76,000	93,100
28	132,000	98,800	76,400	61,600	84,200	129,000	233,000	303,000	207,000	169,000	73,400	91,400
29	131,000	97,300	71,700	61,500	---	136,000	233,000	296,000	194,000	160,000	73,500	86,300
30	142,000	94,600	71,300	60,500	---	141,000	233,000	289,000	176,000	157,000	78,700	79,300
31	141,000	---	76,200	59,900	---	140,000	---	283,000	---	152,000	74,500	---
MEAN	138,400	111,100	87,090	70,850	75,440	107,700	144,600	322,200	214,400	195,400	94,890	94,770
MAX	166,000	139,000	109,000	95,500	101,000	170,000	233,000	426,000	294,000	237,000	143,000	134,000
MIN	96,400	94,600	71,300	57,200	60,500	70,400	115,000	239,000	159,000	152,000	73,200	72,600
IN.	0.23	0.17	0.14	0.12	0.11	0.18	0.23	0.52	0.34	0.32	0.15	0.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2003, BY WATER YEAR (WY)

MEAN	150,400	156,400	139,700	130,200	160,500	248,800	331,400	326,000	287,400	242,600	160,100	145,900
MAX	588,300	380,400	500,100	323,200	331,000	528,400	719,100	630,900	597,200	795,300	769,500	551,000
(WY)	(1987)	(1986)	(1983)	(1973)	(1974)	(1973)	(1973)	(1995)	(1947)	(1993)	(1993)	(1993)
MIN	59,490	59,320	51,070	47,810	52,860	84,200	129,400	127,200	81,040	69,050	69,580	66,030
(WY)	(1957)	(1957)	(1964)	(1964)	(1964)	(1964)	(2000)	(1989)	(1988)	(1988)	(1988)	(1976)

07020500 MISSISSIPPI RIVER AT CHESTER, IL—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1942 - 2003	
ANNUAL MEAN	195,200		138,500		206,600	
HIGHEST ANNUAL MEAN					441,700	1993
LOWEST ANNUAL MEAN					96,770	1956
HIGHEST DAILY MEAN	732,000	May 17	426,000	May 13	1,000,000	Aug 6, 1993
LOWEST DAILY MEAN	71,300	Dec 30	57,200	Jan 16	37,600	Jan 1, 1964
ANNUAL SEVEN-DAY MINIMUM	77,500	Dec 7	61,300	Jan 27	38,500	Dec 20, 1963
MAXIMUM PEAK FLOW	---		427,000	May 13	1,000,000	Aug 7, 1993
MAXIMUM PEAK STAGE	---		27.11	May 13	49.74	Aug 7, 1993
INSTANTANEOUS LOW FLOW	---		56,800	Jan 16,17	30,000	Dec 12, 1937
ANNUAL RUNOFF (INCHES)	3.74		2.65		3.96	
10 PERCENT EXCEEDS	391,000		242,000		399,000	
50 PERCENT EXCEEDS	152,000		112,000		166,000	
90 PERCENT EXCEEDS	93,100		71,000		78,100	



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 except for estimated daily loads, which are poor.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,380 mg/L, Apr. 13, 1987; minimum daily mean, 13 mg/L, Mar. 18, 1981.
SUSPENDED-SEDIMENT LOADS: Maximum daily, 3,330,000 tons, Feb. 25, 1997; minimum daily, 3,580 tons, Mar. 18, 1981.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT CONCENTRATIONS.--Maximum daily mean, 842 mg/L, May 13; minimum daily mean, 90 mg/L, Jan. 21.
SUSPENDED-SEDIMENT LOADS.--Maximum daily, 969,000 tons, May 13; minimum daily 13,700 tons, Jan. 16.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Day	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)
	OCTOBER			NOVEMBER			DECEMBER		
1	96,400	---	e20,300	139,000	---	e45,400	95,000	---	e25,800
2	98,300	---	e22,300	133,000	---	e41,700	95,200	---	e25,600
3	102,000	---	e23,700	127,000	---	e37,500	96,300	---	e26,100
4	109,000	---	e27,500	125,000	---	e34,700	93,100	---	e24,700
5	112,000	---	e28,600	125,000	---	e32,400	93,100	---	e24,900
6	125,000	---	e42,700	125,000	---	e31,300	85,600	---	e22,500
7	126,000	---	e44,300	127,000	97	33,300	76,300	---	e19,400
8	131,000	---	e40,900	124,000	---	e33,200	75,600	---	e18,500
9	132,000	---	e39,500	123,000	---	e33,700	76,300	---	e18,800
10	132,000	---	e38,300	119,000	---	e32,300	76,900	---	e19,100
11	129,000	---	e36,400	111,000	---	e29,200	78,800	91	19,400
12	136,000	---	e38,800	108,000	---	e28,000	79,400	---	e19,500
13	143,000	---	e43,700	107,000	---	e27,400	79,300	---	e19,600
14	153,000	---	e55,900	107,000	---	e27,300	80,100	---	e20,000
15	150,000	---	e55,200	107,000	---	e27,800	84,000	---	e22,100
16	149,000	---	e51,000	109,000	---	e30,000	86,900	---	e23,500
17	157,000	137	58,000	107,000	---	e29,100	85,000	---	e21,900
18	158,000	---	e55,100	107,000	---	e28,200	85,700	---	e22,000
19	160,000	---	e57,400	106,000	---	e27,600	95,300	---	e28,300
20	166,000	---	e62,200	107,000	---	e29,200	109,000	---	e43,300
21	163,000	---	e57,700	102,000	---	e29,200	107,000	---	e39,500
22	160,000	---	e53,100	99,700	104	28,000	104,000	---	e36,600
23	157,000	---	e49,200	99,900	---	e28,300	99,500	---	e34,200
24	153,000	---	e46,400	98,400	---	e27,400	96,900	---	e32,500
25	150,000	---	e47,000	101,000	---	e28,900	94,300	---	e31,000
26	153,000	---	e50,400	99,400	---	e28,000	92,000	---	e29,400
27	145,000	---	e44,400	97,500	---	e26,800	83,700	---	e24,600
28	132,000	---	e36,000	98,800	---	e27,700	76,400	---	e21,200
29	131,000	---	e35,800	97,300	---	e26,900	71,700	---	e19,700
30	142,000	---	e47,900	94,600	---	e25,100	71,300	---	e19,700
31	141,000	---	e47,200	---	---	---	76,200	---	e21,800

07020500 MISSISSIPPI RIVER AT CHESTER, IL—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY),—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Day	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/ day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/ day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/ day)
		JANUARY			FEBRUARY			MARCH	
1	85,400	---	e26,400	60,500	---	e17,100	82,300	133	29,700
2	93,500	---	e29,900	62,200	---	e18,700	83,500	144	32,400
3	95,500	---	e29,800	63,700	---	e20,300	84,900	144	33,100
4	91,500	---	e27,800	65,500	124	22,000	85,300	138	31,800
5	86,500	---	e25,700	66,200	130	23,300	84,200	138	31,400
6	83,600	---	e24,200	64,500	---	21,700	82,100	138	30,500
7	82,600	---	e23,100	62,800	---	20,000	80,900	132	28,900
8	80,200	---	e21,600	66,200	133	23,900	80,500	127	27,500
9	79,000	---	e20,800	66,000	---	23,000	81,000	124	27,200
10	78,200	---	e20,200	67,700	---	22,000	79,800	119	25,700
11	78,000	---	e19,800	67,700	113	20,700	75,000	115	23,300
12	75,800	---	e19,000	67,300	111	20,100	70,500	109	20,700
13	72,100	---	e17,800	64,200	109	18,900	70,400	107	20,300
14	67,200	---	e16,400	63,100	107	18,300	75,600	149	30,500
15	60,700	---	e14,600	64,300	98	16,900	88,900	204	48,900
16	57,200	---	e13,700	70,500	---	18,300	105,000	208	58,900
17	58,000	---	e14,000	79,000	---	22,000	107,000	206	59,500
18	64,600	---	e16,500	81,300	134	29,400	105,000	208	59,000
19	67,500	---	e16,900	80,400	194	42,200	109,000	212	62,100
20	65,500	---	e15,900	89,900	239	57,900	116,000	217	68,100
21	62,500	90	15,100	92,300	270	67,300	148,000	---	e97,400
22	61,200	---	e14,900	97,000	237	61,800	170,000	---	e107,000
23	59,800	---	e14,700	101,000	151	41,500	162,000	---	e93,600
24	59,800	---	e15,700	97,000	---	37,100	148,000	---	e78,000
25	61,300	101	16,700	91,500	---	34,800	141,000	---	e72,300
26	62,800	---	e17,000	89,400	---	33,800	141,000	175	66,500
27	63,000	---	e17,200	86,800	137	32,200	135,000	163	59,400
28	61,600	---	e16,500	84,200	131	29,900	129,000	161	56,300
29	61,500	---	e16,200	---	---	---	136,000	166	61,800
30	60,500	---	e16,100	---	---	---	141,000	163	62,700
31	59,900	---	e16,100	---	---	---	140,000	129	48,700
		APRIL			MAY			JUNE	
1	133,000	---	e43,900	239,000	250	162,000	270,000	204	149,000
2	131,000	---	e41,200	242,000	207	135,000	254,000	206	141,000
3	126,000	---	e37,600	245,000	226	149,000	243,000	266	175,000
4	124,000	---	e35,000	253,000	235	161,000	228,000	206	127,000
5	121,000	100	32,500	287,000	250	194,000	214,000	169	98,100
6	125,000	104	34,900	329,000	328	293,000	204,000	147	81,000
7	130,000	122	e42,900	367,000	672	668,000	195,000	174	91,300
8	135,000	138	50,300	371,000	704	706,000	194,000	172	89,700
9	134,000	---	e50,400	378,000	580	592,000	186,000	212	106,000
10	136,000	---	e50,800	378,000	501	511,000	173,000	254	118,000
11	135,000	---	e50,200	392,000	500	530,000	192,000	315	163,000
12	132,000	---	e47,500	416,000	765	861,000	230,000	372	231,000
13	130,000	---	e44,300	426,000	842	969,000	253,000	475	323,000
14	128,000	---	e41,300	411,000	750	833,000	294,000	299	237,000
15	121,000	---	e36,400	381,000	666	686,000	290,000	321	252,000
16	116,000	---	e31,400	349,000	588	555,000	265,000	334	239,000
17	115,000	---	e29,300	325,000	478	419,000	242,000	267	175,000
18	118,000	---	e29,100	314,000	432	367,000	228,000	235	145,000
19	119,000	---	e28,500	308,000	386	321,000	221,000	299	178,000
20	120,000	---	e28,400	302,000	322	263,000	214,000	295	171,000
21	124,000	---	e29,500	296,000	341	272,000	203,000	308	168,000
22	125,000	88	29,800	292,000	308	242,000	190,000	279	143,000
23	131,000	93	32,800	292,000	272	215,000	178,000	278	134,000
24	143,000	103	40,100	293,000	248	196,000	166,000	264	119,000
25	167,000	156	71,300	304,000	260	213,000	159,000	216	92,700
26	200,000	227	122,000	316,000	247	211,000	169,000	224	103,000
27	219,000	216	128,000	310,000	256	215,000	201,000	411	224,000
28	233,000	191	120,000	303,000	349	285,000	207,000	280	156,000
29	233,000	197	124,000	296,000	314	251,000	194,000	261	137,000
30	233,000	202	127,000	289,000	308	241,000	176,000	278	132,000
31	---	---	---	283,000	281	215,000	---	---	---

07020500 MISSISSIPPI RIVER AT CHESTER, IL—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY),—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Day	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/ day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/ day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/ day)
		JULY			AUGUST			SEPTEMBER	
1	167,000	225	101,000	143,000	126	48,800	72,600	109	21,400
2	167,000	200	90,200	139,000	118	44,000	105,000	217	63,000
3	167,000	186	83,900	131,000	120	42,500	134,000	256	92,800
4	176,000	138	65,700	124,000	119	39,900	120,000	212	69,000
5	181,000	222	108,000	120,000	117	38,100	132,000	140	49,800
6	179,000	317	153,000	117,000	116	36,600	129,000	152	52,700
7	178,000	285	137,000	118,000	112	35,900	110,000	143	42,700
8	175,000	274	130,000	112,000	120	36,200	95,500	137	35,400
9	176,000	215	102,000	110,000	180	53,800	87,200	139	32,900
10	187,000	151	76,300	106,000	144	41,100	81,000	138	30,200
11	216,000	256	149,000	101,000	136	37,000	75,700	151	30,900
12	231,000	344	214,000	97,000	136	35,600	73,900	141	28,200
13	235,000	325	206,000	94,000	141	35,900	75,300	145	29,600
14	233,000	297	187,000	90,800	147	36,100	75,400	126	25,600
15	232,000	265	166,000	89,400	126	30,300	80,200	131	28,500
16	229,000	225	139,000	88,100	116	27,500	95,700	171	44,200
17	222,000	217	130,000	86,200	118	27,600	109,000	151	44,700
18	221,000	273	163,000	83,200	140	31,500	107,000	138	39,800
19	229,000	319	198,000	79,900	143	30,800	95,300	131	33,800
20	237,000	268	172,000	78,900	102	21,700	85,000	143	32,900
21	228,000	251	155,000	76,700	124	25,600	84,600	157	35,900
22	211,000	225	128,000	73,900	119	23,700	89,900	132	32,100
23	197,000	207	110,000	73,200	91	18,000	93,100	131	32,900
24	193,000	144	75,200	75,300	100	20,500	95,900	150	38,900
25	191,000	122	63,100	79,100	131	28,000	94,400	189	48,200
26	183,000	120	59,000	78,700	108	23,000	96,200	164	42,600
27	177,000	117	56,000	76,000	100	20,600	93,100	135	34,000
28	169,000	114	52,000	73,400	101	20,100	91,400	152	37,600
29	160,000	111	48,000	73,500	134	26,600	86,300	170	39,500
30	157,000	111	47,100	78,700	113	24,100	79,300	137	29,400
31	152,000	116	47,700	74,500	94	18,900	---	---	---

e Estimated

07020550 SOUTH FORK SALINE CREEK NEAR PERRYVILLE, MO

LOCATION.--Lat 37°44'13", long 89°55'42", Perry County, Hydrologic Unit 07140105, on State Route T, 0.13 mi northeast of junction of State Highways M and T, .25 mi west of I-55, 2.5 mi west of Perryville.

DRAINAGE AREA.--55.3 mi^2.

PERIOD OF RECORD.--June 10, 1998 to current year.

GAGE.--Water stage recorder. Datum of gage 444.70 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

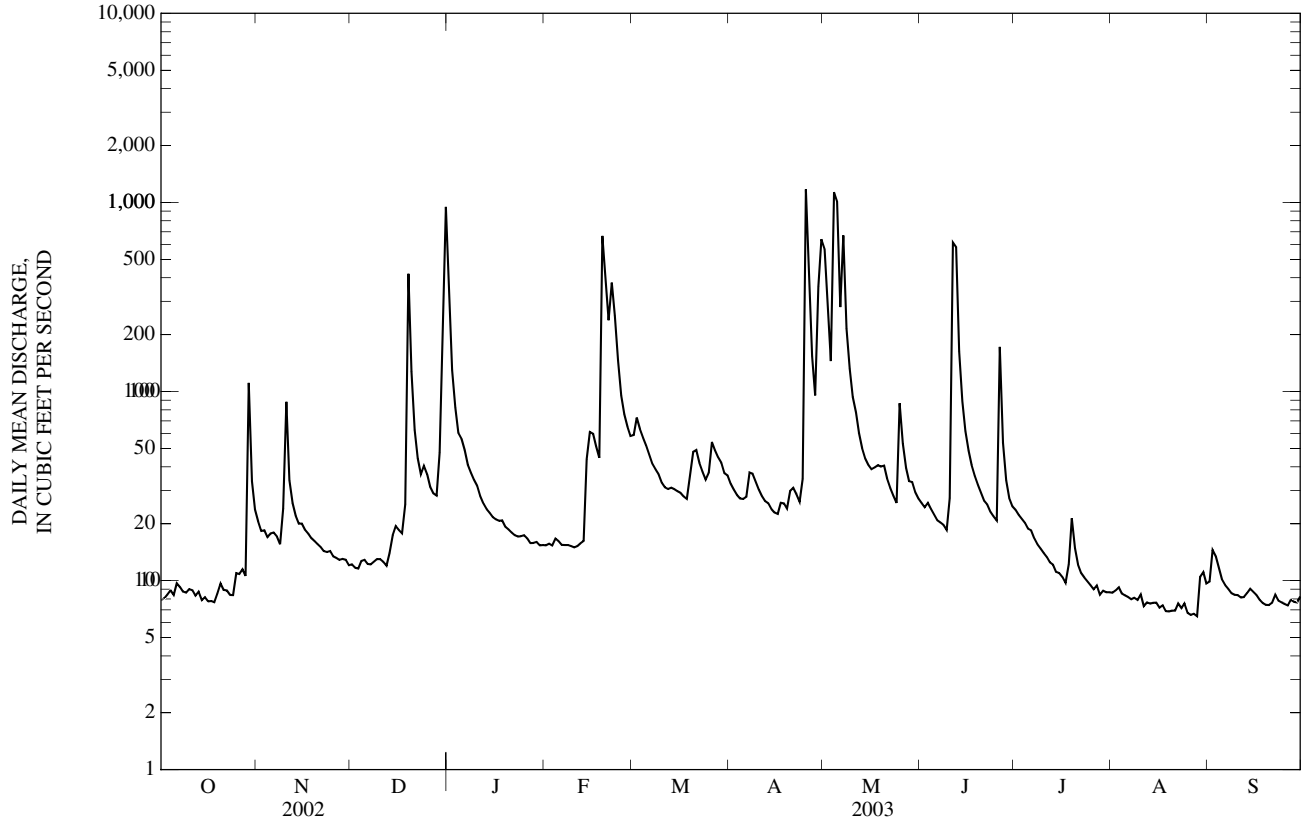
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	21	12	283	15	59	33	567	26	24	8.6	9.9
2	8.0	18	12	130	16	73	30	294	24	22	8.9	15
3	8.4	18	12	82	15	63	28	145	26	21	9.2	13
4	8.9	17	13	60	17	57	27	1,130	24	20	8.5	12
5	8.4	18	13	56	16	52	27	1,010	22	19	8.3	10
6	9.7	18	12	49	15	46	28	280	21	18	8.2	9.5
7	9.3	17	12	41	15	41	37	669	20	17	8.0	9.0
8	8.8	16	13	37	15	39	37	216	20	16	8.1	8.6
9	8.6	24	13	34	15	36	33	132	19	15	7.9	8.4
10	9.0	88	13	32	15	33	30	94	27	14	8.4	8.4
11	8.9	34	13	28	15	31	28	78	614	13	7.3	8.1
12	8.3	26	12	26	16	30	26	60	581	13	7.7	8.2
13	8.7	22	14	24	16	31	26	50	163	12	7.6	8.6
14	7.9	20	17	23	44	30	24	44	89	11	7.6	9.1
15	8.2	20	19	22	61	30	23	41	62	11	7.6	8.7
16	7.8	19	18	21	60	29	23	39	49	10	7.2	8.4
17	7.8	18	18	21	51	28	26	40	41	9.7	7.4	7.9
18	7.7	17	25	21	45	27	26	41	36	12	6.9	7.6
19	8.5	16	419	19	665	36	24	40	32	21	6.9	7.4
20	9.6	16	127	19	381	48	30	41	29	15	6.9	7.4
21	8.9	15	63	18	238	49	31	35	26	12	6.9	7.6
22	8.9	14	44	17	377	42	29	31	25	11	7.6	8.4
23	8.4	14	36	17	252	38	26	28	23	10	7.2	7.8
24	8.4	14	40	17	146	34	34	26	22	9.9	7.6	7.7
25	11	13	37	17	95	37	1,170	87	21	9.4	6.8	7.5
26	11	13	31	17	76	54	369	53	172	9.0	6.6	7.4
27	12	13	29	16	65	49	154	39	54	9.4	6.7	7.9
28	11	13	28	16	58	45	95	34	34	8.4	6.5	7.7
29	111	13	48	16	---	42	359	33	27	8.8	10	7.7
30	34	12	267	15	---	37	638	29	25	8.7	11	8.2
31	24	---	947	15	---	36	---	27	---	8.7	9.7	---
MEAN	13.5	19.9	76.7	39.0	101	41.4	116	175	78.5	13.5	7.86	8.77
MAX	111	88	947	283	665	73	1,170	1,130	614	24	11	15
MIN	7.7	12	12	15	15	27	23	26	19	8.4	6.5	7.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

MEAN	12.9	19.5	56.7	52.4	96.2	80.8	125	148	38.4	27.4	18.0	8.53
MAX	22.5	36.3	154	130	152	217	309	468	78.5	87.8	33.6	12.3
(WY)	(2002)	(2002)	(2002)	(1999)	(1999)	(2002)	(1999)	(2002)	(2003)	(2001)	(2001)	(2002)
MIN	7.55	9.23	16.0	14.8	47.9	19.7	17.9	15.8	13.4	9.27	6.31	4.69
(WY)	(2001)	(2000)	(1999)	(2001)	(2000)	(2001)	(2000)	(2000)	(2001)	(2000)	(2000)	(2000)

07020550 SOUTH FORK SALINE CREEK NEAR PERRYVILLE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1998 - 2003	
ANNUAL MEAN	97.4		57.2		56.8	
HIGHEST ANNUAL MEAN					106	2002
LOWEST ANNUAL MEAN					20.0	2000
HIGHEST DAILY MEAN	4,100	May 13	1,170	Apr 25	4,540	Apr 3, 1999
LOWEST DAILY MEAN	7.4	Aug 10	6.5	Aug 28	2.7	Sep 19, 2000
ANNUAL SEVEN-DAY MINIMUM	8.1	Aug 4	7.0	Aug 22	3.2	Sep 17, 2000
MAXIMUM PEAK FLOW	---		8,750	May 4	18,700	Apr 3, 1999
MAXIMUM PEAK STAGE	---		14.55	May 4	19.13	Apr 3, 1999
INSTANTANEOUS LOW FLOW	---		5.5	Aug 28	0.99	Dec 22, 2000
10 PERCENT EXCEEDS	168		87		93	
50 PERCENT EXCEEDS	18		20		16	
90 PERCENT EXCEEDS	8.9		8.0		7.6	



07021000 CASTOR RIVER AT ZALMA, MO

LOCATION.--Lat 37°08'48", long 90°04'32", in SE 1/4 sec.29, T.29 N., R.9 E., Bollinger County, Hydrologic Unit 07140107, on downstream side of left bridge pier on State Highway 51 in Zalma and 2.5 mi downstream from Perkins Creek.

DRAINAGE AREA.--423 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1920 to September 1991, November 8, 2000 to current year. Prior to October 1921 monthly discharge only published in WSP 1311.

REVISED RECORDS.--WSP 1147: 1922-23(M). WSP 1281: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 350.38 ft above National Geodetic Vertical Datum of 1929. January 1920 to Oct. 1, 1925, at site 500 ft upstream at datum 49.82 ft lower; Oct. 1, 1925 to Nov. 12, 1930, at site 500 ft upstream at datum 0.18 ft higher; Nov. 13, 1930 to June 8, 1953, nonrecording gage at present site and datum; June 1953 to September 1991 and October 2000 to current year, water-stage recorder at present site and datum; Dec. 18, 1949 to September 1991, auxiliary nonrecording gage 6.0 mi downstream; October 2000 to current year, auxiliary water-stage recorder 6.0 mi downstream.

REMARKS.--No estimated daily discharges. Water-discharge records fair. U.S.G.S. satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1915 reached a stage of 28.0 ft, present datum, from floodmarks by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

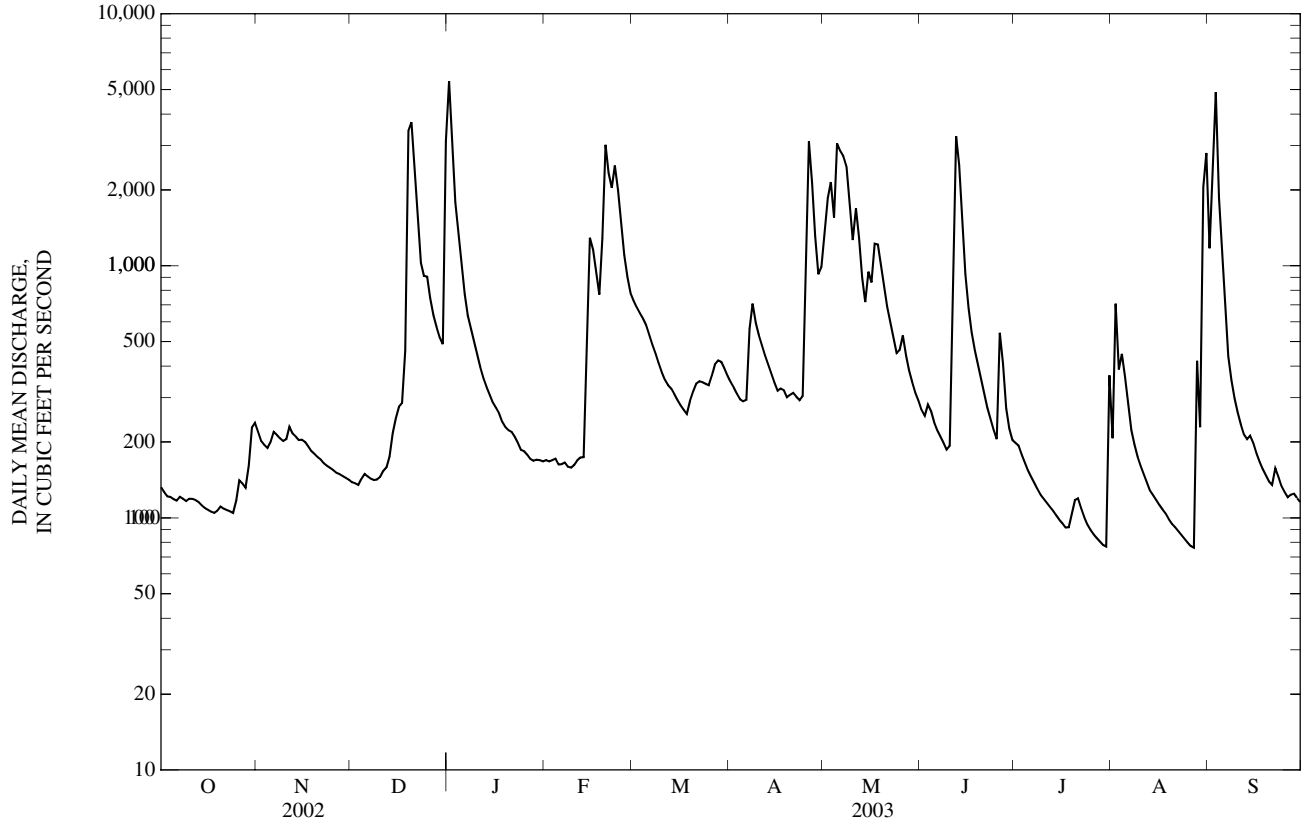
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	218	138	5,400	169	726	346	1,370	268	198	207	1,170
2	126	202	137	3,140	167	684	328	1,860	254	193	707	2,550
3	122	195	135	1,790	169	648	311	2,150	282	179	388	4,880
4	121	189	143	1,390	172	617	295	1,550	266	166	447	1,860
5	119	200	149	1,020	163	581	290	3,060	240	155	361	1,240
6	117	219	146	769	163	532	294	2,860	223	146	284	720
7	121	213	143	635	166	487	563	2,730	210	138	223	437
8	119	207	141	558	160	448	707	2,480	199	130	196	351
9	117	202	142	498	158	411	594	1,710	187	124	175	299
10	119	205	145	444	162	378	531	1,260	193	119	161	262
11	119	230	154	397	169	353	482	1,690	543	115	149	234
12	118	216	159	359	174	336	441	1,300	3,270	111	138	214
13	116	211	175	331	174	326	405	895	2,520	107	128	205
14	112	204	217	309	517	310	374	718	1,410	102	123	212
15	109	204	248	287	1,290	293	344	948	925	98	118	198
16	108	200	276	273	1,160	279	319	860	678	95	112	181
17	106	192	285	259	950	268	326	1,220	544	92	108	167
18	105	184	461	241	769	258	321	1,220	463	92	104	156
19	107	179	3,430	229	1,280	292	301	990	406	103	99	148
20	111	175	3,710	223	3,020	318	308	814	353	118	95	140
21	109	170	2,260	219	2,340	341	314	688	309	120	92	135
22	107	165	1,470	210	2,040	348	303	589	274	109	89	157
23	106	161	1,030	199	2,500	345	293	514	247	100	85	146
24	105	158	913	186	1,990	340	304	451	224	94	83	134
25	117	155	906	184	1,460	336	1,160	464	205	89	80	127
26	141	151	744	178	1,100	368	3,110	529	542	86	77	121
27	137	149	637	171	901	407	2,120	441	410	83	76	123
28	132	147	572	168	780	421	1,310	384	272	81	420	125
29	161	144	521	170	---	416	926	345	227	78	229	120
30	228	142	489	169	---	392	988	314	203	77	2,060	116
31	239	---	3,120	167	---	366	---	292	---	368	2,800	---
MEAN	126	186	748	664	867	407	624	1,184	545	125	336	564
MAX	239	230	3,710	5,400	3,020	726	3,110	3,060	3,270	368	2,800	4,880
MIN	105	142	135	167	158	258	290	292	187	77	76	116
IN.	0.34	0.49	2.04	1.81	2.13	1.11	1.65	3.23	1.44	0.34	0.92	1.49

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

MEAN	160	401	593	713	716	1,027	1,020	825	426	166	111	124
MAX	1,576	2,045	5,507	3,735	2,279	3,521	3,645	3,944	4,082	1,195	336	883
(WY)	(1985)	(1985)	(1983)	(1937)	(1989)	(1945)	(1927)	(2002)	(1928)	(1976)	(2003)	(1965)
MIN	37.0	59.1	72.1	60.7	95.4	98.0	142	90.2	43.9	33.4	22.5	31.5
(WY)	(1921)	(1921)	(1956)	(1956)	(1934)	(1941)	(1971)	(1932)	(1936)	(1936)	(1936)	(1953)

07021000 CASTOR RIVER AT ZALMA, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	857		529		524	
HIGHEST ANNUAL MEAN					1,088	1950
LOWEST ANNUAL MEAN					149	1941
HIGHEST DAILY MEAN	21,600	May 14	5,400	Jan 1	42,700	Dec 4, 1982
LOWEST DAILY MEAN	61	Aug 12	76	Aug 27	16	Aug 31, 1936
ANNUAL SEVEN-DAY MINIMUM	67	Aug 6	83	Aug 21	19	Aug 25, 1936
MAXIMUM PEAK FLOW	---		5,780	Jan 1	97,100	Dec 4, 1982
MAXIMUM PEAK STAGE	---		20.11	Jan 1	29.92	Dec 4, 1982
INSTANTANEOUS LOW FLOW	---		74	Aug 27	16	Aug 31, 1936
ANNUAL RUNOFF (INCHES)	27.51		16.98		16.82	
10 PERCENT EXCEEDS	1,930		1,300		1,070	
50 PERCENT EXCEEDS	219		239		182	
90 PERCENT EXCEEDS	104		110		60	



07021000 CASTOR RIVER AT ZALMA, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

PERIOD OF REOCRD.--November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
06...	0910	Environmental	220	10.5	95	7.5	206	10.3	110	22.1	12.4	0.97
JAN												
23...	1350	Environmental	198	14.5	103	7.5	122	1.8	--	--	--	--
MAR												
12...	1240	Environmental	336	11.6	102	7.3	155	9.2	--	--	--	--
MAY												
14...	1350	Environmental	703	8.4	89	6.9	130	17.3	66	13.8	7.57	0.95
JUL												
22...	0900	Environmental	110	6.1	78	7.5	221	26.7	--	--	--	--
SEP												
04...	1350	Environmental	1,680	7.1	83	6.5	81	22.3	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
06...	1.88	100	100	122	<1	2.21	<0.20	4.1	111	<10	E.08	<0.04	<0.06
JAN													
23...	--	81	80	98	<1	--	--	--	--	<10	E.07	<0.04	0.35
MAR													
12...	--	73	73	89	<1	--	--	--	--	<10	E.08	<0.04	0.18
MAY													
14...	1.54	56	56	68	<1	1.89	<0.17	5.1	87	37	0.20	<0.04	0.17
JUL													
22...	--	115	117	143	<1	--	--	--	--	17	0.16	E.02	0.12
SEP													
04...	--	30	30	36	<1	--	--	--	--	18	0.35	<0.04	0.14

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
06...	<0.008	<0.02	<0.04	<0.04	85k	125	275	E1	100	E.2	<0.04	<0.2	<6
JAN													
23...	<0.008	<0.02	<0.04	<0.04	<1b	5k	5k	--	--	--	--	--	--
MAR													
12...	<0.008	<0.02	<0.04	<0.04	2k	10k	9k	--	--	--	--	--	--
MAY													
14...	E.004	<0.02	<0.04	0.04	56	82	68	3	237	0.3	<0.04	<0.2	<6
JUL													
22...	<0.008	<0.02	<0.04	E.03	46	100	106	--	--	--	--	--	--
SEP													
04...	<0.008	<0.18d	<0.04	0.05	290	1,180	1,320	--	--	--	--	--	--

07021000 CASTOR RIVER AT ZALMA, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
06...	38	<0.08	<1	45.1	<0.02	<0.5	2	E1
JAN								
23...	--	--	--	--	--	--	--	--
MAR								
12...	--	--	--	--	--	--	--	--
MAY								
14...	35	E.06	M	81.9	<0.02	<0.5	M	E2
JUL								
22...	--	--	--	--	--	--	--	--
SEP								
04...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range

07022000 MISSISSIPPI RIVER AT THEBES, IL

LOCATION.--Lat 37°13'00", long 89°27'50", in NW ¼ 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: October 1932 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to April 1941, published as "at Cape Girardeau, Mo".
GAGE HEIGHT: March 1933 to February 1938 and October 1939 to current year. Prior to April 1941, published as "at Cape Girardeau, Mo". Since November 1878, under name of "at Grays Point" in files of the U.S. Army Corps of Engineers; January 1879 to May of 1896, published as "at Grays Point"; since May 1896, published as "at Cape Girardea³ in reports of the Mississippi River Commission; February 1891 to February 1894 and since 1904, published as "at Cape Girardeau in reports of the National Weather Service.

REVISED RECORDS.--WSP 1341: 1844(M). WDR MO-76-1: Drainage area, WDR MO-98-1: Extreme outside period of record.

GAGE.--Water-stage recorder. Datum of gage is 300.00 ft above National Geodetic Vertical Datum of 1929. Mar. 17, 1933, to Dec. 21 1934, nonrecording gage; 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.--Water-discharge records good. Natural flow of stream affected by many reservoirs and navigation dams in the upper Mississippi River Basin and by many reservoirs and diversions for irrigation in the 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, 1,075,000 ft^3/s, computed by the U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98,300	142,000	94,700	107,000	64,100	104,000	143,000	243,000	288,000	179,000	156,000	79,200
2	100,000	140,000	94,900	109,000	64,700	103,000	137,000	e248,000	271,000	173,000	148,000	85,400
3	102,000	134,000	94,900	113,000	66,000	103,000	133,000	e247,000	257,000	172,000	143,000	124,000
4	106,000	128,000	95,300	113,000	67,800	104,000	128,000	e268,000	244,000	175,000	137,000	136,000
5	110,000	127,000	92,900	108,000	69,200	104,000	124,000	e284,000	229,000	183,000	129,000	131,000
6	117,000	126,000	91,600	103,000	69,800	101,000	122,000	e312,000	217,000	185,000	125,000	139,000
7	125,000	127,000	84,200	99,600	68,400	97,600	127,000	370,000	206,000	183,000	123,000	129,000
8	128,000	127,000	76,800	97,900	67,800	96,900	132,000	400,000	201,000	181,000	122,000	113,000
9	132,000	125,000	75,300	95,000	70,400	96,200	134,000	412,000	198,000	180,000	116,000	101,000
10	134,000	126,000	75,800	92,600	71,000	95,800	135,000	420,000	187,000	183,000	114,000	93,500
11	133,000	122,000	76,200	89,400	72,400	92,900	137,000	434,000	195,000	202,000	109,000	87,300
12	132,000	115,000	77,700	86,300	72,100	87,300	138,000	454,000	243,000	228,000	104,000	81,500
13	138,000	112,000	78,900	82,000	70,600	83,600	136,000	473,000	265,000	239,000	100,000	77,800
14	146,000	111,000	79,700	77,300	69,900	83,800	135,000	468,000	304,000	240,000	97,300	77,600
15	154,000	112,000	81,500	72,100	71,800	90,400	132,000	441,000	321,000	238,000	94,300	78,000
16	152,000	112,000	85,700	66,100	74,600	102,000	126,000	408,000	303,000	238,000	92,900	83,800
17	152,000	112,000	89,600	62,500	86,100	114,000	124,000	378,000	274,000	232,000	91,300	98,700
18	159,000	110,000	91,300	63,500	94,700	115,000	124,000	355,000	254,000	228,000	88,800	109,000
19	159,000	109,000	105,000	69,000	99,000	115,000	127,000	345,000	244,000	232,000	85,700	107,000
20	164,000	108,000	117,000	71,200	110,000	119,000	127,000	336,000	235,000	242,000	82,500	95,800
21	167,000	108,000	122,000	69,200	113,000	132,000	128,000	328,000	225,000	241,000	80,900	87,600
22	164,000	104,000	120,000	66,400	117,000	165,000	129,000	319,000	211,000	228,000	78,500	87,700
23	161,000	102,000	116,000	65,000	127,000	179,000	129,000	317,000	198,000	211,000	76,000	91,900
24	157,000	101,000	112,000	63,400	126,000	169,000	136,000	316,000	185,000	200,000	75,400	95,900
25	154,000	101,000	109,000	63,500	119,000	158,000	158,000	323,000	175,000	198,000	77,300	98,200
26	152,000	102,000	106,000	64,600	114,000	154,000	201,000	342,000	173,000	192,000	80,100	98,400
27	153,000	100,000	102,000	66,400	110,000	152,000	220,000	343,000	197,000	185,000	79,500	99,000
28	143,000	98,600	93,600	66,500	108,000	144,000	237,000	333,000	214,000	180,000	77,600	95,900
29	133,000	99,300	86,700	65,400	---	139,000	242,000	322,000	209,000	173,000	75,500	93,800
30	136,000	97,100	84,800	65,100	---	146,000	241,000	310,000	193,000	165,000	86,100	88,600
31	142,000	---	95,300	64,400	---	148,000	---	300,000	---	162,000	85,100	---
MEAN	138,800	114,600	93,750	80,560	86,940	119,200	148,100	350,000	230,500	201,500	101,000	98,820
MAX	167,000	142,000	122,000	113,000	127,000	179,000	242,000	473,000	321,000	242,000	156,000	139,000
MIN	98,300	97,100	75,300	62,500	64,100	83,600	122,000	243,000	173,000	162,000	75,400	77,600
IN.	0.22	0.18	0.15	0.13	0.13	0.19	0.23	0.57	0.36	0.33	0.16	0.15

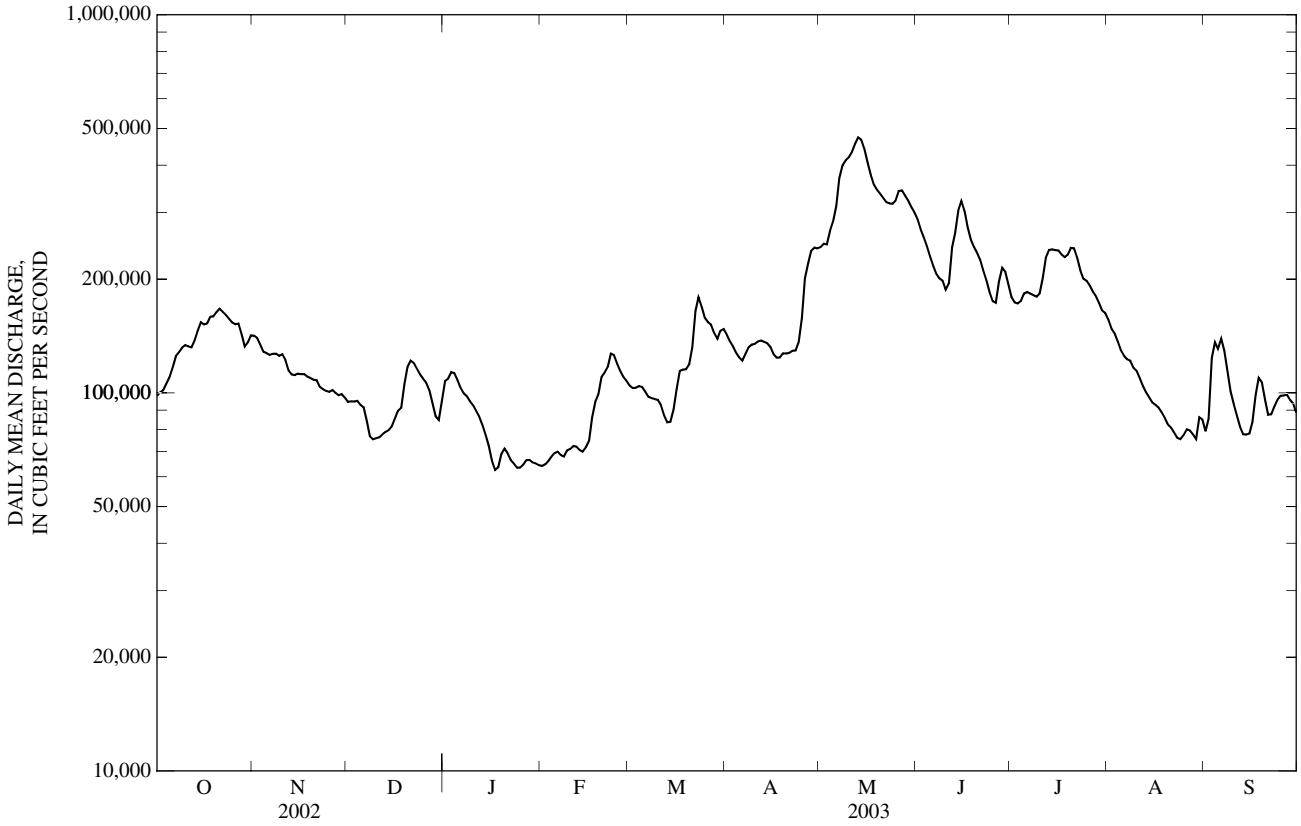
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 2003, BY WATER YEAR (WY)

MEAN	149,700	156,600	141,400	133,800	163,500	250,500	327,000	326,000	289,400	239,000	156,300	142,300
MAX	589,600	389,000	531,700	333,300	350,400	542,000	731,000	655,800	584,100	765,500	768,000	539,300
(WY)	(1987)	(1986)	(1983)	(1973)	(1974)	(1985)	(1973)	(1973)	(1947)	(1993)	(1993)	(1993)
MIN	45,500	50,080	53,850	33,650	46,920	80,260	115,600	88,170	72,350	73,290	45,000	59,890
(WY)	(1940)	(1940)	(1956)	(1940)	(1940)	(1934)	(1934)	(1934)	(1934)	(1936)	(1936)	(1937)

07022000 MISSISSIPPI RIVER AT THEBES, IL—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1933 - 2003	
ANNUAL MEAN	207,400		147,500		206,700	
HIGHEST ANNUAL MEAN					446,000	1993
LOWEST ANNUAL MEAN					71,730	1934
HIGHEST DAILY MEAN	828,000	May 18	473,000	May 13	978,000	Aug 7, 1993
LOWEST DAILY MEAN	75,300	Dec 9	62,500	Jan 17	24,700	Jan 21, 1940
ANNUAL SEVEN-DAY MINIMUM	77,200	Dec 8	65,000	Jan 23	26,700	Jan 20, 1940
MAXIMUM PEAK FLOW	---		478,000	May 13	996,000	Aug 7, 1993
MAXIMUM PEAK STAGE	---		33.33	May 13	45.91	May 23, 1995
INSTANTANEOUS LOW FLOW	---		62,000	Jan 17	23,400	Dec 13, 1937
ANNUAL RUNOFF (INCHES)	3.95		2.81		3.94	
10 PERCENT EXCEEDS	414,000		255,000		403,000	
50 PERCENT EXCEEDS	154,000		122,000		166,000	
90 PERCENT EXCEEDS	99,500		75,700		75,900	

e Estimated



07022000 MISSISSIPPI RIVER AT THEBES, IL—Continued
(National Stream-Quality Accounting Network)

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.--National Stream-Quality Accounting Network (NASQAN) station January 1973 to September 1986. Illinois Environmental Protection Agency station October 1986 to September 1994 (during this period, samples were analyzed by the Illinois EPA). Re-established as a NASQAN station October 1994 to current year. Sediment records fair except for estimated daily loads, which are poor.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 705 microsiemens per centimeter, Aug. 5-7, 1980; minimum daily, 272 microsiemens per centimeter, Apr. 6, 1979.
WATER TEMPERATURE: Maximum daily, 31.5 °C, July 10, 11, 1975, and July 17, 1977; minimum daily, 0.0 °C, on several days during winter periods.
SUSPENDED-SEDIMENT CONCENTRATION: Maximum daily mean, 3,890 mg/L, Dec. 22, 1985; minimum daily mean, 13 mg/L, Jan. 28, 1981.
SUSPENDED-SEDIMENT LOAD: Maximum daily, 6,280,000 tons, Mar. 1, 1985; minimum daily, 2,530 tons, Jan. 28, 1981.

EXTREMES FOR CURRENT YEAR.--
SUSPENDED-SEDIMENT CONCENTRATION.--Maximum daily mean, 944 mg/L, May 14; minimum daily mean, 53 mg/L, Jan. 24.
SUSPENDED-SEDIMENT LOAD.--Maximum daily, 1,190,000 tons, May 14; minimum daily 9,150 tons, Jan. 24.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	UV absorbance, 254 nm, wat flt units /cm (50624)	UV absorbance, 280 nm, wat flt units /cm (61726)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)
OCT												
23...	1355	Environmental	160,000	E42	E.185	E.136	9.4	91	8.2	466	13.9	190
DEC												
09...	1515	Environmental	75,200	19	0.127	0.092	13.6	103	8.4	614	4.0	230
09...	1523	Blank	--	--	<0.004	<0.004	--	--	--	--	--	--
JAN												
13...	1445	Environmental	81,600	20	0.120	0.088	14.8	110	8.5	598	3.0	240
FEB												
18...	1500	Environmental	95,700	23	0.115	0.086	14.4	105	8.4	639	2.2	250
MAR												
05...	1500	Environmental	103,000	25	0.123	0.092	13.9	107	8.7	555	3.8	220
APR												
01...	0940	Environmental	144,000	34	0.123	0.092	10.5	96	8.1	513	10.9	200
10...	0945	Environmental	134,000	30	0.121	0.090	10.5	96	8.5	550	10.9	200
28...	1435	Environmental	240,000	47	0.130	0.096	7.5	77	7.8	503	15.9	190
MAY												
07...	1415	Environmental	372,000	180	0.173	0.130	8.0	86	7.8	400	17.9	150
07...	1425	Replicate	--	190	0.173	0.129	--	--	--	--	--	150
13...	1005	Environmental	472,000	400	0.156	0.115	6.1	65	7.9	435	18.4	160
JUN												
23...	1420	Environmental	197,000	140	0.138	0.100	6.0	75	8.0	506	25.9	200
23...	1430	Replicate	--	160	0.139	0.100	6.0	75	8.0	502	25.9	200
JUL												
09...	1430	Environmental	180,000	68	0.131	0.094	10.5	140	8.0	530	30.0	230
09...	1438	Blank	--	--	--	--	--	--	--	--	--	
21...	1450	Environmental	241,000	87	0.141	0.103	7.3	97	7.8	516	28.4	220
21...	1458	Blank	--	--	--	--	--	--	--	--	--	--
AUG												
06...	1400	Environmental	125,000	31	0.138	0.100	8.5	113	8.1	581	28.8	230
SEP												
10...	1425	Environmental	93,100	79	0.146	0.107	6.1	74	7.9	424	25.2	170

07022000 MISSISSIPPI RIVER AT THEBES, IL—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end field, mg/L as $CaCO_3$ (39036)	Alkalinity, wat flt inc tit field, mg/L as $CaCO_3$ (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)
OCT													
23...	46.2	18.0	3.68	25.7	142	143	174	<1	19.1	0.20	9.84	59.2	285
DEC													
09...	56.3	21.6	3.96	40.8	177	176	215	<1	28.4	0.30	7.94	92.9	400
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	59.4	22.6	3.50	34.3	179	180	208	6	31.5	0.29	7.51	66.8	366
FEB													
18...	58.2	24.3	3.92	40.5	187	188	211	9	42.8	0.28	5.87	76.5	395
MAR													
05...	53.1	21.1	4.18	35.7	174	174	170	21	37.9	0.26	6.44	66.5	360
APR													
01...	50.3	19.0	4.92	28.6	154	154	188	<1	30.6	0.25	4.52	52.7	311
10...	48.4	18.9	4.50	34.0	156	156	174	8	38.3	0.27	4.07	59.0	320
28...	46.2	19.2	4.39	29.8	149	151	184	<1	32.2	0.24	3.40	59.5	311
MAY													
07...	37.3	14.0	4.34	19.4	114	115	140	<1	22.4	0.20	5.68	41.7	239
07...	37.3	14.0	4.41	19.4	--	--	--	--	22.5	0.20	5.66	42.1	237
13...	42.2	13.5	4.70	19.1	121	121	148	<1	24.0	0.24	5.69	46.0	261
JUN													
23...	50.4	19.0	3.91	20.6	144	146	178	<1	23.6	0.30	5.02	51.9	288
23...	50.1	19.2	3.84	20.2	--	--	--	--	24.1	0.30	4.90	51.9	281
JUL													
09...	55.0	21.3	4.29	25.8	152	153	186	<1	22.7	0.30	7.14	61.3	317
09...	0.02	0.021	--	0.11	--	--	--	--	--	--	<0.02	--	--
21...	55.2	20.1	4.05	22.0	154	154	188	<1	24.0	0.30	11.9	55.2	305
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
06...	57.4	20.8	5.36	29.2	174	173	211	<1	27.0	0.40	6.52	75.1	363
SEP													
10...	40.0	16.2	5.02	24.3	120	121	148	<1	20.1	0.30	6.65	53.2	262

07022000 MISSISSIPPI RIVER AT THEBES, IL—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Partic-ulate nitro-gen, susp, water, mg/L (49570)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inor-ganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)
OCT													
23...	E.38	E.64	<0.04	E1.50	E.008	E.112	E.35	E.136	E.22	E2.8	<0.1	E2.8	E6.1
DEC													
09...	0.39	0.94	0.07	1.34	E.005	0.058	0.45	0.073	0.181	2.7	<0.1	2.7	4.5
09...	--	--	--	--	--	--	<0.02	--	--	<0.1	<0.1	<0.1	0.5
JAN													
13...	0.42	0.94	0.09	1.72	0.011	0.053	0.33	0.068	0.165	2.4	<0.1	2.4	4.2
FEB													
18...	0.39	1.1	0.04	1.50	0.016	<0.007	0.59	0.017	0.178	3.2	<0.1	3.2	4.0
MAR													
05...	0.33	1.0	<0.04	1.49	0.017	E.005	0.46	0.017	0.184	2.8	<0.1	2.8	4.4
APR													
01...	0.44	1.1	E.04	1.71	0.021	0.072	0.49	0.093	0.22	2.9	<0.1	2.9	4.7
10...	0.47	1.0	0.05	1.34	0.018	0.058	0.50	0.085	0.22	3.1	<0.1	3.0	4.6
28...	0.48	1.1	0.10	1.23	0.033	0.074	0.51	0.088	0.28	3.6	0.2	3.4	4.9
MAY													
07...	0.50	1.8	E.04	1.43	0.072	0.075	0.64	0.088	--	4.2	<0.1	4.2	5.5
07...	0.49	1.8	E.03	1.43	0.072	0.073	0.70	0.087	--	5.3	0.2	5.1	5.5
13...	0.47	2.1	<0.04	2.26	0.054	0.087	0.63	0.102	0.73	5.9	0.1	5.8	5.1
JUN													
23...	0.42	1.2	<0.04	2.98	0.032	0.097	0.52	0.117	0.34	4.4	<0.1	4.4	4.9
23...	0.40	1.3	<0.04	3.00	0.027	0.100	0.80	0.115	0.34	6.4	<0.1	6.4	4.7
JUL													
09...	0.38	0.82	<0.04	2.96	0.016	0.126	0.37	0.134	0.28	2.9	<0.1	2.8	4.9
09...	--	--	<0.015	<0.022	<0.002	<0.007	--	--	--	--	--	--	--
21...	0.42	0.94	<0.04	3.80	E.006	0.171	0.46	0.187	0.36	4.0	<0.1	4.0	4.6
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
06...	0.41	0.96	<0.04	2.29	0.014	0.134	0.52	0.154	0.27	3.6	<0.1	3.6	4.6
SEP													
10...	0.38	0.86	<0.04	0.98	0.048	0.112	0.54	0.137	0.30	4.3	<0.1	4.3	4.7

07022000 MISSISSIPPI RIVER AT THEBES, IL—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pheophytin a, phytoplankton, µg/L (62360)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/100 mL (31625)	Fecal streptococci KF MF, col/100 mL (31673)	Chlorophyll a phytoplankton, fluoro, µg/L (70953)	Aluminum, water, fltrd, µg/L (01106)	Antimony, water, fltrd, µg/L (01095)	Arsenic water, fltrd, µg/L (01000)	Barium, water, fltrd, µg/L (01005)	Beryllium, water, fltrd, µg/L (01010)	Boron, water, fltrd, µg/L (01020)	Cadmium water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)
OCT													
23...	14.3	240	345k	4k	21.0	--	--	1.9	--	--	58	--	--
DEC													
09...	21.0	120	315k	41	67.7	--	--	1.7	--	--	90	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	18.1	85k	210	84	38.9	3	E.27	1.4	66	<0.06	66	E.03	<0.8
FEB													
18...	23.7	44	230	148	83.3	--	--	1.3	--	--	85	--	--
MAR													
05...	13.0	110	224	1,040	81.2	2	E.19	1.2	63	<0.06	76	E.02	<0.8
APR													
01...	E27.1	78	120	360	E35.2	--	--	1.5	--	--	58	--	--
10...	27.5	330	250	38k	38.8	--	--	1.6	--	--	64	--	--
28...	E35.1	230	110	120	E31.6	2	E.25	1.6	66	<0.06	54	E.03	<0.8
MAY													
07...	E40.8	280	470	1,400	E23.8	--	--	1.3	--	--	42	--	--
07...	E53.3	--	--	--	E37.4	--	--	1.3	--	--	43	--	--
13...	16.6	600	640	1,100	9.4	2	E.25	1.5	75	<0.06	51	E.03	<0.8
JUN													
23...	19.7	46	132	58	13.0	--	--	2.0	--	--	57	--	--
23...	--	--	--	--	--	--	--	2.0	--	--	55	--	--
JUL													
09...	11.0	2k	45	70	16.6	--	--	2.5	--	--	54	--	--
09...	--	--	--	--	--	<2	<0.30	<0.3	Mn	<0.06	<7	<0.04	<0.8
21...	--	110	440	660	--	4	0.30	2.8	73	<0.06	58	E.02	<0.8
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
06...	32.8	21	29	11k	62.0	--	--	3.5	--	--	86	--	--
SEP													
10...	10.3	90	76	32k	16.9	--	--	2.3	--	--	106	--	--

Date	Cobalt water, fltrd, µg/L (01035)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lithium water, fltrd, µg/L (01130)	Manganese, water, fltrd, µg/L (01056)	Molybdenum, water, fltrd, µg/L (01060)	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Strontium, water, fltrd, µg/L (01080)	Vanadium, water, fltrd, µg/L (01085)	Zinc, water, fltrd, µg/L (01090)
OCT													
23...	--	--	E6	--	12.3	--	--	--	0.8	--	186	2.4	--
DEC													
09...	--	--	E7	--	21.6	--	--	--	1.5	--	297	1.8	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	0.31	1.8	15	E.05	15.5	12.1	2.5	3.63	1.2	<0.20	266	1.3	2
FEB													
18...	--	--	E10	--	16.5	--	--	--	1.2	--	268	2.5	--
MAR													
05...	0.39	1.5	11	<0.08	13.0	5.0	2.1	4.32	1.0	<0.20	233	1.6	1
APR													
01...	--	--	13	--	9.4	--	--	--	0.9	--	188	2.5	--
10...	--	--	E6	--	11.0	--	--	--	0.8	--	198	2.3	--
28...	0.29	1.6	E6	0.10	11.2	2.1	2.1	2.99	0.9	<0.20	186	2.8	1
MAY													
07...	--	--	E7	--	7.2	--	--	--	0.6	--	124	2.2	--
07...	--	--	E5	--	7.2	--	--	--	0.6	--	126	2.2	--
13...	0.19	1.8	<10	<0.08	8.3	0.9	1.9	3.35	1.0	<0.20	167	2.9	M
JUN													
23...	--	--	<8	--	10.5	--	--	--	1.0	--	192	3.4	--
23...	--	--	<8	--	10.1	--	--	--	1.1	--	193	3.3	--
JUL													
09...	--	--	<8	--	14.7	--	--	--	1.3	--	230	4.5	--
09...	<0.01	<0.2	<8	<0.08	<0.5	<0.2	<0.3	<0.06	<0.5	<0.20	<0.20	<0.1	<1
21...	0.20	2.1	E8	0.13	10.3	0.5	3.0	3.31	1.3	<0.20	202	4.5	1
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
06...	--	--	<8	--	17.5	--	--	--	1.5	--	255	5.9	--
SEP													
10...	--	--	<8	--	11.0	--	--	--	0.8	--	200	3.6	--

07022000 MISSISSIPPI RIVER AT THEBES, IL—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	2,6-Diethylaniline water fltrd 0.7µ GF µg/L (82660)	CIAT, water, fltrd, µg/L (04040)	Acetochlor, water, fltrd, µg/L (49260)	Alachlor, water, fltrd, µg/L (46342)	alpha-HCH, water, fltrd, µg/L (34253)	Atrazine, water, fltrd, µg/L (39632)	Azinphosmethyl, water, fltrd 0.7µ GF µg/L (82686)	Benfluralin, water, fltrd 0.7µ GF µg/L (82673)	Butylate, water, fltrd, µg/L (04028)	Carbaryl, water, fltrd 0.7µ GF µg/L (82680)	Carbofuran, water, fltrd 0.7µ GF µg/L (82674)	Chlorpyrifos water, fltrd, µg/L (38933)	cis-Permethrin water fltrd 0.7µ GF µg/L (82687)
OCT													
23...	<0.006	E.036	0.010	<0.004	<0.005	0.095	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
DEC													
09...	<0.006	E.027	0.218	0.017	<0.005	0.093	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	<0.006	E.027	0.060	<0.004	<0.005	0.086	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
FEB													
18...	<0.006	E.030	0.017	<0.004	<0.005	0.102	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
MAR													
05...	<0.006	E.019	0.017	<0.004	<0.005	0.143	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
APR													
01...	<0.006	E.031	0.013	<0.004	<0.005	0.156	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
10...	<0.006	E.015	0.015	<0.004	<0.005	0.090	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
28...	<0.006	E.038	0.126	0.019	<0.005	1.36	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
MAY													
07...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
07...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
13...	<0.006	E.068	1.10	0.048	<0.005	3.17	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
JUN													
23...	<0.006	E.148	0.226	0.030	<0.005	0.902	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
09...	<0.006	E.112	0.115	<0.010	<0.005	1.05	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	<0.006	E.121	0.078	0.007	<0.005	0.703	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
21...	<0.006	<0.006	<0.006	<0.004	<0.005	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
AUG													
06...	<0.006	E.083	0.031	<0.004	<0.005	0.360	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006
SEP													
10...	<0.006	E.042	0.020	E.004n	<0.005	0.188	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006

07022000 MISSISSIPPI RIVER AT THEBES, IL—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Cyanazine, water, fltrd, µg/L (04041)	DCPA, water fltrd 0.7µ GF µg/L (82682)	Diazinon, water, fltrd, µg/L (39572)	Dieldrin, water, fltrd, µg/L (39381)	Disulfoton, water, fltrd 0.7µ GF µg/L (82677)	EPTC, water, fltrd 0.7µ GF µg/L (82668)	Ethalfluralin, water, fltrd 0.7µ GF µg/L (82663)	Ethoprop, water, fltrd 0.7µ GF µg/L (82672)	Fonofos water, fltrd, µg/L (04095)	Lindane water, fltrd, µg/L (39341)	Linuron water fltrd 0.7µ GF µg/L (82666)	Malathion, water, fltrd, µg/L (39532)	Methyl parathion, water, fltrd 0.7µ GF µg/L (82667)
OCT													
23...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
DEC													
09...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
FEB													
18...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
MAR													
05...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
APR													
01...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
10...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
28...	<0.018	<0.003	0.008	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.030
MAY													
07...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
07...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
13...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.090
JUN													
23...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
09...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.100
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
21...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
AUG													
06...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006
SEP													
10...	<0.018	<0.003	<0.005	<0.005	<0.02	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006

07022000 MISSISSIPPI RIVER AT THEBES, IL—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Metolachlor, water, fltrd, µg/L (39415)	Metribuzin, water, fltrd, µg/L (82630)	Molinate, water, fltrd 0.7µ GF µg/L (82671)	Napropamide, water, fltrd 0.7µ GF µg/L (82684)	p,p-' DDE, water, fltrd, µg/L (34653)	Parathion, water, fltrd, µg/L (39542)	Pebulate, water, fltrd 0.7µ GF µg/L (82669)	Pendimethalin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water fltrd 0.7µ GF µg/L (82664)	Prometon, water, fltrd, µg/L (04037)	Pronamide, water, fltrd 0.7µ GF µg/L (82676)	Propachlor, water, fltrd, µg/L (04024)	Propanil, water, fltrd 0.7µ GF µg/L (82679)
OCT													
23...	0.023	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011
DEC													
09...	0.028	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	E.01n	<0.004	<0.010	<0.011
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	0.025	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	E.01n	<0.004	<0.010	<0.011
FEB													
18...	0.024	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011
MAR													
05...	0.029	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011
APR													
01...	0.036	E.003n	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	E.01n	<0.004	<0.010	<0.011
10...	0.025	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	Mn	<0.004	<0.010	<0.011
28...	0.182	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	E.01n	<0.004	<0.010	<0.011
MAY													
07...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
07...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
13...	0.890	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011
JUN													
23...	0.466	0.012	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	E.01n	<0.004	<0.010	<0.011
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
09...	0.206	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	E.01n	<0.004	<0.010	<0.011
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	0.188	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	0.02	<0.004	<0.010	<0.011
21...	<0.013	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011
AUG													
06...	0.115	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	E.01n	<0.004	<0.010	<0.011
SEP													
10...	0.067	<0.006	<0.002	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	0.02	<0.004	<0.010	<0.011

07022000 MISSISSIPPI RIVER AT THEBES, IL—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Propar-gite, water, fltrd 0.7µ GF µg/L (82685)	Sima-zine, water, fltrd, µg/L (04035)	Tebu-thiuron water fltrd 0.7µ GF µg/L (82670)	Terba-cil, water, fltrd 0.7µ GF µg/L (82665)	Terbu-fos, water, fltrd 0.7µ GF µg/L (82675)	Thio-bencarb water fltrd 0.7µ GF µg/L (82681)	Tri-allate, water, fltrd 0.7µ GF µg/L (82678)	Tri-flur-alin, water, fltrd 0.7µ GF µg/L (82661)	Uranium natural water, fltrd, µg/L (22703)	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)
OCT											
23...	<0.02	<0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	81	86
DEC											
09...	<0.02	0.007	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	85	34
09...	--	--	--	--	--	--	--	--	--	--	--
JAN											
13...	<0.02	0.031	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	2.06	89	29
FEB											
18...	<0.02	0.020	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	89	46
MAR											
05...	<0.02	0.072	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	1.89	83	37
APR											
01...	<0.02	0.032	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	67	96
10...	<0.02	0.027	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	76	75
28...	<0.02	0.220	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	1.83	60	177
MAY											
07...	--r	--r	--r	--r	--r	--r	--r	--r	--	69	565
07...	--r	--r	--r	--r	--r	--r	--r	--r	--	60	605
13...	<0.02	0.142	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	1.84	85	773
JUN											
23...	<0.02	0.065	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	73	334
23...	--	--	--	--	--	--	--	--	--	86	268
JUL											
09...	<0.02	0.021	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	62	192
09...	--	--	--	--	--	--	--	--	<0.02	--	--
21...	<0.02	0.021	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	2.33	87	191
21...	<0.02	<0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	--	--
AUG											
06...	<0.02	<0.005	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	94	158
SEP											
10...	<0.02	0.013	<0.02	<0.034	<0.02	<0.005	<0.002	<0.009	--	77	159

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
r -- Sample ruined in preparation

07022000 MISSISSIPPI RIVER AT THEBES, IL—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Day	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)
	OCTOBER			NOVEMBER			DECEMBER		
1	98,300	92	23,400	142,000	99	37,800	94,700	72	18,500
2	100,000	95	25,800	140,000	90	34,100	94,900	73	18,800
3	102,000	104	28,600	134,000	88	31,700	94,900	74	19,000
4	106,000	103	29,600	128,000	81	28,200	95,300	82	21,100
5	110,000	110	32,700	127,000	77	26,500	92,900	81	20,400
6	117,000	115	36,200	126,000	83	28,200	91,600	82	20,300
7	125,000	108	36,500	127,000	82	28,000	84,200	101	22,800
8	128,000	98	33,700	127,000	71	24,400	76,800	110	22,800
9	132,000	96	34,300	125,000	68	22,900	75,300	105	21,300
10	134,000	93	33,600	126,000	74	25,300	75,800	93	19,000
11	133,000	95	34,100	122,000	87	28,900	76,200	88	18,100
12	132,000	98	34,900	115,000	84	25,900	77,700	92	19,400
13	138,000	103	38,100	112,000	79	24,000	78,900	92	19,600
14	146,000	110	43,400	111,000	74	22,300	79,700	92	19,700
15	154,000	102	42,500	112,000	76	23,000	81,500	93	20,400
16	152,000	96	39,200	112,000	81	24,500	85,700	89	20,600
17	152,000	108	44,400	112,000	74	22,300	89,600	87	21,100
18	159,000	107	46,100	110,000	70	21,000	91,300	108	26,800
19	159,000	115	49,500	109,000	70	20,600	105,000	279	79,400
20	164,000	115	50,800	108,000	71	20,800	117,000	160	50,300
21	167,000	125	56,200	108,000	67	19,700	122,000	136	44,600
22	164,000	122	54,100	104,000	69	19,200	120,000	161	52,300
23	161,000	120	52,100	102,000	68	18,700	116,000	123	38,400
24	157,000	110	46,500	101,000	68	18,500	112,000	107	32,700
25	154,000	107	44,300	101,000	78	21,100	109,000	94	27,600
26	152,000	97	39,900	102,000	72	19,700	106,000	82	23,500
27	153,000	107	44,000	100,000	70	18,800	102,000	79	21,800
28	143,000	105	40,500	98,600	69	18,400	93,600	75	19,000
29	133,000	102	36,400	99,300	68	18,300	86,700	87	20,300
30	136,000	134	49,200	97,100	72	18,900	84,800	76	17,400
31	142,000	134	51,400	---	---	---	95,300	383	99,700
	JANUARY			FEBRUARY			MARCH		
1	107,000	389	113,000	64,100	82	14,200	104,000	121	34,000
2	109,000	213	62,500	64,700	95	16,600	103,000	111	30,900
3	113,000	122	37,400	66,000	89	15,900	103,000	99	27,600
4	113,000	101	30,600	67,800	81	14,900	104,000	92	25,900
5	108,000	115	33,500	69,200	74	13,900	104,000	95	26,600
6	103,000	110	30,600	69,800	70	13,200	101,000	102	27,700
7	99,600	103	27,800	68,400	61	11,300	97,600	110	28,900
8	97,900	114	30,100	67,800	60	11,000	96,900	106	27,800
9	95,000	98	25,100	70,400	63	12,000	96,200	109	28,200
10	92,600	93	23,300	71,000	71	13,600	95,800	114	29,500
11	89,400	95	22,900	72,400	69	13,500	92,900	107	26,800
12	86,300	75	17,600	72,100	65	12,600	87,300	103	24,200
13	82,000	59	13,000	70,600	75	14,200	83,600	115	25,900
14	77,300	56	11,800	69,900	87	16,500	83,800	107	24,300
15	72,100	59	11,500	71,800	103	19,900	90,400	112	27,300
16	66,100	54	9,680	74,600	108	21,700	102,000	139	38,200
17	62,500	62	10,500	86,100	115	26,600	114,000	154	47,400
18	63,500	76	13,000	94,700	118	30,200	115,000	172	53,400
19	69,000	87	16,100	99,000	134	36,000	115,000	167	52,000
20	71,200	68	13,000	110,000	264	78,700	119,000	171	54,800
21	69,200	61	11,300	113,000	278	84,900	132,000	167	59,400
22	66,400	57	10,200	117,000	234	74,100	165,000	192	85,600
23	65,000	54	9,490	127,000	231	79,200	179,000	240	116,000
24	63,400	53	9,150	126,000	216	73,400	169,000	233	107,000
25	63,500	57	9,750	119,000	192	61,900	158,000	185	79,100
26	64,600	68	11,900	114,000	171	52,900	154,000	175	72,500
27	66,400	83	14,900	110,000	152	45,300	152,000	161	65,700
28	66,500	83	15,000	108,000	128	37,300	144,000	143	55,400
29	65,400	74	13,100	---	---	---	139,000	172	64,900
30	65,100	68	12,000	---	---	---	146,000	144	56,600
31	64,400	66	11,400	---	---	---	148,000	124	49,500

07022000 MISSISSIPPI RIVER AT THEBES, IL—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY),—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Day	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)	Mean discharge (cfs)	Mean concen-tration (mg/l)	Load (tons/day)
		APRIL			MAY			JUNE	
1	143,000	126	48,700	243,000	198	130,000	288,000	242	189,000
2	137,000	118	43,600	e248,000	222	149,000	271,000	243	178,000
3	133,000	114	40,900	e247,000	224	149,000	257,000	226	157,000
4	128,000	110	38,100	e268,000	230	166,000	244,000	230	152,000
5	124,000	124	41,400	e284,000	274	210,000	229,000	204	126,000
6	122,000	119	39,200	e312,000	410	345,000	217,000	201	117,000
7	127,000	116	39,600	370,000	597	599,000	206,000	177	98,600
8	132,000	130	46,200	400,000	568	613,000	201,000	182	98,800
9	134,000	107	38,700	412,000	471	525,000	198,000	172	92,000
10	135,000	114	41,500	420,000	450	510,000	187,000	168	85,200
11	137,000	124	45,600	434,000	463	542,000	195,000	251	134,000
12	138,000	134	49,900	454,000	591	726,000	243,000	531	350,000
13	136,000	105	38,600	473,000	817	1,040,000	265,000	583	417,000
14	135,000	112	40,700	468,000	944	1,190,000	304,000	508	417,000
15	132,000	117	41,700	441,000	932	1,110,000	321,000	442	384,000
16	126,000	123	41,900	408,000	839	924,000	303,000	300	246,000
17	124,000	110	36,800	378,000	743	759,000	274,000	249	185,000
18	124,000	101	33,800	355,000	615	591,000	254,000	233	160,000
19	127,000	110	37,700	345,000	517	481,000	244,000	224	147,000
20	127,000	108	36,900	336,000	442	402,000	235,000	276	175,000
21	128,000	107	36,900	328,000	377	334,000	225,000	289	176,000
22	129,000	108	37,800	319,000	339	292,000	211,000	266	151,000
23	129,000	98	34,400	317,000	300	257,000	198,000	306	164,000
24	136,000	109	40,300	316,000	298	254,000	185,000	301	150,000
25	158,000	176	76,600	323,000	286	249,000	175,000	254	120,000
26	201,000	337	183,000	342,000	288	266,000	173,000	231	108,000
27	220,000	223	132,000	343,000	289	268,000	197,000	393	209,000
28	237,000	185	119,000	333,000	281	252,000	214,000	355	205,000
29	242,000	180	118,000	322,000	279	243,000	209,000	255	144,000
30	241,000	189	123,000	310,000	260	218,000	193,000	248	129,000
31	---	---	---	300,000	262	212,000	---	---	---
		JULY			AUGUST			SEPTEMBER	
1	179,000	216	105,000	156,000	154	64,600	79,200	168	35,900
2	173,000	178	83,500	148,000	157	62,600	85,400	161	37,100
3	172,000	170	79,200	143,000	152	58,700	124,000	183	61,500
4	175,000	164	77,700	137,000	149	55,000	136,000	196	72,100
5	183,000	213	105,000	129,000	162	56,400	131,000	153	54,200
6	185,000	205	102,000	125,000	153	51,700	139,000	184	69,000
7	183,000	179	88,200	123,000	168	55,700	129,000	221	77,100
8	181,000	166	81,400	122,000	150	49,400	113,000	222	68,000
9	180,000	170	82,400	116,000	159	49,900	101,000	202	55,300
10	183,000	166	82,100	114,000	168	51,800	93,500	174	43,900
11	202,000	181	98,900	109,000	161	47,700	87,300	151	35,700
12	228,000	222	137,000	104,000	148	41,600	81,500	144	31,800
13	239,000	259	167,000	100,000	152	41,200	77,800	132	27,800
14	240,000	296	192,000	97,300	140	36,800	77,600	124	26,100
15	238,000	310	199,000	94,300	139	35,500	78,000	122	25,600
16	238,000	270	173,000	92,900	137	34,400	83,800	119	26,900
17	232,000	234	147,000	91,300	135	33,200	98,700	124	33,000
18	228,000	203	125,000	88,800	132	31,600	109,000	135	39,900
19	232,000	196	123,000	85,700	134	30,900	107,000	143	41,200
20	242,000	211	138,000	82,500	142	31,700	95,800	134	34,700
21	241,000	219	143,000	80,900	137	29,900	87,600	142	33,700
22	228,000	227	140,000	78,500	133	28,200	87,700	129	30,500
23	211,000	205	116,000	76,000	119	24,300	91,900	124	30,700
24	200,000	191	104,000	75,400	120	24,500	95,900	132	34,100
25	198,000	182	97,200	77,300	122	25,500	98,200	129	34,300
26	192,000	177	92,100	80,100	111	24,000	98,400	109	29,000
27	185,000	177	88,300	79,500	123	26,400	99,000	105	28,200
28	180,000	167	81,400	77,600	123	25,700	95,900	110	28,600
29	173,000	164	76,400	75,500	111	22,700	93,800	130	32,900
30	165,000	159	70,900	86,100	165	38,700	88,600	121	28,900
31	162,000	154	67,600	85,100	180	41,400	---	---	---

e Estimated

07035800 ST. FRANCIS RIVER NEAR MILL CREEK, MO

LOCATION.--Lat 37°30'09", long 90°27'28", in NE ¼ sec.35, 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 September 1997, October 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is 556.27 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	210	73	3,490	144	769	362	2,740	258	467	46	194
2	22	164	71	1,530	148	1,090	333	2,990	234	298	539	1,630
3	19	134	71	971	155	914	304	1,480	249	178	450	827
4	19	115	90	702	156	749	289	1,190	248	131	240	358
5	18	117	100	805	154	631	298	3,860	214	104	148	211
6	18	119	90	845	150	530	297	2,330	183	86	101	151
7	20	135	86	631	152	461	668	7,080	162	72	72	112
8	18	121	84	540	146	415	689	2,510	144	61	53	87
9	20	104	83	482	142	371	515	1,420	123	53	41	69
10	31	196	85	412	151	329	426	974	134	46	34	57
11	28	218	90	357	160	301	371	847	3,150	39	28	48
12	25	148	92	319	171	293	329	645	6,750	39	24	42
13	24	118	104	296	181	304	296	477	2,200	32	21	39
14	20	101	118	282	554	327	269	403	1,290	27	20	54
15	19	98	142	264	1,500	308	244	941	831	25	18	56
16	19	97	172	252	1,060	296	226	526	601	23	17	53
17	29	93	193	238	756	284	277	474	481	21	17	43
18	30	86	213	214	622	273	337	496	409	22	17	34
19	30	77	1,400	211	4,900	336	308	483	358	159	17	29
20	26	71	1,620	209	5,400	711	294	1,880	316	332	14	24
21	23	66	811	206	2,890	875	281	1,600	276	142	12	21
22	22	60	526	196	4,010	702	259	797	242	70	11	21
23	21	58	412	173	3,180	526	236	540	211	44	10	19
24	21	53	446	163	1,750	438	273	428	185	29	14	18
25	24	48	444	164	1,170	408	5,480	698	162	23	14	17
26	25	46	372	162	924	592	4,140	1,080	179	18	13	16
27	29	43	338	155	785	591	1,680	598	286	15	14	17
28	34	40	319	153	694	516	988	445	215	13	73	16
29	318	56	339	158	---	512	735	369	158	12	332	15
30	562	76	2,380	148	---	453	4,370	331	137	11	242	15
31	296	---	5,560	142	---	401	---	290	---	28	323	---
MEAN	59.2	102	546	480	1,150	507	852	1,320	680	84.5	96.0	143
MAX	562	218	5,560	3,490	5,400	1,090	5,480	7,080	6,750	467	539	1,630
MIN	18	40	71	142	142	273	226	290	123	11	10	15
IN.	0.14	0.23	1.25	1.10	2.37	1.16	1.88	3.01	1.50	0.19	0.22	0.32

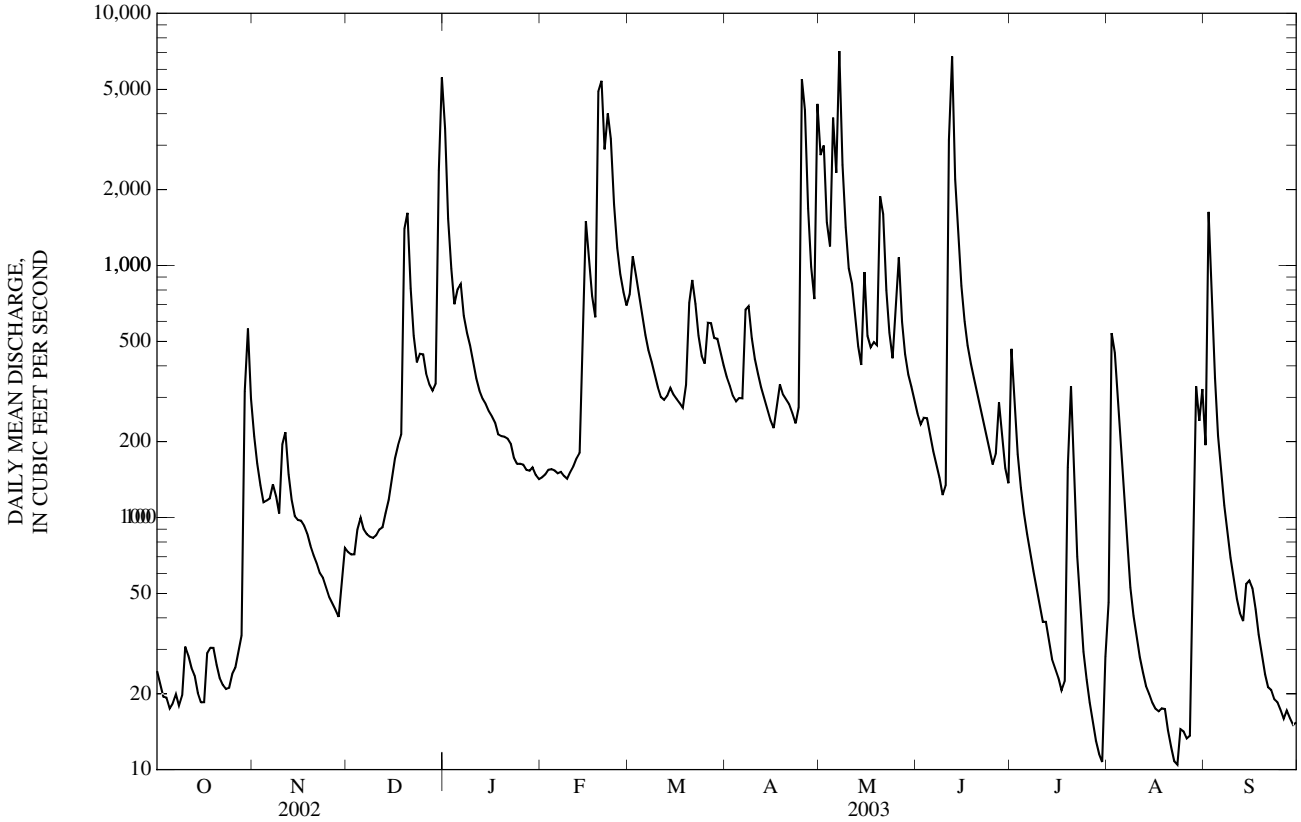
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	88.2	723	806	769	867	862	1,082	1,147	308	94.7	73.0	119
MAX	438	3,774	2,428	2,187	1,745	1,936	2,890	4,927	899	200	201	1,153
(WY)	(1994)	(1994)	(1991)	(1993)	(1989)	(2002)	(1994)	(2002)	(1997)	(2001)	(2002)	(1993)
MIN	12.9	23.9	32.7	141	153	304	159	64.5	16.4	28.2	4.18	11.5
(WY)	(2001)	(2000)	(1990)	(2000)	(1996)	(2001)	(2000)	(1987)	(1988)	(2002)	(1988)	(1987)

07035800 ST. FRANCIS RIVER NEAR MILL CREEK, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	901		497		590	
HIGHEST ANNUAL MEAN					949	2002
LOWEST ANNUAL MEAN					194	2000
HIGHEST DAILY MEAN	39,600	May 13	7,080	May 7	72,000	Nov 14, 1993
LOWEST DAILY MEAN	11	Jul 30,31,Aug 8	10	Aug 23	1.8	Aug 18, 1988
ANNUAL SEVEN-DAY MINIMUM	15	Jul 26	13	Aug 20	2.2	Aug 16, 1988
MAXIMUM PEAK FLOW	---		10,000	May 7	130,000[a]	Nov 14, 1993
MAXIMUM PEAK STAGE	---		10.96	May 7	33.10	Nov 14, 1993
INSTANTANEOUS LOW FLOW	---		9.7	Aug 23	1.7	Aug 18, 1988
ANNUAL RUNOFF (INCHES)	24.23		13.36		15.86	
10 PERCENT EXCEEDS	1,680		1,070		1,140	
50 PERCENT EXCEEDS	150		194		183	
90 PERCENT EXCEEDS	21		20		16	

[a] Discharge determined by indirect measurement of peak flow.



07036100 ST. FRANCIS RIVER NEAR SACO, MO
(Ambient Water-Quality Monitoring Network)

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, 3.5 mi northwest of Saco, and 1.3 mi downstream from Twelve Mile Creek.

DRAINAGE AREA.--664 mi^2.

PERIOD OF RECORD--November 1983 to September 1989, November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
19...	0855	Environmental	296	10.5	91	8.1	269	8.7	130	26.3	14.6	2.54
JAN												
07...	0920	Environmental	967	14.6	111	7.5	174	3.7	--	--	--	--
MAR												
10...	1730	Environmental	626	12.7	107	8.2	175	7.5	--	--	--	--
MAY												
20...	0920	Environmental	831	7.8	85	7.4	169	19.4	81	17.0	9.46	1.50
JUL												
08...	0915	Environmental	227	5.5	74	7.2	263	28.6	--	--	--	--
SEP												
04...	1620	Environmental	590	7.3	89	7.2	186	24.6	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
19...	7.01	121	120	147	<1	8.72	<0.2	16.6	150	<10	0.18	<0.04	<0.06
JAN													
07...	--	58	57	70	<1	--	--	--	--	<10	0.14	<0.04	0.54
MAR													
10...	--	67	68	81	<1	--	--	--	--	<10	0.13	<0.04	0.11
MAY													
20...	4.01	68	67	81	<1	4.16	<0.2	11.0	110	<10	0.19	<0.04	0.14
JUL													
08...	--	97	97	118	<1	--	--	--	--	<10	0.33	<0.04	0.15
SEP													
04...	--	70	69	84	<1	--	--	--	--	<10	0.52	0.04	0.34

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
19...	<0.008	E.01	E.02	E.03	1k	9k	5k	2	22	0.5	E.02	<0.2	<6
JAN													
07...	<0.008	E.01	E.03	E.03	<1b	110	81	--	--	--	--	--	--
MAR													
10...	0.014	<0.02	E.02	E.03	<1b	4k	2k	--	--	--	--	--	--
MAY													
20...	0.024	<0.02	E.02	0.05	100	175	225	2	83	0.4	<0.04	<0.2	<6
JUL													
08...	<0.008	E.01	E.03	0.05	7k	13k	2k	--	--	--	--	--	--
SEP													
04...	0.009	<0.18d	0.08	0.11	290	420	86	--	--	--	--	--	--

07036100 ST. FRANCIS RIVER NEAR SACO, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
19...	23	0.56	1	7.8	<0.02	<0.5	1	E1
JAN								
07...	--	--	--	--	--	--	--	--
MAR								
10...	--	--	--	--	--	--	--	--
MAY								
20...	20	0.62	6	14.8	<0.02	<0.5	1	E2
JUL								
08...	--	--	--	--	--	--	--	--
SEP								
04...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range

07037000 BIG CREEK AT DES ARC, MO

LOCATION.--Lat 37°17'35", long 90°37'45", in SE 1/4 sec.8, T.30 N., R.4 E., Iron County, Hydrologic Unit 08020202, on right bank 50 ft downstream of 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 Sept. 30, 1997, Oct. 1, 1998 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 507.89 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	45	22	793	27	146	112	378	72	31	35	72
2	17	44	21	461	27	151	103	626	69	30	621	1,100
3	17	43	20	315	27	149	94	418	72	29	362	419
4	17	39	24	237	27	135	88	318	63	27	202	208
5	19	39	24	193	27	124	101	303	56	26	135	139
6	20	40	20	169	29	113	125	287	50	24	99	106
7	21	36	18	145	31	106	346	724	48	22	78	86
8	21	32	19	126	28	95	311	528	44	21	64	72
9	20	31	19	112	29	84	237	365	40	20	54	62
10	22	37	18	100	29	75	193	285	54	18	47	56
11	23	59	19	89	30	67	163	289	302	17	41	51
12	23	52	20	78	33	61	141	215	548	17	36	48
13	21	47	27	70	36	69	124	175	370	16	33	50
14	20	45	44	64	116	79	111	150	263	16	31	53
15	19	45	61	59	381	80	102	152	194	14	28	47
16	18	45	73	55	304	77	94	136	152	14	25	40
17	17	41	92	50	232	73	107	148	123	14	23	37
18	18	37	98	45	187	71	104	145	103	14	21	36
19	19	35	458	49	689	230	104	143	90	21	20	34
20	21	32	460	41	769	604	101	149	78	22	19	32
21	21	30	285	38	458	472	92	200	66	19	17	30
22	19	29	212	37	392	341	86	152	57	14	17	29
23	19	28	167	89	408	261	79	120	50	13	16	28
24	18	28	187	148	322	210	98	103	44	13	15	27
25	21	27	192	74	246	184	1,190	130	39	12	14	25
26	23	25	163	31	207	186	923	193	52	11	13	24
27	24	23	141	30	178	175	529	157	49	11	13	26
28	24	23	127	29	156	160	348	125	41	10	63	25
29	55	23	118	28	---	153	255	104	37	9.4	45	24
30	64	22	327	27	---	135	521	90	34	8.7	68	24
31	53	---	979	27	---	124	---	80	---	11	63	---
MEAN	23.6	36.1	144	123	194	161	233	238	109	17.6	74.8	100
MAX	64	59	979	793	769	604	1,190	724	548	31	621	1,100
MIN	17	22	18	27	27	61	79	80	34	8.7	13	24
IN.	0.27	0.40	1.66	1.42	2.03	1.86	2.61	2.76	1.22	0.20	0.87	1.12

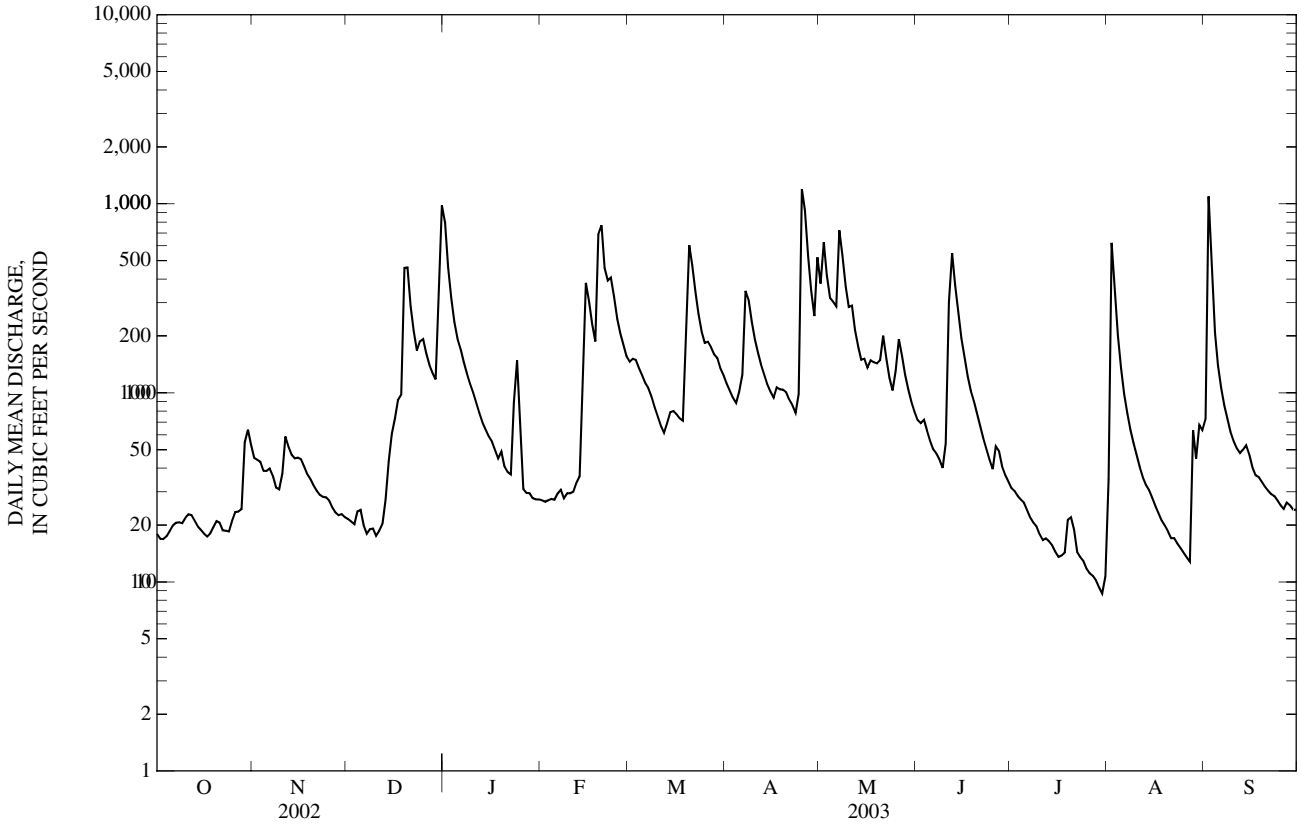
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	60.1	209	194	166	189	214	275	242	107	38.4	29.3	34.3
MAX	396	610	632	465	408	415	579	1,224	587	175	102	128
(WY)	(1985)	(1986)	(1988)	(1993)	(1999)	(2002)	(1994)	(2002)	(1985)	(2001)	(1985)	(1993)
MIN	16.1	22.5	25.5	37.0	38.5	83.0	45.3	28.9	15.0	11.9	7.67	6.50
(WY)	(2001)	(1996)	(1990)	(1984)	(1996)	(2001)	(2000)	(1987)	(1988)	(1991)	(1983)	(1983)

07037000 BIG CREEK AT DES ARC, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	222		121		146	
HIGHEST ANNUAL MEAN					267	1985
LOWEST ANNUAL MEAN					55.6	2000
HIGHEST DAILY MEAN	9,060	May 13	1,190	Apr 25	9,060	May 13, 2002
LOWEST DAILY MEAN	5.8	Aug 10	8.7	Jul 30	2.8	Sep 4, 1999
ANNUAL SEVEN-DAY MINIMUM	8.0	Aug 4	10	Jul 25	3.5	Sep 1, 1999
MAXIMUM PEAK FLOW	---		2,240	Apr 25	25,700[a]	Nov 14, 1993
MAXIMUM PEAK STAGE	---		5.14	Apr 25	16.85	Nov 14, 1993
INSTANTANEOUS LOW FLOW	---		8.0	Jul 29,30	2.5	Sep 4, 1999
ANNUAL RUNOFF (INCHES)	30.29		16.43		19.95	
10 PERCENT EXCEEDS	386		313		297	
50 PERCENT EXCEEDS	46		55		54	
90 PERCENT EXCEEDS	18		19		16	

[a] Discharge determined by indirect measurement of peak flow.



07037300 BIG CREEK AT SAM A. BAKER STATE PARK
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 37°15'40", long 90°30'23", in SE ¼ NE ¼ SW ¼ sec.21, T.30 N., R.5 E., Wayne County, Hydrologic Unit 08020202, at Bridge 435 on County Highway NN in Sam A. Baker State Park.

DRAINAGE AREA.--189 mi^2.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
19...	1105	Environmental	59	9.7	87	8.2	298	10.3	150	31.7	18.1	1.36
JAN												
07...	1125	Environmental	181	12.7	100	7.7	210	5.2	--	--	--	--
MAR												
10...	1500	Environmental	126	13.1	112	7.6	204	8.0	--	--	--	--
10...	1501	Replicate	--	13.0	111	7.6	204	8.0	--	--	--	--
MAY												
20...	1220	Environmental	246	8.3	89	7.6	207	18.5	110	22.0	12.7	1.34
JUL												
07...	1600	Environmental	37	6.4	87	7.9	275	29.3	--	--	--	--
SEP												
04...	1740	Environmental	286	8.1	98	7.9	226	24.0	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
19...	3.95	138	137	168	<1	4.44	<0.2	14.4	166	<10	<0.10	<0.04	0.06
JAN													
07...	--	95	95	115	<1	--	--	--	--	<10	<0.10	<0.04	0.42
MAR													
10...	--	95	95	116	<1	--	--	--	--	<10	E.06	<0.04	0.18
10...	--	--	--	--	--	--	--	--	--	<10	E.07	<0.04	0.19
MAY													
20...	2.89	95	96	117	<1	3.42	<0.2	8.0	130	<10	E.07	<0.04	0.14
JUL													
07...	--	130	129	157	<1	--	--	--	--	<10	E.08	<0.04	0.16
SEP													
04...	--	100	100	122	<1	--	--	--	--	<10	0.10	<0.04	0.30

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
19...	<0.008	<0.02	<0.04	<0.04	<1b	<1b	3k	<2	3	E.2	E.02	<0.2	<6
JAN													
07...	<0.008	<0.02	<0.04	<0.04	<1b	4k	6k	--	--	--	--	--	--
MAR													
10...	<0.008	<0.02	<0.04	<0.04	<1b	<1b	1k	--	--	--	--	--	--
10...	<0.008	<0.02	<0.04	<0.04	<1b	<1b	1k	--	--	--	--	--	--
MAY													
20...	<0.008	<0.09	<0.04	<0.04	20	25	83	E1	15	E.2	E.02	<0.2	<6
JUL													
07...	<0.008	<0.02	<0.04	<0.04	4k	5k	20	--	--	--	--	--	--
SEP													
04...	<0.008	<0.18d	<0.04	<0.04	17k	30k	42	--	--	--	--	--	--

07037300 BIG CREEK AT SAM A. BAKER STATE PARK—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
19...	E8	0.10	<1	E2.2b	<0.02	<0.5	<1	<2
JAN								
07...	--	--	--	--	--	--	--	--
MAR								
10...	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--
MAY								
20...	<10	E.04	<1	4.7	<0.02	<0.5	M	<2
JUL								
07...	--	--	--	--	--	--	--	--
SEP								
04...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range

07037500 ST. FRANCIS RIVER NEAR PATTERSON, MO

LOCATION.--Lat 37°11'40", long 90°30'12", in NE 1/4 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 Sept. 30, 1997, Oct. 1, 1998 to current year. Prior to June 1921, monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 732: 1922-23.

GAGE.--Water-stage recorder. Datum of gage is 370.45 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1938, nonrecording gage at site 50 ft upstream at datum 2.00 ft higher; Oct. 1, 1938, to Apr. 12, 1939, nonrecording gage; 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. U.S. Army Corps of Engineer satellite telemeter 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	589	108	9,180	176	1,480	920	4,360	544	255	87	327
2	85	432	129	4,370	170	1,570	836	5,540	500	353	1,110	2,730
3	81	359	132	2,800	173	1,820	764	4,070	493	396	1,060	2,820
4	82	306	146	2,060	177	1,590	701	2,650	463	289	751	1,310
5	78	284	158	1,670	175	1,410	679	4,230	442	230	517	782
6	79	272	165	1,680	182	1,250	785	4,780	405	193	359	555
7	83	257	169	1,570	184	1,090	1,180	6,770	367	169	269	430
8	79	243	163	1,310	174	960	1,740	6,710	332	148	211	349
9	79	245	160	1,160	171	845	1,550	3,480	304	133	169	289
10	84	254	162	1,020	174	744	1,290	2,520	317	122	138	244
11	87	245	168	879	175	658	1,110	2,340	2,200	110	114	210
12	89	381	174	742	188	593	982	1,920	7,970	104	96	185
13	91	342	209	637	226	571	865	1,490	5,760	98	83	177
14	91	281	286	553	579	578	768	1,220	2,860	88	76	185
15	87	257	355	491	2,230	594	684	1,270	1,920	82	67	167
16	82	235	399	456	2,760	562	614	1,800	1,390	78	60	153
17	78	218	465	423	2,130	538	605	1,510	1,070	71	54	144
18	76	205	550	385	1,710	510	649	1,500	845	68	48	137
19	81	198	980	339	2,790	596	714	1,420	733	140	47	127
20	85	183	3,070	331	10,000	1,320	711	1,260	615	119	66	116
21	93	172	2,650	323	5,460	1,830	664	2,810	521	166	67	110
22	93	160	1,830	303	4,360	1,800	624	1,980	455	235	52	111
23	90	152	1,450	282	5,680	1,510	577	1,340	404	171	42	102
24	85	145	1,330	224	3,850	1,260	588	1,030	356	128	36	96
25	100	138	1,390	218	2,740	1,130	4,530	964	315	103	32	90
26	108	131	1,290	210	2,130	1,140	10,500	1,540	405	88	28	86
27	105	123	1,140	200	1,820	1,320	4,650	1,500	335	77	26	92
28	110	118	1,040	190	1,600	1,270	2,830	1,080	326	68	170	90
29	215	114	976	192	---	1,180	2,010	856	337	61	109	87
30	297	110	1,080	187	---	1,110	3,260	713	295	60	164	85
31	881	---	5,920	183	---	1,020	---	623	---	84	312	---
MEAN	124	238	911	1,115	1,864	1,092	1,613	2,428	1,109	145	207	413
MAX	881	589	5,920	9,180	10,000	1,830	10,500	6,770	7,970	396	1,110	2,820
MIN	76	110	108	183	170	510	577	623	295	60	26	85
IN.	0.15	0.28	1.10	1.35	2.03	1.32	1.88	2.93	1.29	0.17	0.25	0.48

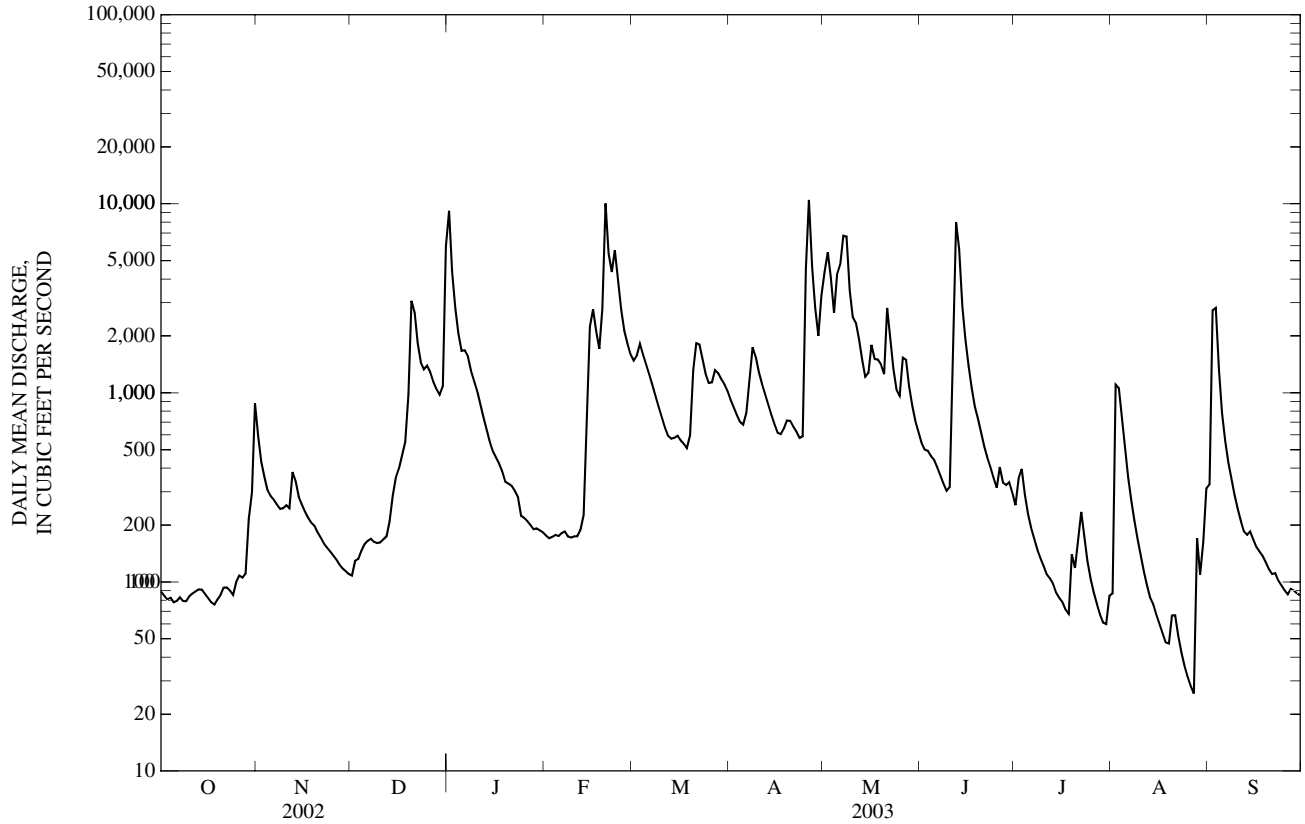
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	351	1,011	1,317	1,451	1,591	2,116	2,361	1,830	908	323	213	243
MAX	3,391	6,214	12,380	6,725	4,577	6,981	9,221	10,490	8,724	2,513	1,478	2,103
(WY)	(1985)	(1994)	(1983)	(1950)	(1951)	(1945)	(1927)	(2002)	(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)

07037500 ST. FRANCIS RIVER NEAR PATTERSON, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	1,914		932		1,140	
HIGHEST ANNUAL MEAN					2,731	1985
LOWEST ANNUAL MEAN					343	1941
HIGHEST DAILY MEAN	56,200	May 13	10,500	Apr 26	107,000	Dec 4, 1982
LOWEST DAILY MEAN	34	Aug 11	26	Aug 27	8.0	Aug 28, 1936
ANNUAL SEVEN-DAY MINIMUM	53	Aug 6	40	Aug 21	8.4	Aug 26, 1936
MAXIMUM PEAK FLOW	---		13,300	Apr 26	155,000[a]	Dec 3, 1982
MAXIMUM PEAK STAGE	---		15.14	Apr 26	35.77	Dec 3, 1982
INSTANTANEOUS LOW FLOW	---		24	Aug 27,28	8.0	Aug 28, 1936
ANNUAL RUNOFF (INCHES)	27.18		13.23		16.20	
10 PERCENT EXCEEDS	3,900		2,270		2,330	
50 PERCENT EXCEEDS	360		349		340	
90 PERCENT EXCEEDS	86		85		54	

[a] Discharge determined by indirect measurement of peak flow.



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.--Datum of gage is National Geodetic Vertical Datum of 1929. Prior to June 19, 1941, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by earthfill type dam. Closure of channel at dam began July 10, 1940; river began to flow through outlet structure July 24, 1940. Stop logs placed in outlet structure and storage began Apr. 1, 1941; conservation pool level reached Apr. 20, 1941. Capacity at bottom of outlet tunnels (elevation,339.0 ft), 2,600 ac-ft; at conservation pool level (elevation, 355.0 ft), 30,900 ac-ft; at spillway crest (elevation, 395.0 ft), 613,000 ac-ft; at maximum pool level (elevation, 410.4 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.

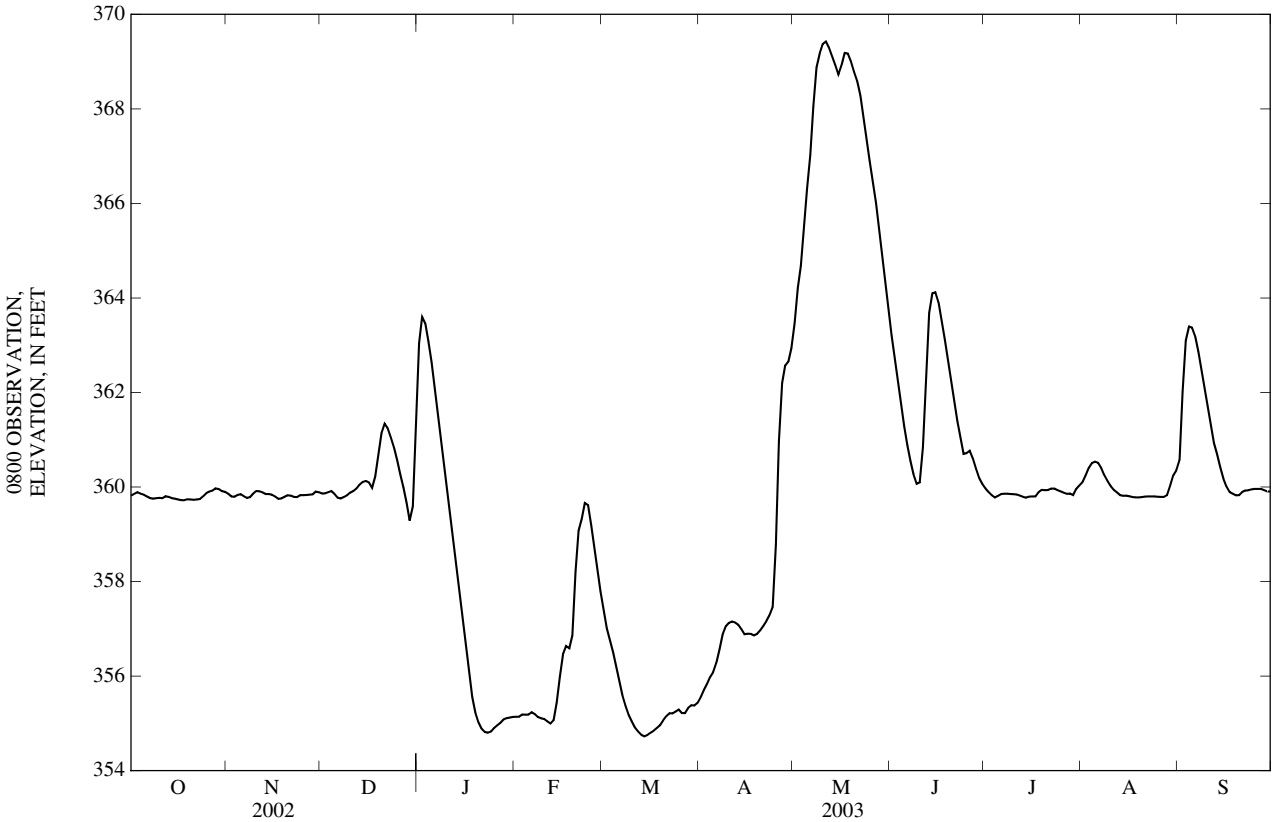
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 729,800 ac-ft, Apr. 16, 1945, elevation, 399.35 ft; minimum, since initial filling to conservation pool level, 23,340 ac-ft, Mar. 1-3, 1970; elevation, 352.20 ft, Sept. 26-27, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 159,000 ac-ft, May 11, 12, elevation, 369.45 ft, May 11; minimum, 29,800 ac-ft, Mar. 15, elevation, 354.72 ft.

ELEVATION, IN FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
OBSERVATION AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	359.80	359.90	359.87	362.09	355.14	357.63	355.47	363.08	363.60	360.03	360.04	360.37
2	359.83	359.84	359.86	363.52	355.14	357.25	355.59	363.65	363.02	359.94	360.14	360.67
3	359.87	359.78	359.87	363.64	355.14	356.90	355.76	364.49	362.58	359.87	360.30	362.69
4	359.90	359.80	359.90	363.37	355.21	356.68	355.86	364.77	362.05	359.81	360.46	363.31
5	359.84	359.85	359.92	362.95	355.17	356.41	356.04	365.77	361.59	359.76	360.53	363.44
6	359.84	359.85	359.82	362.49	355.19	356.09	356.10	366.59	361.13	359.84	360.54	363.34
7	359.78	359.79	359.75	361.96	355.26	355.78	356.37	367.24	360.78	359.86	360.50	363.11
8	359.76	359.76	359.76	361.41	355.16	355.50	356.67	368.45	360.44	359.86	360.35	362.76
9	359.75	359.80	359.80	360.84	355.12	355.30	356.98	369.09	360.19	359.86	360.20	362.38
10	359.77	359.89	359.84	360.19	355.10	355.12	357.09	369.21	360.01	359.85	360.09	361.99
11	359.77	359.93	359.90	359.57	355.09	355.00	357.14	369.45	360.14	359.85	359.98	361.59
12	359.76	359.90	359.92	358.93	355.02	354.87	357.16	369.41	361.19	359.84	359.92	361.17
13	359.83	359.88	359.99	358.33	354.99	354.81	357.12	369.24	363.10	359.81	359.87	360.81
14	359.77	359.84	360.08	357.78	355.11	354.73	357.07	369.04	363.97	359.78	359.81	360.63
15	359.76	359.86	360.12	357.22	355.60	354.72	356.96	368.88	364.16	359.77	359.82	360.32
16	359.75	359.83	360.13	356.72	356.18	354.77	356.85	368.65	364.10	359.81	359.82	360.11
17	359.73	359.79	360.08	356.25	356.61	354.82	356.92	369.05	363.80	359.80	359.80	359.96
18	359.72	359.73	359.93	355.81	356.65	354.86	356.88	369.25	363.40	359.80	359.78	359.86
19	359.72	359.77	360.37	355.44	356.56	354.92	356.85	369.13	362.98	359.94	359.78	359.86
20	359.75	359.80	360.85	355.12	357.01	354.98	356.91	368.95	362.52	359.94	359.78	359.81
21	359.73	359.84	361.28	354.98	358.82	355.11	357.00	368.70	362.08	359.93	359.79	359.84
22	359.73	359.81	361.37	354.84	359.21	355.17	357.09	368.54	361.66	359.94	359.80	359.92
23	359.74	359.78	361.18	354.81	359.39	355.24	357.20	368.16	361.27	359.98	359.80	359.93
24	359.75	359.79	360.98	354.80	359.80	355.20	357.34	367.67	360.91	359.96	359.80	359.93
25	359.83	359.85	360.77	354.84	359.53	355.28	357.52	367.24	360.60	359.92	359.80	359.96
26	359.89	359.82	360.47	354.93	359.02	355.30	359.41	366.73	360.78	359.90	359.79	359.96
27	359.91	359.84	360.18	354.97	358.54	355.18	361.75	366.32	360.76	359.87	359.79	359.96
28	359.93	359.84	359.90	355.03	358.10	355.24	362.42	365.85	360.52	359.85	359.79	359.96
29	359.99	359.85	359.55	355.11	---	355.37	362.64	365.32	360.31	359.87	359.85	359.92
30	359.94	359.93	359.16	355.11	---	355.39	362.66	364.73	360.13	359.81	360.11	359.90
31	359.90	---	359.81	355.13	---	355.37	---	364.19	---	360.03	360.32	---
MEAN	359.81	359.83	360.14	358.01	356.53	355.45	357.56	367.32	361.79	359.87	360.00	360.92
MAX	359.99	359.93	361.37	363.64	359.80	357.63	362.66	369.45	364.16	360.03	360.54	363.44
MIN	359.72	359.73	359.16	354.80	354.99	354.72	355.47	363.08	360.01	359.76	359.78	359.81

07039000 WAPPAPELLO LAKE AT WAPPAPELLO, MO—Continued



RESERVOIR STORAGE (ACRE FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
OBSERVATION AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61,300	62,000	61,800	81,300	31,600	45,900	33,300	90,700	95,700	63,100	63,100	66,000
2	61,500	61,600	61,700	94,900	31,600	43,400	33,800	96,200	90,100	62,400	64,000	68,600
3	61,800	61,100	61,800	96,100	31,600	41,200	34,700	104,000	86,000	61,800	65,400	87,000
4	62,000	61,300	62,000	93,500	31,900	39,900	35,200	107,000	81,000	61,400	66,800	92,900
5	61,600	61,700	62,200	89,400	31,800	38,300	36,100	118,000	76,800	61,000	67,400	94,200
6	61,600	61,700	61,500	85,100	31,900	36,400	36,500	127,000	72,600	61,600	67,400	93,200
7	61,100	61,200	60,900	80,100	32,200	34,800	38,100	134,000	69,500	61,700	67,100	91,000
8	61,000	61,000	61,000	75,100	31,700	33,400	39,900	148,000	66,600	61,700	65,800	87,600
9	60,900	61,300	61,300	70,000	31,500	32,400	41,700	155,000	64,400	61,700	64,500	84,100
10	61,100	62,000	61,600	64,400	31,400	31,500	42,400	157,000	62,900	61,700	63,600	80,400
11	61,100	62,300	62,000	59,600	31,300	30,900	42,700	159,000	64,000	61,700	62,700	76,800
12	61,000	62,000	62,200	54,800	31,000	30,400	42,800	159,000	73,100	61,600	62,200	72,900
13	61,500	61,900	62,700	50,600	30,900	30,200	42,600	157,000	90,900	61,400	61,800	69,800
14	61,100	61,600	63,500	46,900	31,400	29,900	42,300	154,000	99,300	61,100	61,400	68,200
15	61,000	61,700	63,800	43,200	33,900	29,800	41,600	153,000	101,000	61,100	61,500	65,600
16	60,900	61,500	63,900	40,100	37,000	30,000	40,900	150,000	101,000	61,400	61,500	63,700
17	60,800	61,200	63,500	37,400	39,500	30,200	41,300	155,000	97,700	61,300	61,300	62,500
18	60,700	60,800	62,300	34,900	39,700	30,400	41,100	157,000	93,800	61,300	61,100	61,700
19	60,700	61,100	66,000	33,100	39,200	30,600	40,900	156,000	89,700	62,400	61,100	61,700
20	60,900	61,300	70,100	31,500	41,900	30,800	41,300	153,000	85,400	62,400	61,100	61,400
21	60,800	61,600	73,900	30,800	54,000	31,400	41,800	150,000	81,300	62,300	61,200	61,600
22	60,800	61,400	74,800	30,300	56,900	31,800	42,400	149,000	77,400	62,400	61,300	62,200
23	60,800	61,100	73,000	30,200	58,200	32,100	43,100	144,000	73,900	62,700	61,300	62,300
24	60,900	61,200	71,200	30,100	61,300	31,900	44,000	139,000	70,600	62,500	61,300	62,300
25	61,500	61,700	69,400	30,300	59,300	32,300	45,200	134,000	68,000	62,200	61,300	62,500
26	62,000	61,500	66,800	30,600	55,400	32,400	58,400	128,000	69,500	62,000	61,200	62,500
27	62,100	61,600	64,300	30,800	52,100	31,800	78,200	124,000	69,300	61,800	61,200	62,500
28	62,300	61,600	62,000	31,000	49,000	32,100	84,400	119,000	67,300	61,700	61,200	62,500
29	62,700	61,700	59,400	31,400	---	32,700	86,500	113,000	65,500	61,800	61,700	62,200
30	62,400	62,300	56,500	31,400	---	32,800	86,700	107,000	63,900	61,400	63,700	62,000
31	62,000	---	61,400	31,600	---	32,700	---	102,000	---	63,100	65,600	---
MEAN	61,400	61,500	64,100	51,600	40,000	33,400	46,700	135,000	78,900	61,900	63,000	71,100
MAX	62,700	62,300	74,800	96,100	61,300	45,900	86,700	159,000	101,000	63,100	67,400	94,200
MIN	60,700	60,800	56,500	30,100	30,900	29,800	33,300	90,700	62,900	61,000	61,100	61,400

07039500 ST. FRANCIS RIVER AT WAPPAPELLO, MO

LOCATION.--Lat 36°55'41", long 90°15'55", in NW 1/4 SE 1/4 sec.2, T.26 N., R.7 E., Butler 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 Sept. 30, 1997, Oct. 1, 1998 to current year. Since January 1939 in reports of the Mississippi River Commission. Gage-height records collected in this vicinity since April 1920 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 National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1984, at datum 10.00 ft higher at present site. Prior to Oct. 14, 1940, nonrecording gage at same site.

REMARKS.--Records good. Flow completely regulated by Wappapello Lake (07039000), 1.25 mi upstream. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1920, 30.7 ft, former datum, May 15, 1933, discharge 82,500 ft^3/s, determined by the U.S. Army Corps of Engineers. Maximum discharge, as determined by the U.S. Army Corps of Engineers, 85,000 ft^3/s, Aug. 1915, stage unknown.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	638	216	2,950	433	3,680	763	2,290	3,660	956	510	323
2	65	656	273	3,380	433	3,320	590	2,340	3,460	867	e585	566
3	88	539	359	3,870	433	3,040	578	2,380	3,270	802	e655	527
4	286	362	368	4,210	432	2,870	551	2,300	2,980	680	730	516
5	388	386	472	4,340	431	2,760	472	1,970	2,700	496	726	1,080
6	328	503	592	4,290	432	2,620	548	1,880	2,420	303	716	1,570
7	227	428	407	4,230	480	2,380	740	2,060	2,140	290	808	1,920
8	193	244	201	4,160	560	2,070	782	2,220	1,740	287	953	2,240
9	188	147	185	4,080	559	1,790	1,040	2,550	1,370	286	894	2,230
10	189	269	185	3,980	557	1,490	1,200	2,870	1,030	286	756	2,170
11	188	480	185	3,820	555	1,320	1,220	3,280	847	285	624	2,130
12	188	488	185	3,570	554	1,190	1,220	3,410	848	285	462	2,050
13	188	488	189	3,300	553	1,110	1,210	3,290	1,010	283	357	1,780
14	188	487	252	3,020	691	1,020	1,210	3,220	1,420	243	294	1,560
15	188	489	400	2,760	1,060	821	1,140	3,390	2,090	210	217	1,380
16	188	488	582	2,500	1,420	695	947	3,160	2,500	197	211	1,130
17	188	488	837	2,220	1,750	685	865	2,630	2,980	185	209	860
18	189	382	1,130	1,980	2,210	734	857	2,590	3,110	173	181	577
19	191	226	1,450	1,690	2,810	848	855	3,310	3,090	222	124	326
20	190	216	1,460	1,370	3,850	1,120	763	3,450	2,960	290	118	202
21	190	276	1,660	1,070	4,780	1,540	562	3,850	2,720	293	115	154
22	161	365	2,250	854	5,180	1,730	448	4,340	2,460	230	112	151
23	114	346	2,510	635	5,370	1,750	321	4,440	2,200	215	110	147
24	105	231	2,540	421	5,550	1,580	312	4,330	1,920	285	107	145
25	106	217	2,520	320	5,460	1,220	314	4,150	1,670	291	104	143
26	104	216	2,500	309	5,080	1,510	517	4,280	1,560	290	102	177
27	104	216	2,480	308	4,480	1,480	1,120	4,280	1,530	289	100	223
28	175	216	2,450	307	4,020	1,260	1,640	4,230	1,440	288	98	222
29	397	217	2,430	359	---	1,240	1,840	4,170	1,310	296	98	220
30	613	216	2,410	432	---	1,240	2,090	4,060	1,150	339	205	217
31	625	---	2,820	434	---	1,140	---	3,870	---	413	328	---
MEAN	213	364	1,177	2,296	2,147	1,653	890	3,245	2,120	350	374	898
MAX	625	656	2,820	4,340	5,550	3,680	2,090	4,440	3,660	956	953	2,240
MIN	65	147	185	307	431	685	312	1,880	847	173	98	143
IN.	0.19	0.31	1.04	2.02	1.71	1.45	0.76	2.85	1.80	0.31	0.33	0.76

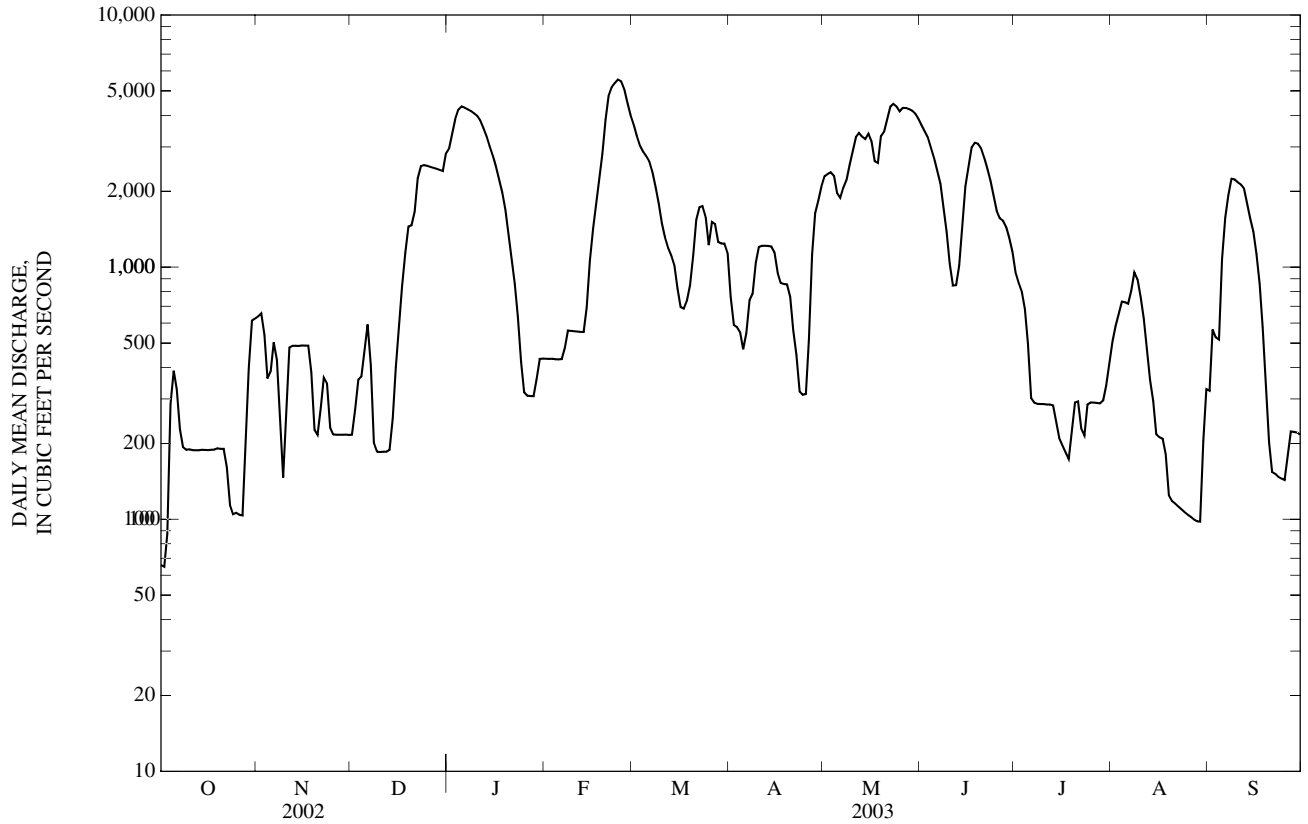
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	412	929	2,008	2,351	2,360	2,731	2,844	2,575	1,517	709	381	391
MAX	3,239	4,959	8,897	8,867	7,796	7,072	11,920	9,243	6,442	4,866	3,385	2,239
(WY)	(1950)	(1952)	(1983)	(1950)	(1949)	(1979)	(1945)	(1983)	(2002)	(1945)	(1945)	(1982)
MIN	33.9	43.8	167	188	286	474	63.5	62.3	6.00	87.1	40.0	34.0
(WY)	(1949)	(1954)	(1990)	(1981)	(1963)	(1981)	(1981)	(1987)	(1978)	(1980)	(1965)	(1955)

07039500 ST. FRANCIS RIVER AT WAPPAPELLO, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD[a]	
ANNUAL MEAN	2,627		1,306		1,597	
HIGHEST ANNUAL MEAN					3,534	1985
LOWEST ANNUAL MEAN					579	1954
HIGHEST DAILY MEAN	9,910	May 19	5,550	Feb 24	21,800	Apr 16, 1945
LOWEST DAILY MEAN	44	Mar 7	65	Oct 2	0.00	Several Years
ANNUAL SEVEN-DAY MINIMUM	107	Aug 7	103	Aug 23	0.00	At Times
MAXIMUM PEAK FLOW	---		5,570	Feb 24	22,300	Apr 16, 1945
MAXIMUM PEAK STAGE	---		23.49	Feb 24	31.44	May 17, 2002
INSTANTANEOUS LOW FLOW	---		60	Oct 3	0.00	Several Years
ANNUAL RUNOFF (INCHES)	27.20		13.53		16.55	
10 PERCENT EXCEEDS	7,700		3,380		4,100	
50 PERCENT EXCEEDS	1,500		716		687	
90 PERCENT EXCEEDS	148		188		45	

e Estimated
[a] Post-regulation period water years 1942-1977 and 1999-2003



07042450 ST. JOHNS DITCH NEAR HENDERSON MOUND, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 36°40'26", long 89°28'30", in NE ¼ NE ¼ NW ¼ sec.6, T.23 N., R.15 E., Madrid County, Hydrologic Unit 08020204, located approximately 2.5 mi east of Interstate 55 on State Highway P, and 4.0 mi south of Henderson Mound.

DRAINAGE AREA.--313 mi^2.

PERIOD OF RECORD.--October 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
16...	1310	Environmental	161	8.5	85	7.6	274	14.7	--	--	--	--
NOV												
05...	1400	Environmental	229	12.9	121	7.4	248	11.4	86	26.4	4.92	1.23
DEC												
03...	1355	Environmental	180	12.0	99	7.7	260	7.1	--	--	--	--
03...	1356	Replicate	--	12.0	99	7.7	262	7.1	--	--	--	--
JAN												
23...	0900	Environmental	359	14.2	100	7.7	190	1.6	130	38.4	7.15	1.39
FEB												
26...	1320	Environmental	615	9.8	78	7.4	214	5.3	--	--	--	--
MAR												
12...	0845	Environmental	474	8.2	76	7.4	263	11.6	--	--	--	--
APR												
15...	1545	Environmental	417	7.8	90	7.7	257	21.5	--	--	--	--
MAY												
14...	0945	Environmental	461	6.1	68	7.0	213	19.9	99	29.8	5.87	2.41
JUN												
05...	0840	Environmental	417	7.0	73	7.1	249	17.4	--	--	--	--
JUL												
22...	1300	Environmental	226	8.8	111	7.5	275	26.3	120	38.0	7.05	1.48
AUG												
18...	1400	Environmental	166	8.0	107	7.3	276	29.2	--	--	--	--
18...	1401	Replicate	--	8.1	109	7.3	275	29.2	--	--	--	--
SEP												
04...	1030	Environmental	1,520	4.6	54	6.6	106	23.3	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
16...	--	104	105	128	<1	--	--	--	--	<10	0.15	<0.04	0.51
NOV													
05...	4.32	96	96	117	<1	8.20	<0.20	16.8	156	10	0.22	<0.04	0.43
DEC													
03...	--	104	104	127	<1	--	--	--	--	<10	E.09	<0.04	0.30
03...	--	--	--	--	--	--	--	--	--	<10	0.11	<0.04	0.28
JAN													
23...	5.59	99	101	123	<1	7.21	<0.17	17.6	163	<10	0.11	<0.04	0.13
FEB													
26...	--	75	74	90	<1	--	--	--	--	11	0.35	0.04	0.45
MAR													
12...	--	98	98	119	<1	--	--	--	--	29	0.26	<0.04	0.08
APR													
15...	--	96	96	117	<1	--	--	--	--	46	0.37	<0.04	0.22
MAY													
14...	4.54	77	78	95	<1	7.04	<0.17	14.0	146	25	0.50	<0.04	0.32
JUN													
05...	--	98	98	120	<1	--	--	--	--	44	0.45	<0.04	0.34
JUL													
22...	6.34	103	105	128	<1	9.89	<0.20	15.4	173	28	0.28	<0.04	0.30
AUG													
18...	--	104	103	126	<1	--	--	--	--	19	0.19	<0.04	0.29
18...	--	--	--	--	--	--	--	--	--	12	0.16	<0.04	E.36nd
SEP													
04...	--	35	36	44	<1	--	--	--	--	55d	0.88	E.03n	0.16

07042450 ST. JOHNS DITCH NEAR HENDERSON MOUND, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
16...	E.007	0.15	0.14	0.22	<2b	82	122	--	--	--	--	--	--
NOV													
05...	E.006	0.12	0.10	0.22	120	180	1190k	M	142	1.3	<0.04	<0.2	<6
DEC													
03...	E.005	0.11	0.11	0.17	2k	132k	40k	--	--	--	--	--	--
03...	E.007	0.11	0.11	0.17	2k	115k	42k	--	--	--	--	--	--
JAN													
23...	<0.008	0.05	0.04	0.16	160	270	65	<2	84	1.6	<0.04	<0.2	<6
FEB													
26...	0.008	0.08	0.10	0.22	41k	94k	141k	--	--	--	--	--	--
MAR													
12...	0.012	0.08	0.08	0.26	150	180	30k	--	--	--	--	--	--
APR													
15...	E.007	0.11	0.11	0.32	300	240	48	--	--	--	--	--	--
MAY													
14...	0.039	0.09	0.14	0.26	140	210	223	2	498	2.4	<0.04	<0.2	<6
JUN													
05...	0.008	0.10	0.11	0.32	270	420	173	--	--	--	--	--	--
JUL													
22...	E.005	0.10	0.18	0.31	43k	350k	208	E1n	279	2.9	<0.04	<0.2	<7
AUG													
18...	E.007n	E.17nd	0.20	0.26	46	152	56	--	--	--	--	--	--
18...	E.005n	0.18d	0.19	0.27	40	132	50	--	--	--	--	--	--
SEP													
04...	E.006n	0.20d	0.25	0.44	3,500	1,060	1,420	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)	2,6-Di-ethyl-aniline water fltrd 0.7µ GF µg/L (82660)	CIAT, water, fltrd, µg/L (04040)	Aceto-chlor, water, fltrd, µg/L (49260)	Ala-chlor, water, fltrd, µg/L (46342)	alpha-HCH, water, fltrd, µg/L (34253)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
05...	14	E.06	M	68.4	<0.02	<0.5	6	3	<0.006	<0.006	<0.006	<0.004	<0.005
DEC													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
23...	24	<0.08	<1	176	<0.02	<0.5	M	E2	--	--	--	--	--
FEB													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	--	--	--	--	--	--	--	--	<0.006	<0.006	E.004n	<0.004	<0.005
APR													
15...	--	--	--	--	--	--	--	--	<0.006	E.007	0.064	<0.020	<0.005
MAY													
14...	26	<0.08	M	64.5	<0.02	<0.5	1	4	<0.006	E.052	0.021	0.027	<0.005
JUN													
05...	--	--	--	--	--	--	--	--	<0.006	<0.006	<0.006	<0.004	<0.005
JUL													
22...	E5n	E.04n	<1	27.6	<0.02	<0.5	2	4	--r	--r	--r	--r	--r
AUG													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--

07042450 ST. JOHNS DITCH NEAR HENDERSON MOUND, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Atrazine, water, fltrd, µg/L (39632)	Azinphosmethyl, water, fltrd 0.7µ GF µg/L (82686)	Benfluralin, water, fltrd 0.7µ GF µg/L (82673)	Butylate, water, fltrd, µg/L (04028)	Carbaryl, water, fltrd 0.7µ GF µg/L (82680)	Carbofuran, water, fltrd 0.7µ GF µg/L (82674)	Chlorpyrifos water, fltrd, µg/L (38933)	cis-Permethrin water fltrd 0.7µ GF µg/L (82687)	Cyanazine, water, fltrd, µg/L (04041)	DCPA, water fltrd 0.7µ GF µg/L (82682)	Diazinon, water, fltrd, µg/L (39572)	Dieldrin, water, fltrd, µg/L (39381)	Disulfoton, water, fltrd 0.7µ GF µg/L (82677)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
05...	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
DEC													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	E.006n	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
APR													
15...	0.384	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
MAY													
14...	2.66	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
JUN													
05...	0.260	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
JUL													
22...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
AUG													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	EPTC, water, fltrd 0.7µ GF µg/L (82668)	Ethalfluralin, water, fltrd 0.7µ GF µg/L (82663)	Ethoprop, water, fltrd 0.7µ GF µg/L (82672)	Fonofos water, fltrd, µg/L (04095)	Lindane water, fltrd, µg/L (39341)	Linuron water fltrd 0.7µ GF µg/L (82666)	Malathion, water, fltrd, µg/L (39532)	Methyl parathion, water, fltrd 0.7µ GF µg/L (82667)	Metolachlor, water, fltrd, µg/L (39415)	Metribuzin, water, fltrd, µg/L (82630)	Molinate, water, fltrd 0.7µ GF µg/L (82671)	Napropamide, water, fltrd 0.7µ GF µg/L (82684)	p,p-' DDE, water, fltrd, µg/L (34653)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
05...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003
DEC													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	E.007n	<0.006	0.006	<0.007	<0.003
APR													
15...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.040	0.046	<0.006	0.004	<0.007	<0.003
MAY													
14...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.150	0.360	<0.006	<0.002	<0.007	<0.003
JUN													
05...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	0.026	<0.006	<0.002	<0.007	<0.003
JUL													
22...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
AUG													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--

07042450 ST. JOHNS DITCH NEAR HENDERSON MOUND, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Parathion, water, fltrd, µg/L (39542)	Pebulate, water, fltrd 0.7µ GF µg/L (82669)	Pendimethalin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water fltrd 0.7µ GF µg/L (82664)	Prometon, water, fltrd, µg/L (04037)	Pronamide, water, fltrd 0.7µ GF µg/L (82676)	Propachlor, water, fltrd, µg/L (04024)	Propanil, water, fltrd 0.7µ GF µg/L (82679)	Propargite, water, fltrd 0.7µ GF µg/L (82685)	Simazine, water, fltrd, µg/L (04035)	Tebuthiuron water fltrd 0.7µ GF µg/L (82670)	Terbacil, water, fltrd 0.7µ GF µg/L (82665)	Terbufos, water, fltrd 0.7µ GF µg/L (82675)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
05...	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
DEC													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
APR													
15...	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	0.008	<0.02	<0.034	<0.02
MAY													
14...	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	0.030	<0.02	<0.034	<0.02
JUN													
05...	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
JUL													
22...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
AUG													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--

07042450 ST. JOHNS DITCH NEAR HENDERSON MOUND, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Thio-bencarb water fltrd 0.7µ GF µg/L (82681)	Tri-allate, water, fltrd 0.7µ GF µg/L (82678)	Tri-flur-alin, water, fltrd 0.7µ GF µg/L (82661)
OCT			
16...	--	--	--
NOV			
05...	<0.005	<0.002	<0.009
DEC			
03...	--	--	--
03...	--	--	--
JAN			
23...	--	--	--
FEB			
26...	--	--	--
MAR			
12...	<0.005	<0.002	<0.009
APR			
15...	<0.005	<0.002	<0.009
MAY			
14...	<0.005	<0.002	<0.009
JUN			
05...	<0.005	<0.002	<0.009
JUL			
22...	--r	--r	--r
AUG			
18...	--	--	--
18...	--	--	--
SEP			
04...	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
r -- Sample ruined in preparation

07043500 LITTLE RIVER DITCH 1 NEAR MOREHOUSE, MO

LOCATION.--Lat 36°50'03", long 89°43'48", in SW 1/4 SE 1/4 sec.2, T.25 N., R.12 E., Stoddard County, Hydrologic Unit 08020204, on downstream side of second pier right of left abutment of bridge on State Highway 114, 1.5 mi downstream from Little River Ditch 39, and 2.0 mi west of Morehouse.

DRAINAGE AREA.--450 mi^2.

PERIOD OF RECORD.--October 1945 to September 1991, October 1995 to current year. Prior to January 1946 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 280.76 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 17, 1949 and from June 11, 1951, to Feb. 22, 1962, nonrecording gage at same datum. Nov. 17, 1949, to June 10, 1951, nonrecording gage at site 50 ft downstream at present datum.

REMARKS.--No estimated daily discharges. Records good. U.S.G.S. satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1945 reached a stage of 19.85 ft, from floodmark, discharge, 5,830 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

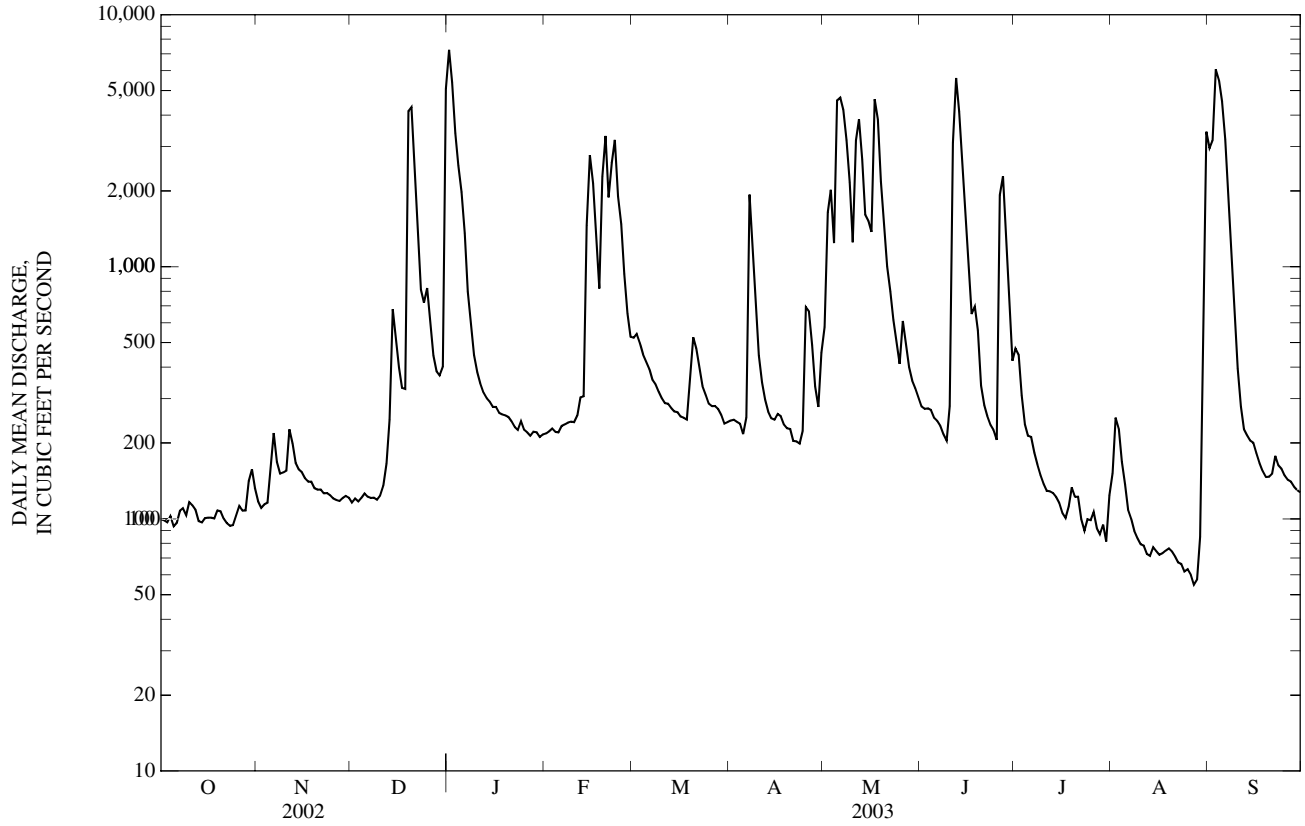
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	117	116	7,260	218	523	246	576	279	474	152	2,950
2	99	111	120	5,400	223	541	247	1,640	273	448	252	3,170
3	97	114	117	3,390	228	497	243	2,020	274	309	228	6,070
4	103	116	121	2,520	221	448	239	1,240	270	237	169	5,500
5	93	159	126	1,980	220	421	217	4,570	252	214	137	4,530
6	96	219	122	1,360	234	393	252	4,690	245	211	109	3,200
7	108	168	121	796	237	356	1,930	4,190	234	183	100	1,930
8	110	151	121	579	241	342	1,240	3,180	217	165	90	1,150
9	104	153	119	446	243	320	712	2,160	204	149	84	630
10	117	155	124	382	242	301	445	1,250	280	138	79	395
11	113	227	135	345	257	288	348	3,170	3,100	129	78	279
12	109	199	166	317	303	286	298	3,850	5,610	129	73	227
13	98	167	247	301	306	275	266	2,670	4,130	127	71	214
14	97	157	679	292	1,460	267	251	1,610	2,700	122	77	205
15	101	153	528	278	2,780	265	247	1,520	1,650	116	75	201
16	101	145	398	278	2,140	255	261	1,380	973	105	72	182
17	101	140	331	263	1,260	252	256	4,620	650	101	73	166
18	100	140	327	260	820	248	237	3,830	695	112	75	155
19	108	132	4,140	257	2,280	346	229	2,180	559	133	76	147
20	107	131	4,290	254	3,310	525	227	1,450	337	122	74	147
21	100	131	2,150	243	1,880	475	204	1,000	283	122	71	151
22	96	126	1,330	231	2,590	400	203	798	256	100	67	178
23	94	127	812	225	3,190	336	199	615	236	90	66	163
24	95	124	721	244	1,900	311	223	499	225	100	62	158
25	103	120	824	226	1,480	287	692	412	206	99	63	149
26	112	119	611	220	936	280	666	610	1,920	107	60	143
27	108	118	445	214	653	281	490	497	2,290	92	55	141
28	108	121	385	222	528	273	335	400	1,460	87	57	134
29	141	123	371	221	---	258	278	354	874	95	85	130
30	157	121	401	211	---	239	456	330	424	81	1,100	127
31	132	---	5,080	216	---	242	---	304	---	124	3,430	---
MEAN	107	143	825	949	1,085	340	405	1,859	1,037	156	234	1,097
MAX	157	227	5,080	7,260	3,310	541	1,930	4,690	5,610	474	3,430	6,070
MIN	93	111	116	211	218	239	199	304	204	81	55	127
IN.	0.27	0.35	2.11	2.43	2.51	0.87	1.00	4.76	2.57	0.40	0.60	2.72

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

MEAN	168	426	671	794	884	941	864	798	407	266	189	185
MAX	944	2,615	2,875	4,286	3,646	2,800	2,851	3,821	1,564	817	658	1,097
(WY)	(1985)	(1958)	(1983)	(1950)	(1989)	(1979)	(1979)	(2002)	(1989)	(1957)	(1985)	(2003)
MIN	30.6	45.4	73.5	72.3	115	106	146	139	88.7	70.9	47.6	27.4
(WY)	(1954)	(2000)	(1954)	(1981)	(1963)	(1981)	(1971)	(2001)	(1988)	(1954)	(1999)	(1999)

07043500 LITTLE RIVER DITCH 1 NEAR MOREHOUSE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	979		683		550	
HIGHEST ANNUAL MEAN					1,261	1973
LOWEST ANNUAL MEAN					134	1954
HIGHEST DAILY MEAN	9,550	May 18	7,260	Jan 1	11,700	Feb 15, 1989
LOWEST DAILY MEAN	51	Aug 12	55	Aug 27	21	Sep 18, 1954
ANNUAL SEVEN-DAY MINIMUM	57	Aug 7	61	Aug 22	24	Sep 13, 1954
MAXIMUM PEAK FLOW	---		7,660	Jan 1	12,000	Feb 15, 1989
MAXIMUM PEAK STAGE	---		16.00	Jan 1	19.30	Feb 15, 1989
INSTANTANEOUS LOW FLOW	---		51	Aug 28	20	Sep 8, 1999
ANNUAL RUNOFF (INCHES)	29.53		20.61		16.60	
10 PERCENT EXCEEDS	2,630		2,140		1,330	
50 PERCENT EXCEEDS	286		242		204	
90 PERCENT EXCEEDS	96		99		78	



07046250 LITTLE RIVER DITCHES NEAR RIVES, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 36°05'25", long 90°04'47", in SW ¼ SE ¼ SW ¼ sec.28, T.17 N., R.9 E., Dunklin County, Hydrologic Unit 08020204. Located at the Little River Ditches bridge chain on State Highway 164.

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. Bacteria is usually collected from Ditch 66. During high flow, samples are collected from the three western-most ditches. Published as Little River Ditches near Kennett (07046001) for periods of record from November 1969 to September 1993.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
16...	0900	Environmental	331	6.9	69	8.0	333	14.8	--	--	--	--
NOV												
05...	0915	Environmental	418	11.4	103	8.2	382	10.1	170	44.9	13.2	2.52
DEC												
03...	1110	Environmental	566	11.9	95	8.1	364	5.6	--	--	--	--
JAN												
22...	0830	Environmental	1,190	13.4	100	8.3	356	3.3	170	48.7	12.9	2.38
22...	0831	Replicate	--	--	--	--	--	--	180	50.0	13.3	2.26
FEB												
26...	0840	Environmental	6,510	12.4	91	7.3	121	2.2	--	--	--	--
MAR												
11...	0845	Environmental	989	10.3	87	8.0	369	7.8	--	--	--	--
APR												
15...	0830	Environmental	963	6.9	77	7.9	354	20.3	--	--	--	--
MAY												
13...	1200	Environmental	6,320	5.4	62	6.8	135	22.1	66	18.7	4.75	4.05
JUN												
04...	0905	Environmental	1,080	7.5	81	7.7	396	18.4	--	--	--	--
JUL												
23...	0945	Environmental	604	8.0	102	7.9	368	28.0	150	41.5	10.4	2.82
AUG												
19...	1100	Environmental	687	6.8	94	7.5	357	31.9	--	--	--	--
SEP												
03...	1515	Environmental	10,700	4.0	49	6.5	99	25.4	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
16...	--	138	139	170	<1	--	--	--	--	17	0.39	<0.04	0.09
NOV													
05...	10.6	148	149	181	<1	14.2	<0.20	23.0	225	12	0.19	<0.04	<0.06
DEC													
03...	--	165	166	203	<1	--	--	--	--	<10	0.11	<0.04	<0.06
JAN													
22...	10.3	152	152	185	<1	14.3	<0.17	21.9	223	<10	0.19	E.02	0.08
22...	10.1	--	--	--	--	13.7	<0.17	22.2	230	<10	0.18	E.02	0.08
FEB													
26...	--	52	50	62	<1	--	--	--	--	90	1.2	0.08	0.38
MAR													
11...	--	148	148	181	<1	--	--	--	--	16	0.28	<0.04	<0.06
APR													
15...	--	150	152	186	<1	--	--	--	--	34	0.37	<0.04	0.18
MAY													
13...	3.49	57	54	66	<1	5.83	<0.17	9.5	108	258	1.7	<0.04	0.86
JUN													
04...	--	159	159	194	<1	--	--	--	--	54	0.52	<0.04	0.06
JUL													
23...	11.3	145	147	179	<1	14.7	0.20	19.8	217	47	0.57	<0.04	<0.06
AUG													
19...	--	145	144	175	<1	--	--	--	--	41	0.45	<0.04	<0.06
SEP													
03...	--	32	32	39	<1	--	--	--	--	120d	1.2	<0.04	0.28

07046250 LITTLE RIVER DITCHES NEAR RIVES, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
16...	E.005	0.11	0.11	0.19	20k	40k	48	--	--	--	--	--	--
NOV													
05...	<0.008	0.05	0.05	0.11	13k	41k	24k	<2	190	1.9	<0.04	<0.2	<6
DEC													
03...	<0.008	0.07	0.07	0.10	<2b	4k	11k	--	--	--	--	--	--
JAN													
22...	<0.008	0.04	0.04	0.08	3k	2k	9k	<2	185	1.4	<0.04	E.1	<6
22...	<0.008	0.04	0.04	0.12	2k	3k	11k	<2	205	1.4	<0.04	<0.2	<6
FEB													
26...	E.007	0.07	0.11	0.46	84	360	780	--	--	--	--	--	--
MAR													
11...	<0.008	0.03	0.04	0.11	3k	<1b	6k	--	--	--	--	--	--
APR													
15...	0.010	0.07	0.09	0.14	40	44	19k	--	--	--	--	--	--
MAY													
13...	0.063	0.09	0.14	0.64	--1	440	1,120	4	5,600	2.1	<0.04	<0.2	<6
JUN													
04...	E.004	0.05	0.05	0.19	76	104k	86	--	--	--	--	--	--
JUL													
23...	<0.008	0.07	0.13	0.21	17k	22	44	3	575	3.5	<0.04	<0.2	<7
AUG													
19...	<0.008	E.13nd	0.13	0.22	54	34k	56	--	--	--	--	--	--
SEP													
03...	0.009	E.14nd	0.18	0.52	600k	1,200	4,200	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)	2,6-Di-ethyl-aniline water fltrd 0.7µ GF µg/L (82660)	CIAT, water, fltrd, µg/L (04040)	Aceto-chlor, water, fltrd, µg/L (49260)	Ala-chlor, water, fltrd, µg/L (46342)	alpha-HCH, water, fltrd, µg/L (34253)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
05...	E9	<0.08	M	75.4	<0.02	<0.5	M	3	<0.006	<0.006	<0.006	<0.004	<0.005
DEC													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
22...	<10	<0.08	M	187	<0.02	<0.5	<1	E2	--	--	--	--	--
22...	<10	<0.08	<1	181	<0.02	<0.5	<1	2	--	--	--	--	--
FEB													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
11...	--	--	--	--	--	--	--	--	<0.006	E.003	<0.006	<0.004	<0.005
APR													
15...	--	--	--	--	--	--	--	--	<0.006	E.066	0.016	0.155	<0.005
MAY													
13...	22	<0.08	7	59.3	0.02	E.4	M	30	<0.006	E.254	0.073	0.330	<0.005
JUN													
04...	--	--	--	--	--	--	--	--	<0.006	E.028	<0.006	0.013	<0.005
JUL													
23...	E4n	0.10	1	37.1	<0.02	<0.5	3	5	--r	--r	--r	--r	--r
AUG													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--

07046250 LITTLE RIVER DITCHES NEAR RIVES, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Atrazine, water, fltrd, µg/L (39632)	Azinphosmethyl, water, fltrd 0.7µ GF µg/L (82686)	Benfluralin, water, fltrd 0.7µ GF µg/L (82673)	Butylate, water, fltrd, µg/L (04028)	Carbaryl, water, fltrd 0.7µ GF µg/L (82680)	Carbofuran, water, fltrd 0.7µ GF µg/L (82674)	Chlorpyrifos water, fltrd, µg/L (38933)	cis-Permethrin water fltrd 0.7µ GF µg/L (82687)	Cyanazine, water, fltrd, µg/L (04041)	DCPA, water fltrd 0.7µ GF µg/L (82682)	Diazinon, water, fltrd, µg/L (39572)	Dieldrin, water, fltrd, µg/L (39381)	Disulfoton, water, fltrd 0.7µ GF µg/L (82677)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
05...	0.018	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
DEC													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
11...	0.009	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
APR													
15...	3.96	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
MAY													
13...	3.93	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
JUN													
04...	0.594	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
JUL													
23...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
AUG													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	EPTC, water, fltrd 0.7µ GF µg/L (82668)	Ethalfluralin, water, fltrd 0.7µ GF µg/L (82663)	Ethoprop, water, fltrd 0.7µ GF µg/L (82672)	Fonofos water, fltrd, µg/L (04095)	Lindane water, fltrd, µg/L (39341)	Linuron water fltrd 0.7µ GF µg/L (82666)	Malathion, water, fltrd, µg/L (39532)	Methyl parathion, water, fltrd 0.7µ GF µg/L (82667)	Metolachlor, water, fltrd, µg/L (39415)	Metribuzin, water, fltrd, µg/L (82630)	Molinate, water, fltrd 0.7µ GF µg/L (82671)	Napropamide, water, fltrd 0.7µ GF µg/L (82684)	p,p-' DDE, water, fltrd, µg/L (34653)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
05...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	0.019	<0.006	<0.002	<0.007	<0.003
DEC													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
11...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	E.010n	<0.006	0.019	<0.007	<0.003
APR													
15...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.050	1.02	<0.006	0.010	<0.007	<0.003
MAY													
13...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	1.84	0.018	<0.010	<0.007	<0.003
JUN													
04...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	0.094	<0.006	0.068	<0.007	<0.003
JUL													
23...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
AUG													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--

07046250 LITTLE RIVER DITCHES NEAR RIVES, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Parathion, water, fltrd, µg/L (39542)	Pebulate, water, fltrd 0.7µ GF µg/L (82669)	Pendimethalin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water fltrd 0.7µ GF µg/L (82664)	Prometon, water, fltrd, µg/L (04037)	Pronamide, water, fltrd 0.7µ GF µg/L (82676)	Propachlor, water, fltrd, µg/L (04024)	Propanil, water, fltrd 0.7µ GF µg/L (82679)	Propargite, water, fltrd 0.7µ GF µg/L (82685)	Simazine, water, fltrd, µg/L (04035)	Tebuthiuron water fltrd 0.7µ GF µg/L (82670)	Terbacil, water, fltrd 0.7µ GF µg/L (82665)	Terbufos, water, fltrd 0.7µ GF µug/L (82675)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
05...	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
DEC													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
11...	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	E.01n	<0.034	<0.02
APR													
15...	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	0.080	<0.02	<0.034	<0.02
MAY													
13...	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	0.049	<0.02	<0.034	<0.02
JUN													
04...	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
JUL													
23...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
AUG													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--

07046250 LITTLE RIVER DITCHES NEAR RIVES, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Thio-bencarb water fltrd 0.7µ GF µg/L (82681)	Tri-allate, water, fltrd 0.7µ GF µg/L (82678)	Tri-flur-alin, water, fltrd 0.7µ GF µg/L (82661)
OCT			
16...	--	--	--
NOV			
05...	<0.005	<0.002	<0.009
DEC			
03...	--	--	--
JAN			
22...	--	--	--
22...	--	--	--
FEB			
26...	--	--	--
MAR			
11...	<0.005	<0.002	<0.009
APR			
15...	<0.005	<0.002	<0.009
MAY			
13...	<0.005	<0.002	<0.009
JUN			
04...	<0.005	<0.002	<0.009
JUL			
23...	--r	--r	--r
AUG			
19...	--	--	--
SEP			
03...	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
l -- Analysis discarded: lab QC failure
r -- Sample ruined in preparation

07050150 ROARING RIVER SPRING NEAR CASSVILLE, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 36°35'30", long 93°50'00", in SE ¼ SE ¼ NE ¼ sec.27, T.22 N., R.27 W., Barry County, Hydrologic Unit 11010001, at outlet of spring in Roaring River State Park.

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

REMARKS.--Previously sampled downstream from spring and published as Roaring River at Roaring River State Park (07050152) November 1991 to October 1993.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
18...	1220	Environmental	30	7.5	76	7.2	346	14.5	160	57.4	2.95	1.06
JAN												
27...	1300	Environmental	15	7.6	77	6.7	359	14.5	--	--	--	--
MAR												
17...	1630	Environmental	34	8.4	85	7.4	338	13.4	--	--	--	--
MAY												
19...	1235	Environmental	58	8.1	81	7.5	351	14.1	170	64.5	2.98	1.38
JUL												
29...	1035	Environmental	13	7.1	72	6.8	356	14.3	--	--	--	--
SEP												
15...	1230	Environmental	13	7.1	72	6.9	343	14.4	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
18...	3.45	151	151	184	<1	6.37	<0.2	2.9	197	<10	E.07	<0.04	2.94
JAN													
27...	--	155	157	192	<1	--	--	--	--	<10	E.09	<0.04	3.09
MAR													
17...	--	137	137	167	<1	--	--	--	--	<10	0.11	<0.04	3.40
MAY													
19...	3.91	151	151	184	<1	7.42	<0.2	4.3	211	<10	<0.10	<0.04	2.87
JUL													
29...	--	158	157	192	<1	--	--	--	--	<10	<0.10	<0.04	2.94
SEP													
15...	--	157	159	194	<1	--	--	--	--	<10	<0.10	<0.04	2.85

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
18...	<0.008	0.02	E.04	E.03	17k	18k	24	<2	12	E.2	0.04	<0.2	<6
JAN													
27...	<0.008	0.02	E.02	<0.04	6k	46	48	--	--	--	--	--	--
MAR													
17...	<0.008	0.02	E.02	E.04	13k	12k	12k	--	--	--	--	--	--
MAY													
19...	<0.008	0.02	E.03	E.04	5k	20k	80	<2	17	E.2	0.05	<0.2	<6
JUL													
29...	E.004	E.02	E.02	E.03	4k	105	100	--	--	--	--	--	--
SEP													
15...	<0.008	0.02	<0.04	<0.04	30	31	20	--	--	--	--	--	--

07050150 ROARING RIVER SPRING NEAR CASSVILLE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
18...	<10	<0.08	<1	<2.0	<0.02	E.4	4	3
JAN								
27...	--	--	--	--	--	--	--	--
MAR								
17...	--	--	--	--	--	--	--	--
MAY								
19...	<10	<0.08	<1	<2.0	<0.02	E.3	4	3
JUL								
29...	--	--	--	--	--	--	--	--
SEP								
15...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range

07050690 PEARSON CREEK NEAR SPRINGFIELD, MO

LOCATION.--Lat 37°10'41", long 93°11'53", in NW ¼ NE ¼ NW ¼ sec. 35, T.29 N., R.21 W., Greene County, Hydrologic Unit 11010002, 1.4 mi east of Highway 65 and 0.13 mi south of Highway D (Sunshine).

DRAINAGE AREA.--21.0 mi^2.

PERIOD OF RECORD.--July 21, 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--Records fair except for estimated daily discharges, which are poor. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	6.7	3.9	16	e3.5	24	20	30	14	16	23	13
2	1.9	5.7	3.9	10	3.6	31	19	30	23	12	86	17
3	2.1	5.6	3.9	6.4	3.6	35	18	25	21	11	40	12
4	2.0	5.3	4.5	5.6	3.4	33	16	23	18	11	22	10
5	1.6	5.7	4.2	5.8	3.3	30	15	25	16	9.9	16	8.5
6	1.8	6.0	4.0	5.6	3.4	27	23	26	18	9.5	12	7.4
7	1.7	6.0	3.9	5.4	3.6	24	25	36	18	8.5	10	6.6
8	1.8	6.0	4.1	5.4	3.5	21	22	29	16	8.1	8.6	6.0
9	1.8	5.5	4.0	5.5	3.6	19	19	24	14	7.8	7.7	5.5
10	1.8	5.3	3.9	5.3	3.9	17	17	23	15	9.3	7.1	4.9
11	1.7	4.8	3.8	5.2	4.2	16	16	25	36	8.3	6.5	4.9
12	2.2	4.6	3.8	4.9	4.3	14	15	21	60	20	6.2	5.5
13	2.2	4.6	4.2	4.7	4.3	16	14	26	136	14	5.7	9.9
14	2.1	4.7	3.8	4.8	22	15	13	40	90	12	5.6	8.8
15	2.1	6.9	3.7	4.8	33	14	12	40	69	10	5.3	7.3
16	2.0	6.2	3.8	4.8	28	13	12	44	55	8.5	5.1	6.0
17	2.3	5.4	3.7	4.4	24	13	11	52	45	7.8	5.0	5.2
18	2.3	4.9	3.4	4.3	21	12	11	49	38	7.1	4.9	4.9
19	2.5	4.5	3.8	4.6	42	14	11	43	33	6.7	4.6	4.5
20	2.5	4.2	3.8	4.6	50	17	11	37	29	6.0	4.5	4.2
21	2.0	4.1	3.9	4.5	41	21	10	32	25	5.6	4.3	4.4
22	2.0	4.1	3.8	4.3	37	23	9.8	28	22	5.4	4.3	5.4
23	2.0	4.3	4.1	4.2	35	22	9.9	25	19	5.3	4.3	4.5
24	1.9	4.1	4.4	3.9	32	21	15	23	17	5.0	4.3	4.2
25	6.3	3.9	4.6	3.8	29	20	22	22	15	4.6	4.3	3.8
26	4.5	3.8	4.8	e3.9	26	18	19	21	16	4.5	4.2	3.4
27	3.5	3.9	4.8	e3.8	25	17	16	19	15	4.3	4.1	3.4
28	8.3	3.9	4.9	e3.8	23	22	14	18	13	4.3	5.9	3.4
29	23	3.8	4.6	e3.7	---	24	13	16	12	4.2	7.1	3.2
30	11	3.8	8.9	e3.6	---	23	13	16	14	4.1	19	3.2
31	8.1	---	21	3.6	---	22	---	15	---	21	14	---
MEAN	3.64	4.94	4.77	5.20	18.4	20.6	15.4	28.5	31.1	8.77	11.7	6.37
MAX	23	6.9	21	16	50	35	25	52	136	21	86	17
MIN	1.6	3.8	3.4	3.6	3.3	12	9.8	15	12	4.1	4.1	3.2
IN.	0.20	0.26	0.26	0.29	0.91	1.13	0.82	1.56	1.65	0.48	0.64	0.34

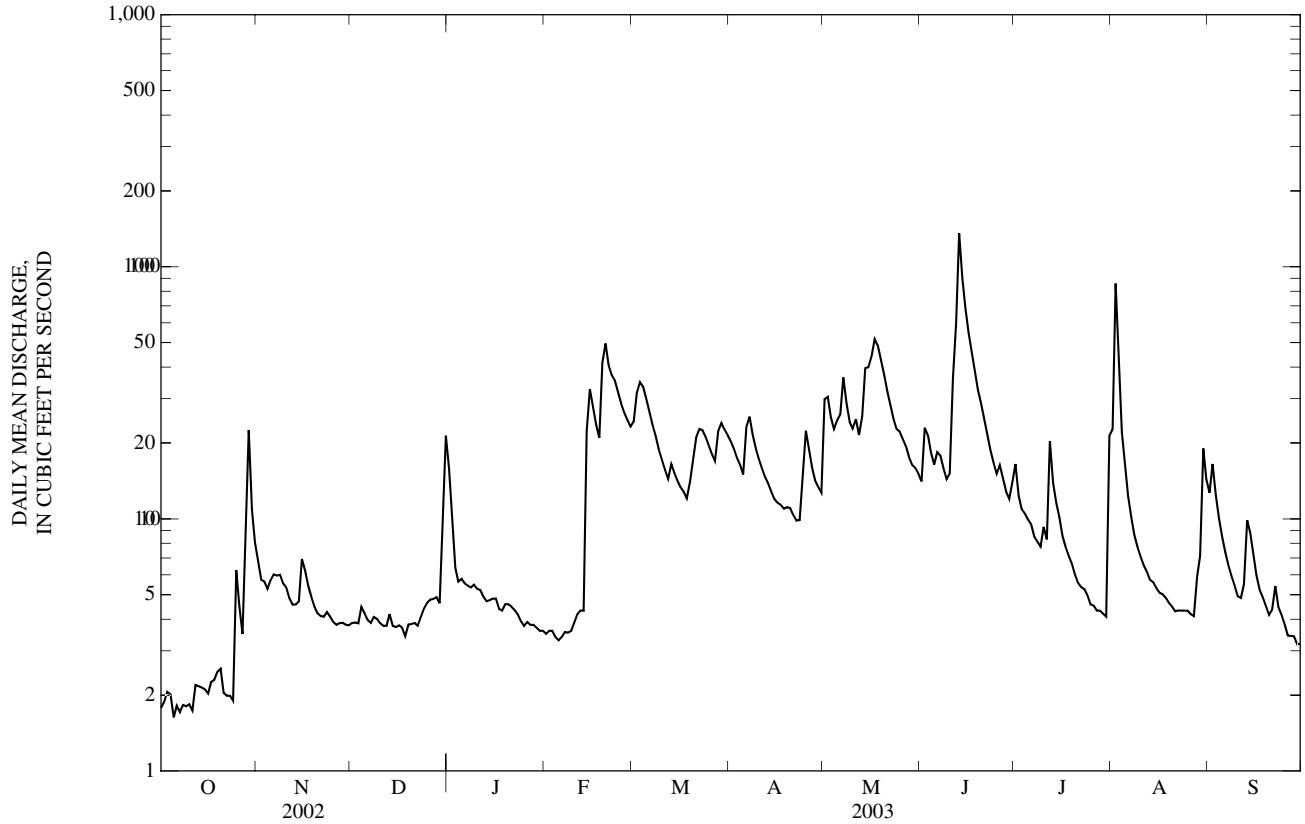
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

MEAN	6.24	6.36	16.3	8.33	29.2	24.3	16.4	41.7	17.6	23.8	8.06	5.86
MAX	14.7	9.92	39.2	15.0	53.2	41.8	37.7	126	31.1	59.6	12.4	15.2
(WY)	(2002)	(2002)	(2002)	(2002)	(2001)	(2002)	(2002)	(2002)	(2003)	(2000)	(2001)	(2001)
MIN	2.70	3.77	3.73	4.39	9.62	11.3	5.20	5.63	10.6	8.77	3.10	1.98
(WY)	(2001)	(2000)	(2001)	(2000)	(2000)	(2000)	(2000)	(2000)	(2001)	(2003)	(1999)	(2002)

07050690 PEARSON CREEK NEAR SPRINGFIELD, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
ANNUAL MEAN	25.1		13.2		17.2	
HIGHEST ANNUAL MEAN					29.4	2002
LOWEST ANNUAL MEAN					12.2	2000
HIGHEST DAILY MEAN	916	May 8	136	Jun 13	916	May 8, 2002
LOWEST DAILY MEAN	1.5	Sep 29,30	1.6	Oct 5	1.5	Oct 14, 2000
ANNUAL SEVEN-DAY MINIMUM	1.7	Sep 7	1.7	Oct 5	1.7	Sep 7, 2002
MAXIMUM PEAK FLOW	---		188	Jun 13	2,200	Jul 12, 2000
MAXIMUM PEAK STAGE	---		4.12	Jun 13	7.53	Jul 12, 2000
INSTANTANEOUS LOW FLOW	---		1.4	Oct 5	1.4	Sep 7,28-30,Oct 5, 2002
ANNUAL RUNOFF (INCHES)	16.26		8.55		11.10	
10 PERCENT EXCEEDS	50		28		34	
50 PERCENT EXCEEDS	8.1		7.3		8.0	
90 PERCENT EXCEEDS	2.1		3.6		2.9	

e Estimated



07050690 PEARSON CREEK NEAR SPRINGFIELD, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 2001 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
22...	0810	Environmental	2.0	6.8	68	7.5	487	13.1	--	--	--	--
NOV												
19...	1530	Environmental	4.6	9.7	94	8.0	501	12.2	240	86.4	5.87	1.96
DEC												
10...	1420	Environmental	3.9	13.5	119	7.8	509	8.1	--	--	--	--
JAN												
28...	1505	Environmental	e3.8	13.7	122	8.3	479	8.3	240	86.2	5.93	1.74
FEB												
14...	1227	Environmental	32	10.6	100	7.9	632	10.2	250	93.3	3.77	1.71
20...	1305	Environmental	49	11.3	106	7.7	455	10.7	--	--	--	--
MAR												
18...	1510	Environmental	12	13.4	141	8.2	459	14.9	--	--	--	--
APR												
23...	1340	Environmental	9.7	10.3	110	7.7	475	16.1	--	--	--	--
MAY												
06...	2110	Environmental	61	7.1	77	7.9	318	16.8	150	54.2	2.51	3.78
21...	0830	Environmental	33	8.4	85	7.7	489	14.0	230	85.6	4.08	1.73
JUN												
26...	0830	Environmental	17	6.8	74	7.4	486	17.7	--	--	--	--
JUL												
28...	1040	Environmental	4.3	8.2	96	7.5	474	21.0	210	75.3	5.69	1.99
AUG												
20...	1130	Environmental	4.6	7.7	92	7.9	476	22.5	--	--	--	--
SEP												
03...	1245	Environmental	12	7.8	89	7.8	452	19.5	230	85.5	4.07	2.15

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
22...	--	215	216	264	<1	--	--	--	--	<10	0.12	<0.04	1.57
NOV													
19...	11.0	208	208	254	<1	21.8	<0.20	11.0	286	<10	0.15	<0.04	1.93
DEC													
10...	--	202	203	247	<1	--	--	--	--	<10	0.14	<0.04	2.18
JAN													
28...	14.1	185	184	224	<1	32.8	<0.20	11.6	271	<10	0.12	<0.04	2.41
FEB													
14...	39.4	177	178	217	<1	84.3	<0.20	12.7	383	38	0.53	<0.04	2.37
20...	--	164	164	200	<1	--	--	--	--	<10	0.16	<0.04	3.51
MAR													
18...	--	175	176	214	<1	--	--	--	--	<10	0.17	<0.04	2.59
APR													
23...	--	188	190	231	<1	--	--	--	--	<10	0.31	<0.04	2.51
MAY													
06...	7.94	122	120	146	<1	16.5	<0.17	7.8	200	196	1.7	0.10	1.74
21...	10.8	198	201	245	<1	23.1	<0.20	9.6	290	<10	E.10	<0.04	3.01
JUN													
26...	--	190	189	231	<1	--	--	--	--	<10	0.13	<0.04	2.68
JUL													
28...	11.6	199	200	244	<1	25.5	<0.17	9.4	281	<10	0.32	0.11	2.02
AUG													
20...	--	212	214	262	<1	--	--	--	--	<10	0.24	<0.04	1.91
SEP													
03...	10.2	207	209	255	<1	21.5	<0.20	9.9	285	<10	0.17	<0.04	2.37

07050690 PEARSON CREEK NEAR SPRINGFIELD, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
22...	E.006	0.02	E.03	E.03	240	930k	495	--	--	--	--	--	--
NOV													
19...	E.004	0.02	E.03	E.04	180	420	132	<2	25	E.2	<0.04	<0.2	<6
DEC													
10...	E.006	E.02	E.03	E.03	110	50	143	--	--	--	--	--	--
JAN													
28...	E.007	<0.02	<0.04	<0.04	1,200k	2,320k	38k	M	20	E.1	<0.04	<0.2	E3
FEB													
14...	0.008	E.01	0.04	0.08	100k	100k	910k	M	296	0.3	<0.04	<0.2	<6
20...	E.006	0.02	E.02	E.03	<4b	144	206	--	--	--	--	--	--
MAR													
18...	E.006	<0.02	E.02	E.04	6k	220	80	--	--	--	--	--	--
APR													
23...	0.009	<0.02	<0.04	E.02	3k	98k	27	--	--	--	--	--	--
MAY													
06...	0.018	0.16	0.18	0.43	71,000	56,000	67,000	4	1,440	0.7	0.04	0.3	E4
21...	<0.008	E.02	E.03	E.03	75	710k	115	E1	37	<0.3	E.03	E.1	<6
JUN													
26...	E.007	E.01	E.02	<0.04	740	880	600	--	--	--	--	--	--
JUL													
28...	E.005	<0.09	0.04	0.05	240	1,480k	427	8	64	0.3	<0.04	<0.2	<7
AUG													
20...	0.010	0.02	E.03n	0.05	470	660k	490	--	--	--	--	--	--
SEP													
03...	E.005n	0.03	E.03n	0.04	380	783k	380	5	49	0.3	<0.04	E.03n	0.7

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)	2,6-Di-ethyl-aniline water fltrd 0.7µ GF µg/L (82660)	CIAT, water, fltrd, µg/L (04040)	Aceto-chlor, water, fltrd, µg/L (49260)	Ala-chlor, water, fltrd, µg/L (46342)	alpha-HCH, water, fltrd, µg/L (34253)
OCT													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
19...	<10	E.04	<1	10.3	<0.02	E.4	M	E1	--	--	--	--	--
DEC													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
28...	<10	E.04	<1	6.9	<0.02	E.4	M	<2	--	--	--	--	--
FEB													
14...	<10	E.05	2	20.6	<0.02	E.5	3	12	<0.006	E.005	<0.006	<0.004	<0.005
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
06...	12	0.10	17	26.9	0.02	E.3	4	47	--r	E.01	--r	--r	--r
21...	<10	<0.08	<1	6.8	<0.02	E.3	4	4	--	--	--	--	--
JUN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
28...	13	E.07n	Mn	27.2	<0.02	E.4n	Mn	E2n	--	--	--	--	--
AUG													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
03...	8	<0.08	M	13.9	<0.02	E.3n	Mn	4	--	--	--	--	--

07050690 PEARSON CREEK NEAR SPRINGFIELD, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Atrazine, water, fltrd, µg/L (39632)	Azinphos-methyl, water, fltrd 0.7µ GF µg/L (82686)	Benfluralin, water, fltrd 0.7µ GF µg/L (82673)	Butylate, water, fltrd, µg/L (04028)	Carbaryl, water, fltrd 0.7µ GF µg/L (82680)	Carbofuran, water, fltrd 0.7µ GF µg/L (82674)	Chlorpyrifos water, fltrd, µg/L (38933)	cis-Permethrin water fltrd 0.7µ GF µg/L (82687)	Cyanazine, water, fltrd, µg/L (04041)	DCPA, water fltrd 0.7µ GF µg/L (82682)	Diazinon, water, fltrd, µg/L (39572)	Dieldrin, water, fltrd, µg/L (39381)	Disulfoton, water, fltrd 0.7µ GF µg/L (82677)
OCT													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
14...	0.009	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
06...	0.025	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	EPTC, water, fltrd 0.7µ GF µg/L (82668)	Ethalfluralin, water, fltrd 0.7µ GF µg/L (82663)	Ethoprop, water, fltrd 0.7µ GF µg/L (82672)	Fonofos water, fltrd, µg/L (04095)	Lindane water, fltrd, µg/L (39341)	Linuron water fltrd 0.7µ GF µg/L (82666)	Malathion, water, fltrd, µg/L (39532)	Methyl parathion, water, fltrd 0.7µ GF µg/L (82667)	Metolachlor, water, fltrd, µg/L (39415)	Metribuzin, water, fltrd, µg/L (82630)	Molinate, water, fltrd 0.7µ GF µg/L (82671)	Napropamide, water, fltrd 0.7µ GF µg/L (82684)	p,p-' DDE, water, fltrd, µg/L (34653)
OCT													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
14...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
06...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--

07050690 PEARSON CREEK NEAR SPRINGFIELD, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Parathion, water, fltrd, µg/L (39542)	Pebulate, water, fltrd 0.7µ GF µg/L (82669)	Pendimethalin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water fltrd 0.7µ GF µg/L (82664)	Prometon, water, fltrd, µg/L (04037)	Pronamide, water, fltrd 0.7µ GF µg/L (82676)	Propachlor, water, fltrd, µg/L (04024)	Propanil, water, fltrd 0.7µGF µg/L (82679)	Propargite, water, fltrd 0.7µ GF µg/L (82685)	Simazine, water, fltrd, µg/L (04035)	Tebuthiuron water fltrd 0.7µ GF µg/L (82670)	Terbacil, water, fltrd 0.7µ GF µg/L (82665)	Terbufos, water, fltrd 0.7µ GF µg/L (82675)
OCT													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
14...	<0.010	<0.004	<0.022	<0.011	0.02	<0.004	<0.010	<0.011	<0.02	0.007	0.03	<0.034	<0.02
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
06...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	0.007	--r	--r
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--

07050690 PEARSON CREEK NEAR SPRINGFIELD, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Thio-bencarb water fltrd 0.7µ GF µg/L (82681)	Tri-allate, water, fltrd 0.7µ GF µg/L (82678)	Tri-flur-alin, water, fltrd 0.7µ GF µg/L (82661)
OCT			
22...	--	--	--
NOV			
19...	--	--	--
DEC			
10...	--	--	--
JAN			
28...	--	--	--
FEB			
14...	<0.005	<0.002	<0.009
20...	--	--	--
MAR			
18...	--	--	--
APR			
23...	--	--	--
MAY			
06...	--r	--r	--r
21...	--	--	--
JUN			
26...	--	--	--
JUL			
28...	--	--	--
AUG			
20...	--	--	--
SEP			
03...	--	--	--

Remark codes used in this table:
e -- Estimated discharge
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
r -- Sample ruined in preparation

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 upstream of Kinser Bridge on county road, 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 National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Dec. 19, 1955, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records fair except for discharges below 10 ft^3/s, which are poor. Flows are affected by the pumping of Blackman Water Treatment Plant, 1.0 mi upstream. Springfield City Utilities gage-height and U.S.G.S satellite telemeters 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

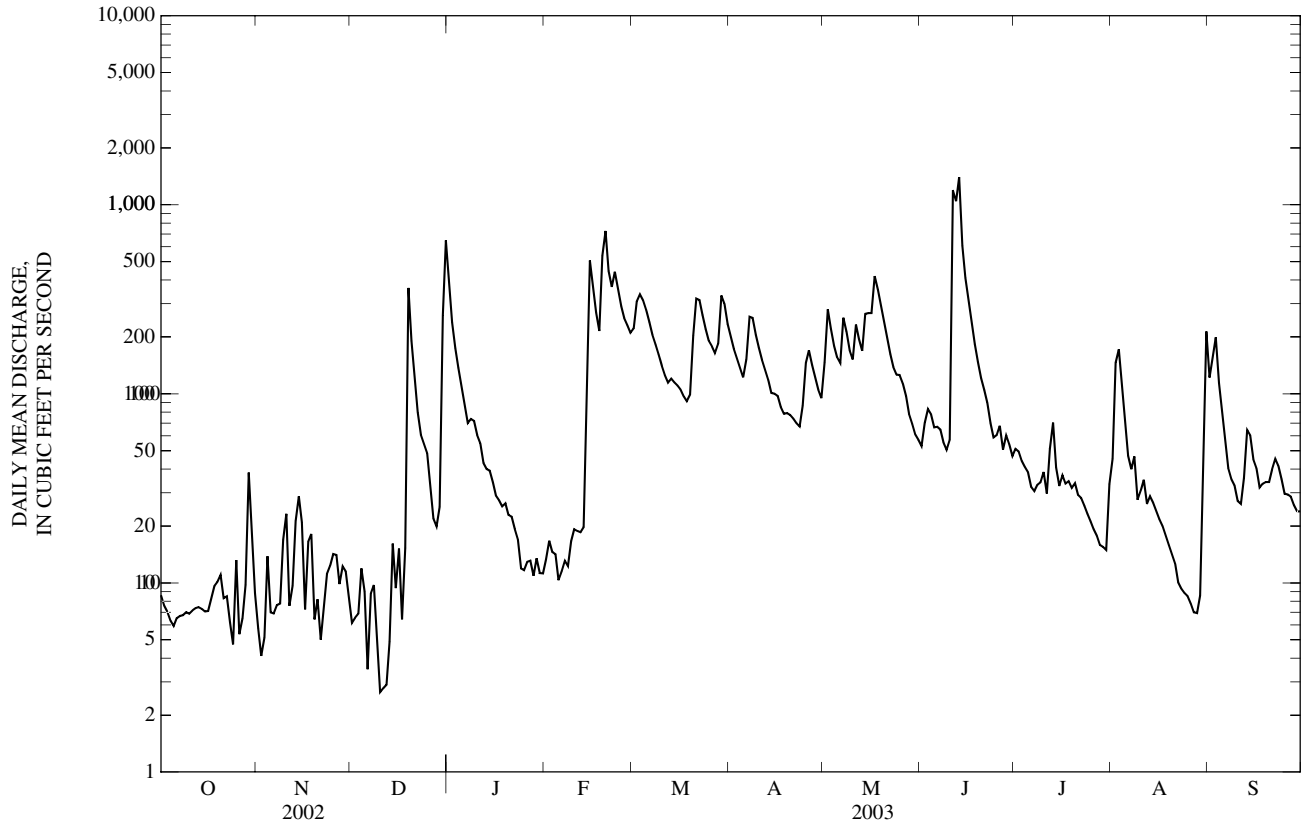
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	5.8	6.1	372	13	222	201	147	53	51	45	122
2	7.6	4.1	6.5	238	17	308	173	280	70	50	146	155
3	7.1	5.1	6.9	174	15	336	154	222	83	44	172	199
4	6.3	14	12	137	14	312	137	180	78	41	107	114
5	5.9	7.0	9.0	111	10	278	122	156	67	39	71	80
6	6.5	6.9	3.5	87	11	239	152	145	67	32	47	57
7	6.7	7.6	8.8	70	13	205	256	253	65	31	40	40
8	6.8	7.8	9.8	74	12	182	252	213	55	33	47	35
9	7.0	17	5.5	72	17	162	206	169	51	34	28	33
10	6.9	23	2.6	61	19	140	176	152	57	39	31	27
11	7.2	7.6	2.8	55	19	126	151	232	1,190	30	35	26
12	7.3	9.6	2.9	43	19	115	134	195	1,040	51	26	36
13	7.4	21	4.9	40	20	120	118	169	1,400	70	29	64
14	7.3	29	16	39	99	115	101	265	608	41	27	60
15	7.1	21	9.4	34	507	111	100	267	410	33	24	45
16	7.1	7.3	15	29	364	105	98	267	306	37	22	40
17	8.3	17	6.4	27	269	97	85	420	235	33	20	32
18	9.6	18	15	25	215	91	79	356	183	34	18	33
19	10	6.4	364	26	537	99	79	290	148	32	16	34
20	11	8.2	190	23	727	204	77	236	121	34	14	34
21	8.3	5.0	123	22	447	319	74	197	105	29	13	40
22	8.5	7.4	80	19	368	313	70	162	90	28	10	45
23	6.2	11	61	17	442	261	67	138	70	26	9.3	42
24	4.7	12	55	12	357	219	86	126	59	23	8.9	35
25	13	14	49	12	291	191	146	126	61	21	8.5	30
26	5.4	14	32	13	251	178	170	113	68	19	7.8	29
27	6.5	9.8	22	13	230	164	142	97	51	18	7.0	29
28	9.8	12	20	11	210	184	123	78	60	16	6.9	26
29	38	12	25	13	---	332	105	69	54	15	8.6	24
30	18	8.2	260	11	---	300	95	61	47	15	40	24
31	8.8	---	648	11	---	234	---	57	---	33	214	---
MEAN	9.00	11.6	66.8	61.0	197	202	131	188	232	33.3	41.9	53.0
MAX	38	29	648	372	727	336	256	420	1,400	70	214	199
MIN	4.7	4.1	2.6	11	10	91	67	57	47	15	6.9	24
IN.	0.04	0.05	0.31	0.29	0.83	0.95	0.59	0.88	1.05	0.16	0.20	0.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2003, BY WATER YEAR (WY)

MEAN	93.1	241	280	210	278	412	424	403	194	105	37.4	107
MAX	587	1,327	1,370	881	972	1,055	1,396	1,672	873	1,148	262	1,566
(WY)	(1971)	(1973)	(1983)	(1995)	(1985)	(1998)	(1994)	(1961)	(1985)	(1958)	(1958)	(1993)
MIN	2.74	9.39	8.26	5.56	8.35	16.4	16.3	27.6	28.1	12.2	3.22	1.05
(WY)	(1957)	(1964)	(1956)	(1981)	(1981)	(1981)	(1981)	(2000)	(1972)	(1962)	(1962)	(1956)

07050700 JAMES RIVER NEAR SPRINGFIELD, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1956 - 2003	
ANNUAL MEAN	238		101		232	
HIGHEST ANNUAL MEAN					465	1985
LOWEST ANNUAL MEAN					52.8	1956
HIGHEST DAILY MEAN	13,500	May 8	1,400	Jun 13	24,500	Sep 25, 1993
LOWEST DAILY MEAN	2.6	Dec 10	2.6	Dec 10	0.30	Sep 16, 1956
ANNUAL SEVEN-DAY MINIMUM	5.1	Dec 6	5.1	Dec 6	0.53	Sep 12, 1956
MAXIMUM PEAK FLOW	---		2,610	Jun 13	41,100	Sep 25, 1993
MAXIMUM PEAK STAGE	---		9.79	Jun 13	19.45	Sep 25, 1993
INSTANTANEOUS LOW FLOW	---		2.3	Dec 9,10	0.10	Sep 16, 1956
ANNUAL RUNOFF (INCHES)	13.13		5.60		12.79	
10 PERCENT EXCEEDS	426		258		499	
50 PERCENT EXCEEDS	49		41		73	
90 PERCENT EXCEEDS	7.4		7.3		12	



07052000 WILSON CREEK AT SPRINGFIELD, MO

LOCATION.--Lat 37°11'12", long 93°19'52", in SE ¼ NE ¼ SE ¼ sec. 28, T.29 N., R.22 W., Greene County, Hydrologic Unit 11010002, 1,600 ft downstream from confluence of Jordan and Fassnight Creeks, at bridge on Scenic Drive in Springfield.

DRAINAGE AREA.--17.8 mi^2.

PERIOD OF RECORD.--May 1932 to November 1939, June 28, 1973 to Sept. 22, 1977, June 4, 1998 to present.

GAGE.--Water-stage recorder. Datum of gage is 1200.86 ft above National Geodetic Vertical Datum of 1929. May 1932 to January 1939, recorder 0.5 mi downstream and at datum 4.7 ft lower.

REMARKS.--Records fair except for estimated daily discharges, which are poor. U.S.G.S. satellite telemeter at station.

REVISIONS.--The maximum instantaneous discharge for the 1999 water year has been revised to 3,560 ft^3/s, May 4, 1999. The maximum instantaneous discharge for 2000 water year and the period of record has been revised to 6,750 ft^3/s, July 12, 2000; the maximum daily discharge for the 2000 water year revised to 1,710 ft^3/s, July 12, 2000, superseding figures published in WDR MO-99-1 and WDR MO-00-1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.81	4.8	2.1	15	3.7	18	9.2	153	5.4	15	15	44
2	0.82	7.4	2.1	15	3.6	16	8.6	12	89	8.2	346	20
3	1.1	5.5	2.0	12	3.6	14	8.2	8.7	8.9	7.1	26	7.8
4	1.1	4.7	3.1	11	3.6	13	7.8	26	7.0	6.3	15	6.7
5	1.1	13	3.3	9.7	3.5	12	7.5	17	6.3	5.8	27	5.8
6	0.99	5.6	3.3	9.1	5.3	12	86	57	23	5.7	26	5.4
7	1.00	4.3	5.0	8.7	4.4	11	13	21	6.4	5.2	12	5.0
8	0.93	4.2	5.5	8.1	3.8	10	9.4	8.6	5.5	4.9	11	4.1
9	0.94	4.2	5.1	7.6	5.6	10	8.4	7.7	5.2	4.6	9.7	3.3
10	1.1	4.2	3.9	7.1	5.3	9.7	7.9	35	66	21	9.1	3.4
11	1.0	4.0	3.4	6.9	4.7	9.2	7.7	14	86	4.7	8.9	30
12	1.1	4.1	3.8	6.4	4.3	9.0	7.4	7.5	96	122	8.1	33
13	1.8	4.2	26	6.3	4.1	47	7.2	81	43	7.3	7.8	40
14	0.94	13	5.4	5.9	151	10	6.9	34	10	5.8	7.6	6.4
15	0.92	7.9	4.0	5.6	27	9.1	6.7	11	8.4	5.1	7.2	5.0
16	0.94	3.6	3.6	6.2	15	8.6	9.4	56	7.7	6.0	6.8	4.5
17	2.8	3.2	3.3	5.7	13	8.4	7.3	19	7.3	4.5	6.2	4.1
18	1.4	3.2	3.6	5.4	28	8.3	6.4	12	6.9	4.4	5.9	3.9
19	3.4	3.1	3.2	5.2	82	49	17	10	6.6	3.9	6.3	4.1
20	1.4	2.9	2.9	5.3	18	30	7.1	9.5	6.3	3.6	5.6	3.6
21	1.2	2.8	2.9	4.8	16	14	6.2	8.5	6.1	3.5	5.4	21
22	1.2	2.7	2.7	4.7	34	11	6.0	8.0	5.8	4.7	5.1	6.0
23	1.1	2.7	2.9	4.3	15	9.9	6.0	7.6	5.6	3.4	4.8	3.0
24	1.1	2.6	3.6	4.0	17	9.3	63	12	5.4	3.3	4.6	2.7
25	76	2.5	3.4	3.6	14	12	e73	9.4	5.7	3.1	4.6	2.6
26	3.5	2.5	3.4	3.6	13	9.1	e14	6.7	43	2.9	4.7	2.7
27	20	2.4	3.9	3.3	14	8.5	e6.9	6.3	5.9	2.8	76	2.9
28	29	2.3	7.7	3.7	15	77	e6.8	6.1	5.3	2.8	12	2.6
29	88	2.1	24	5.0	---	14	20	5.9	5.0	2.8	8.5	2.8
30	7.3	2.1	166	3.8	---	11	5.8	13	145	3.0	110	13
31	5.9	---	32	4.3	---	9.8	---	5.8	---	123	8.5	---
MEAN	8.38	4.39	11.2	6.69	18.8	16.1	15.2	22.2	24.5	13.1	26.2	9.98
MAX	88	13	166	15	151	77	86	153	145	123	346	44
MIN	0.81	2.1	2.0	3.3	3.5	8.3	5.8	5.8	5.0	2.8	4.6	2.6
IN.	0.54	0.28	0.73	0.43	1.10	1.04	0.95	1.44	1.53	0.85	1.70	0.63

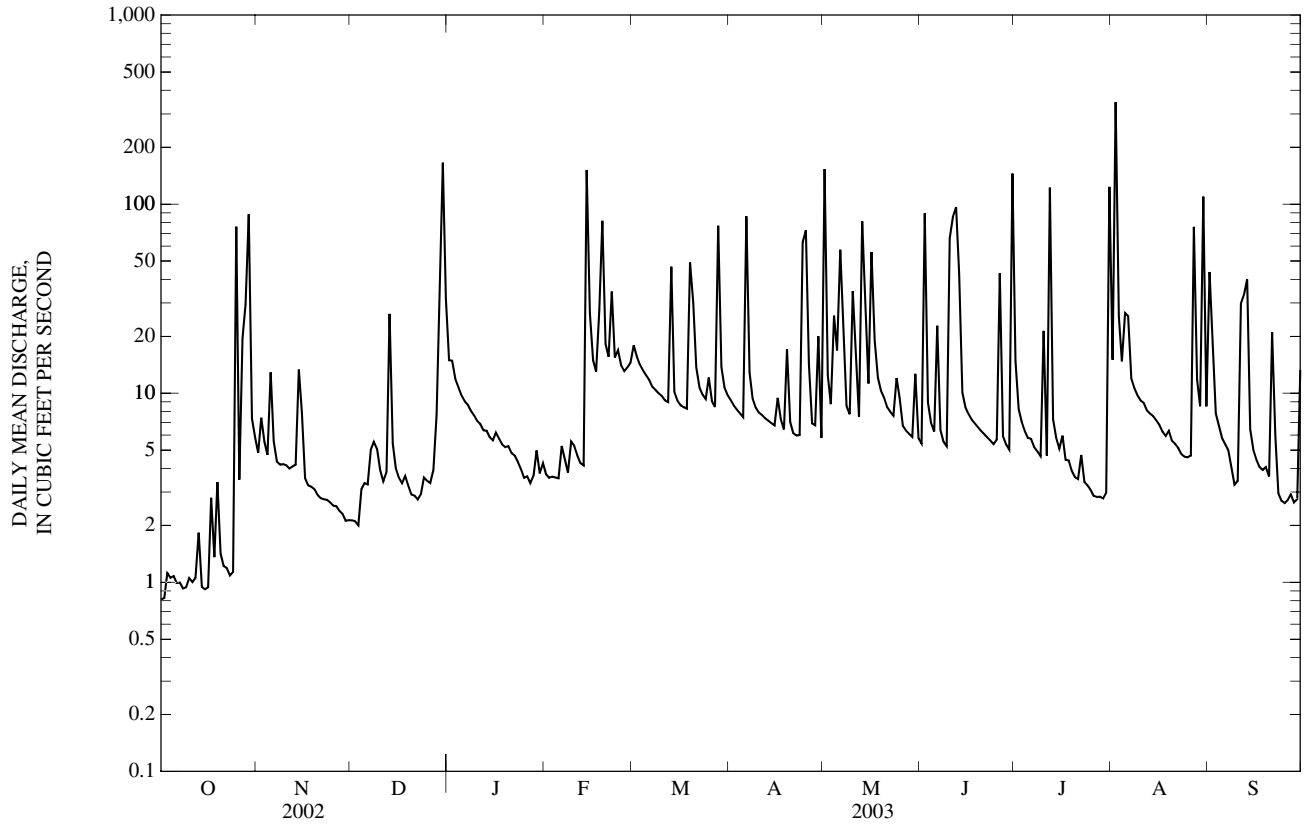
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	13.0	15.7	13.8	17.4	20.2	21.9	23.4	31.4	31.9	19.7	11.1	34.1
MAX	27.7	42.6	29.4	59.7	41.0	57.6	52.9	74.5	119	100	26.2	361
(WY)	(1937)	(1974)	(2000)	(1937)	(2001)	(1935)	(1933)	(2002)	(1935)	(2000)	(2003)	(1975)
MIN	5.02	4.39	5.33	4.33	6.30	7.90	4.13	8.84	6.60	5.62	4.37	1.99
(WY)	(2001)	(2003)	(2001)	(2000)	(1934)	(1936)	(2000)	(1936)	(1936)	(1936)	(1999)	(2002)

07052000 WILSON CREEK AT SPRINGFIELD, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	16.3		14.7		18.5	
HIGHEST ANNUAL MEAN					29.9	1937
LOWEST ANNUAL MEAN					8.26	1936
HIGHEST DAILY MEAN	878	May 8	346	Aug 2	2,160	Sep 12, 1975
LOWEST DAILY MEAN	0.81	Sep 30,Oct 1	0.81	Oct 1	0.81	Feb 16, 2000,Oct 1, 2002
ANNUAL SEVEN-DAY MINIMUM	0.84	Sep 26	0.99	Oct 1	0.84	Sep 26, 2002
MAXIMUM PEAK FLOW	---		1,750[a]	Aug 2	6,750[a]	Jul 12, 2000
MAXIMUM PEAK STAGE	---		8.84	Aug 2	12.70	Jul 12, 2000
INSTANTANEOUS LOW FLOW	---		0.59	Oct 1,2	0.57	Oct 7, 1999
ANNUAL RUNOFF (INCHES)	12.46		11.22		14.12	
10 PERCENT EXCEEDS	27		29		37	
50 PERCENT EXCEEDS	4.7		6.3		9.0	
90 PERCENT EXCEEDS	1.2		2.7		3.3	

e Estimated
[a] From rating extended above 600 ft^3/s on basis of indirect measurement of peak flow.



07052100 WILSON CREEK NEAR SPRINGFIELD, MO

LOCATION.--Lat 37°10'06", long 93°22'14", in NE 1/4 NE 1/4 sec. 6, T.28 N., R.22 W., Greene County, Hydrologic Unit 11010002 on right bank just downstream from bridge on County Road 156, 1 mile upstream of Sewage Treatment Plant, and 0.75 mi upstream of South Creek.

DRAINAGE AREA.--31.4 mi^2.

PERIOD OF RECORD.--Sept. 21, 1972 to Sept. 30, 1982, May 28, 1998 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1149.65 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor except discharges above 5 ft^3/s, which are fair. U.S.G.S satellite telemeter at station.

REVISIONS.--The maximum instantaneous stages for the water years 1999 and 2000 have been revised to 7.62 ft, May 4, 1999, and 9.49 ft, July 12, 2000. The maximum instantaneous discharge for 2000 water year reivsed to 5,480 ft^3/s, and maximum daily discharge revised to 1,200 ft^3/s on July 12, 2000, superseding figures published in WDR MO-99-1 and WDR MO-00-1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.00	e0.00	e0.00	9.0	0.00	9.4	2.7	222	e0.00	25	32	65
2	e0.00	e0.00	e0.00	7.1	0.00	8.8	1.5	13	154	4.9	541	51
3	e0.00	e0.00	e0.00	4.1	0.00	6.9	0.64	6.0	6.5	1.5	25	0.66
4	e0.00	e0.00	e0.00	2.5	0.00	5.9	0.04	15	0.93	e0.01	2.1	e0.05
5	e0.00	2.4	e0.00	1.1	0.00	4.5	e0.00	27	0.02	e0.00	20	e0.00
6	e0.00	0.01	e0.00	e0.30	0.00	3.4	108	45	24	e0.00	23	e0.00
7	e0.00	e0.00	e0.00	e0.06	0.00	2.6	14	52	0.53	e0.00	0.30	e0.00
8	e0.00	e0.00	e0.00	e0.00	0.00	1.9	5.1	4.8	0.13	e0.00	e0.01	e0.00
9	e0.00	e0.00	e0.00	e0.00	0.00	0.81	3.1	2.4	0.01	e0.00	e0.00	e0.00
10	e0.00	e0.00	e0.00	e0.00	0.00	0.46	1.9	33	46	11	e0.00	e0.00
11	e0.00	e0.00	e0.00	e0.00	0.00	0.13	0.98	34	258	0.03	e0.00	45
12	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.36	2.1	129	196	e0.00	11
13	e0.00	e0.00	15	e0.00	0.00	60	0.03	119	143	3.1	e0.00	137
14	e0.00	1.0	e0.40	e0.00	211	3.3	0.00	97	11	e0.01	e0.00	2.0
15	e0.00	4.4	e0.00	e0.00	38	1.4	0.00	11	5.5	e0.00	e0.00	e0.01
16	e0.00	e0.04	e0.00	e0.00	9.1	0.45	e0.10	104	2.2	e0.00	e0.00	e0.00
17	e0.00	e0.00	e0.00	e0.00	6.0	0.03	1.2	57	0.47	e0.00	e0.00	e0.00
18	e0.00	e0.00	e0.00	e0.00	8.1	0.00	e0.00	13	e0.01	e0.00	e0.00	e0.00
19	e0.00	e0.00	e0.00	e0.00	159	64	9.3	7.1	e0.00	e0.00	e0.00	e0.00
20	e0.00	e0.00	e0.00	e0.00	24	43	0.46	5.2	e0.00	e0.00	e0.00	e0.00
21	e0.00	e0.00	e0.00	e0.00	10	13	0.01	3.2	e0.00	e0.00	e0.00	16
22	e0.00	e0.00	e0.00	e0.00	51	5.0	e0.00	1.9	e0.00	e0.00	e0.00	15
23	e0.00	e0.00	e0.00	e0.00	10	3.2	e0.00	0.89	e0.00	e0.00	e0.00	e0.01
24	e0.00	e0.00	e0.00	0.00	10	1.8	70	0.87	e0.00	e0.00	e0.00	e0.00
25	71	e0.00	e0.00	0.00	7.8	2.6	82	5.6	e0.00	e0.00	e0.00	e0.00
26	e0.10	e0.00	e0.00	0.00	5.8	1.9	4.8	0.03	56	e0.00	e0.00	0.00
27	11	e0.00	e0.00	0.00	5.7	0.27	0.97	e0.00	0.04	e0.00	103	0.00
28	3.4	e0.00	e0.30	0.00	6.1	105	0.26	e0.00	e0.00	e0.00	15	0.00
29	129	e0.00	18	0.00	---	14	16	e0.00	e0.00	e0.00	0.35	0.00
30	0.60	e0.00	178	0.00	---	6.1	2.3	3.5	255	e0.00	175	3.8
31	e0.00	---	66	0.00	---	4.1	---	0.01	---	135	6.0	---
MEAN	6.94	0.26	8.96	0.78	20.1	12.1	10.9	28.6	36.4	12.1	30.4	11.6
MAX	129	4.4	178	9.0	211	105	108	222	258	196	541	137
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IN.	0.25	0.01	0.33	0.03	0.67	0.44	0.39	1.05	1.29	0.45	1.12	0.41

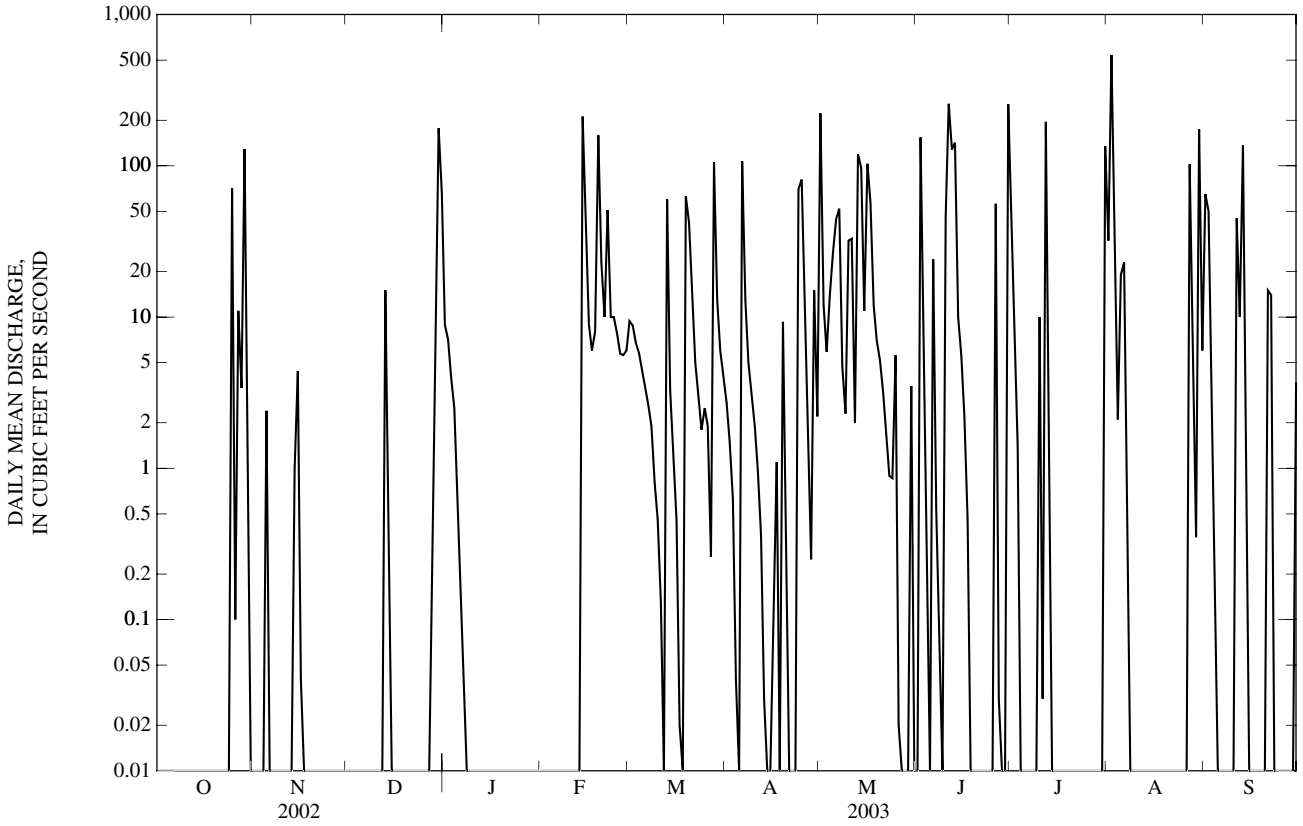
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	15.1	20.2	13.8	11.6	17.8	31.0	28.2	39.7	27.1	17.7	10.5	12.6
MAX	54.6	88.6	34.1	35.4	47.5	74.6	78.1	151	56.6	73.9	30.4	73.0
(WY)	(1973)	(1973)	(1974)	(1982)	(2001)	(1975)	(1979)	(2002)	(1981)	(2000)	(2003)	(1977)
MIN	2.04	0.26	0.56	0.36	2.55	1.08	0.050	3.55	4.31	3.17	1.23	0.33
(WY)	(2000)	(2003)	(2001)	(1977)	(1977)	(2001)	(2000)	(2000)	(2002)	(1980)	(1999)	(2002)

07052100 WILSON CREEK NEAR SPRINGFIELD, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	22.8		14.9		20.6	
HIGHEST ANNUAL MEAN					35.2	1973
LOWEST ANNUAL MEAN					9.43	2001
HIGHEST DAILY MEAN	1,810	May 8	541	Aug 2	1,810	May 8, 2002
LOWEST DAILY MEAN	0.00	Many Days	0.00	Many Days	0.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	0.00	At Times	0.00	At Times	0.00	Many Years
MAXIMUM PEAK FLOW	---		1,870	Jun 30	5,480	Jul 12, 2000
MAXIMUM PEAK STAGE	---		7.03	Jun 30	9.49	Jul 12, 2000
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Many Years
ANNUAL RUNOFF (AC-FT)	16,470		10,770		14,930	
10 PERCENT EXCEEDS	45		44		44	
50 PERCENT EXCEEDS	0.28		0.00		6.4	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated



07052120 SOUTH CREEK NEAR SPRINGFIELD, MO

LOCATION.--Lat 37°09'16", long 93°21'51", Greene County, Hydrologic Unit 11010002, 50 ft downstream of State Highway FF bridge, 0.25 mi west of junction of James River Expressway and Highway FF.

DRAINAGE AREA.--10.5 mi^2.

PERIOD OF RECORD.--May 29, 1998 to present.

REVISED RECORDS.--WDR MO-01-1: 2000 (M).

GAGE.--Water-stage recorder. Elevation of gage is 1146.00 ft from topographic map.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	28	0.00	0.00	0.00	e489	0.00	13	0.00	7.3
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e272	40	0.00	103	7.0
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	65	0.11	0.00	3.1	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e10	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	129	0.00	0.00	20	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	25	e65	6.3	0.00	0.69	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	11	e189	0.06	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.17	35	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14	1.1	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	98	38	0.00	0.00	3.5
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.4	1.5	24	0.00	4.2
13	0.00	0.00	1.2	0.00	0.00	e512	0.00	e79	2.7	0.05	0.00	32
14	0.00	0.00	0.00	0.00	e252	131	0.00	151	0.00	0.00	0.00	0.06
15	0.00	0.00	0.00	0.00	177	18	0.00	69	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	24	0.00	0.00	100	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	135	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	68	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	163	448	0.77	4.3	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	54	450	0.33	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	1.7	208	0.00	0.00	0.00	0.00	0.00	0.42
22	0.00	0.00	0.00	0.00	136	24	0.00	0.00	0.00	0.00	0.00	8.0
23	0.00	0.00	0.00	0.00	34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.49	0.00	e368	0.00	0.00	0.00	0.00	0.00
25	e482	0.00	0.00	0.00	0.00	0.00	e381	0.00	0.00	0.00	0.00	0.00
26	122	0.00	0.00	0.00	0.00	0.00	123	0.00	10	0.00	0.00	0.00
27	6.8	0.00	0.00	0.00	0.00	0.00	27	0.00	0.00	0.00	0.00	0.00
28	e302	0.00	0.00	0.00	0.00	e298	0.00	0.00	0.00	0.00	0.00	0.00
29	e611	0.00	31	0.00	---	130	0.00	0.00	0.00	0.00	0.00	0.00
30	176	0.00	e339	0.00	---	5.5	0.00	0.00	e85	0.00	25	0.00
31	3.7	---	e298	0.00	---	5.8	---	0.00	---	0.00	0.37	---
MEAN	55.0	0.00	21.6	0.90	30.1	71.9	31.2	63.8	6.16	1.20	4.91	2.08
MAX	611	0.00	339	28	252	512	381	489	85	24	103	32
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IN.	6.04	0.00	2.37	0.10	2.98	7.90	3.32	7.01	0.65	0.13	0.54	0.22

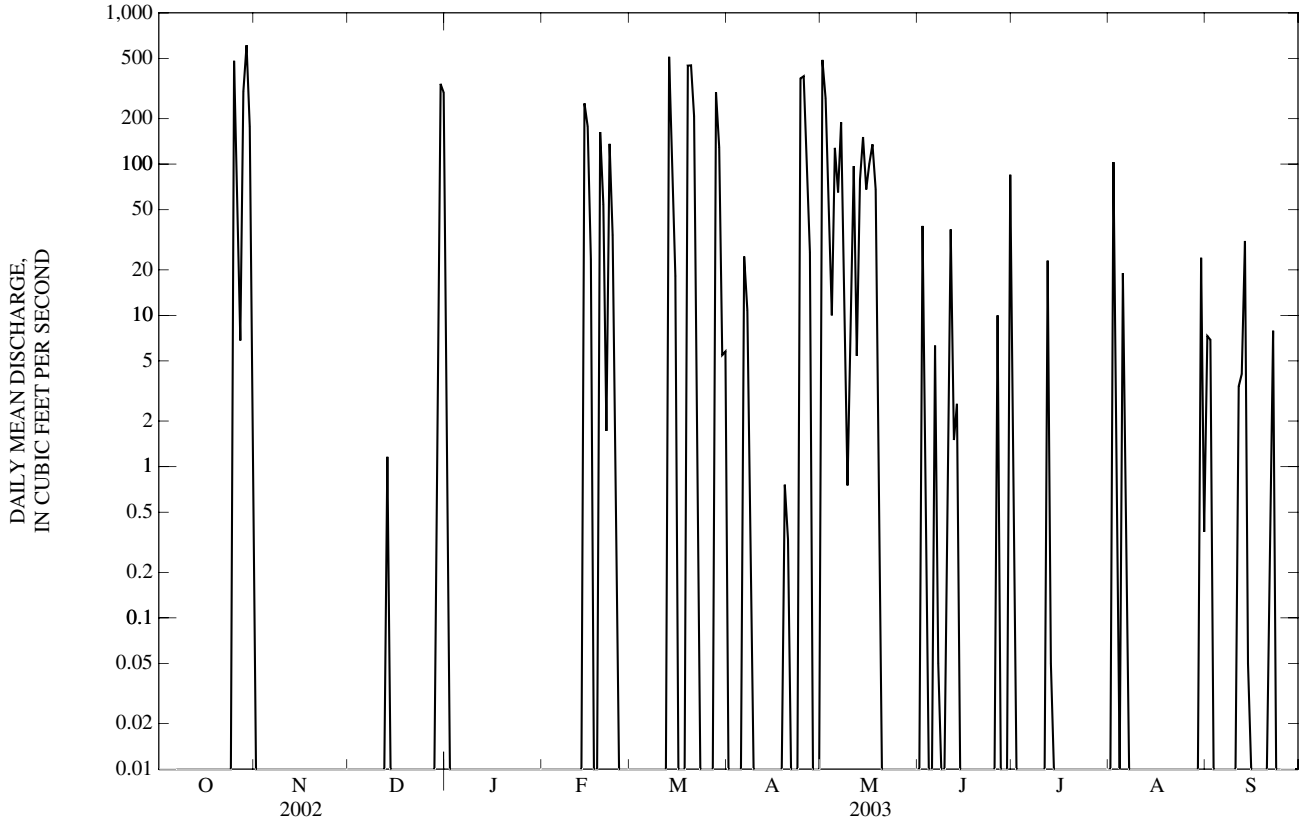
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

MEAN	12.1	0.89	6.15	1.30	8.39	16.0	8.41	18.7	2.72	6.98	4.10	1.53
MAX	55.0	1.81	21.6	2.73	30.1	71.9	31.2	63.8	6.16	24.5	17.6	3.10
(WY)	(2003)	(1999)	(2003)	(1999)	(2003)	(2003)	(2003)	(2003)	(2003)	(2000)	(2002)	(1998)
MIN	0.00	0.00	0.00	0.00	1.63	0.09	0.14	0.44	0.56	0.70	0.00	0.00
(WY)	(2001)	(2003)	(2001)	(2001)	(2002)	(2001)	(2000)	(2001)	(1998)	(1998)	(1999)	(1999)

07052120 SOUTH CREEK NEAR SPRINGFIELD, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1998 - 2003	
ANNUAL MEAN	11.4		24.2		7.46	
HIGHEST ANNUAL MEAN					24.2	2003
LOWEST ANNUAL MEAN					1.57	2001
HIGHEST DAILY MEAN	611	Oct 29	611	Oct 29	611	Oct 29, 2002
LOWEST DAILY MEAN	0.00	Many Days	0.00	Many Days	0.00	Many Years
ANNUAL SEVEN-DAY MINIMUM	0.00	At Times	0.00	At Times	0.00	At Times
MAXIMUM PEAK FLOW	---		Unknown	Mar 13	Unknown	Jul 12, 2000
MAXIMUM PEAK STAGE	---		7.16	Mar 13	9.63	Aug 17, 2002
INSTANTANEOUS LOW FLOW	---		0.00	Many Days	0.00	Many Years
ANNUAL RUNOFF (INCHES)	14.72		31.26		9.66	
10 PERCENT EXCEEDS	12		58		6.9	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated



07052152 WILSON CREEK NEAR BROOKLINE, MO

LOCATION.--Lat 37°09'07", long 93°22'18", in NW ¼ NE ¼ NE ¼ sec.7, T.28 N., R.22 W., Greene County, Hydrologic Unit 11010002, at bridge on Farm Road 168, 2.0 mi southeast of Brookline, approximately 0.25 mi downstream from the Southwest Treatment Plant, and 0.5 mi downstream from South Creek.

DRAINAGE AREA.--39.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 10, 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--No estimated daily discharges. Water-discharge records good. Natural flow partially regulated and affected by sewage effluent.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

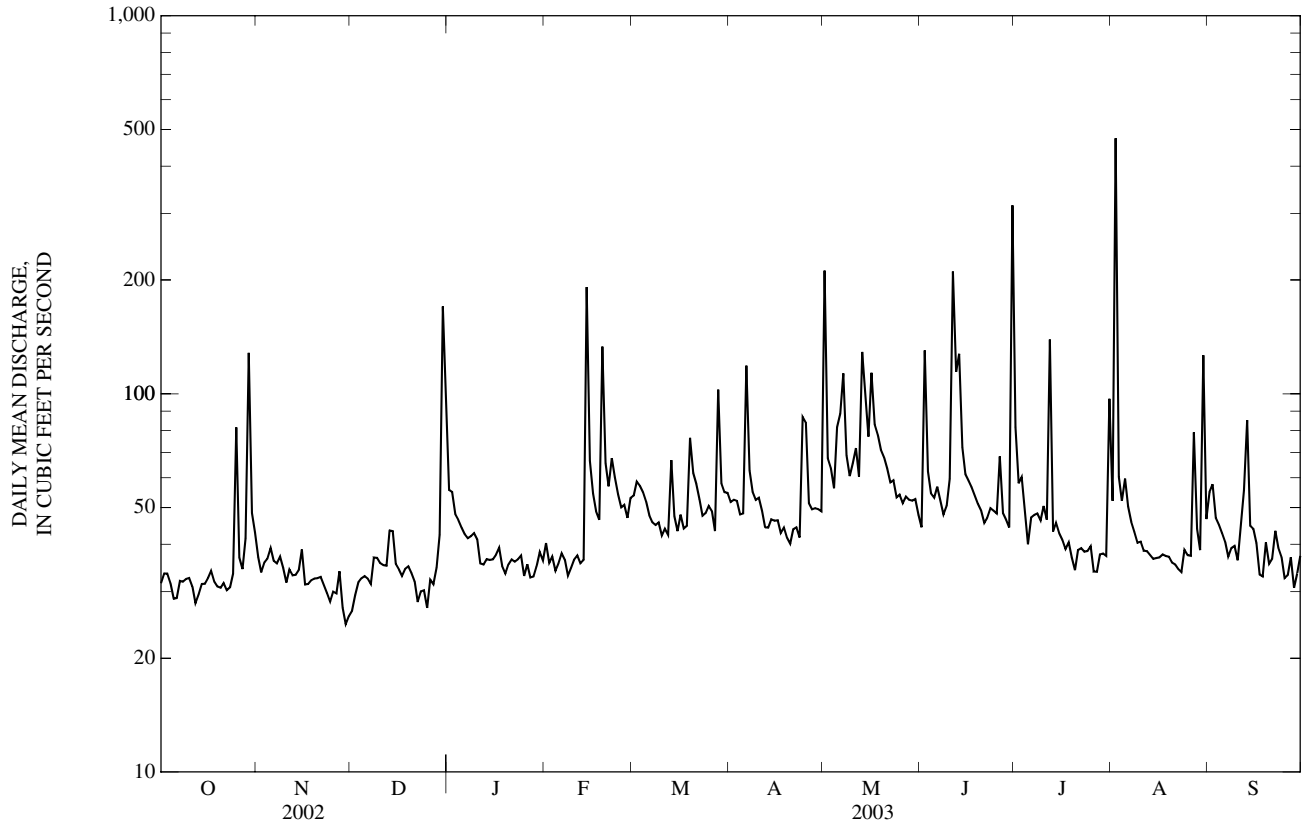
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	37	27	56	40	54	52	212	44	82	52	55
2	33	34	29	55	36	59	52	68	130	58	474	58
3	33	36	32	48	37	57	52	64	62	60	60	47
4	32	37	33	46	34	55	48	56	55	48	52	45
5	29	39	33	44	36	52	48	82	53	40	60	43
6	29	36	32	43	38	48	119	89	57	47	50	41
7	32	36	31	42	36	46	63	113	52	48	46	37
8	32	37	37	42	33	45	55	69	48	48	43	39
9	32	35	37	43	35	46	52	61	51	46	40	40
10	33	32	36	41	36	42	53	65	60	51	41	36
11	31	34	35	36	37	44	49	72	211	47	39	45
12	28	33	35	35	36	42	44	60	114	139	38	56
13	29	33	44	37	36	67	44	129	128	43	38	85
14	31	34	43	36	191	47	47	101	72	46	37	45
15	31	39	35	37	67	43	46	77	61	43	37	44
16	33	31	34	38	54	48	46	114	59	41	37	40
17	34	31	33	39	49	44	43	83	57	39	38	33
18	32	32	34	35	46	45	44	78	54	40	37	33
19	31	32	35	33	133	77	42	71	51	37	37	40
20	31	33	34	35	66	62	40	68	49	34	36	36
21	32	33	32	36	57	58	44	64	46	39	35	37
22	30	31	28	36	68	53	44	58	47	39	34	43
23	31	30	30	36	60	48	42	59	50	38	34	39
24	33	28	30	37	54	48	87	53	49	38	39	37
25	81	30	27	33	50	51	84	54	48	40	37	33
26	37	30	32	35	51	49	51	51	68	34	37	33
27	34	34	31	33	47	43	49	53	48	34	79	37
28	41	27	35	33	53	103	50	52	46	38	44	31
29	128	25	42	35	---	58	50	52	44	38	39	34
30	48	26	170	38	---	55	49	53	315	37	126	37
31	43	---	110	36	---	55	---	48	---	97	47	---
MEAN	37.6	32.8	40.5	39.0	54.1	53.0	53.0	75.1	74.3	48.7	59.5	42.0
MAX	128	39	170	56	191	103	119	212	315	139	474	85
MIN	28	25	27	33	33	42	40	48	44	34	34	31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

MEAN	43.9	36.1	54.4	46.8	57.0	62.3	63.3	152	59.8	46.4	47.6	40.5
MAX	50.1	39.3	68.2	54.6	59.9	71.5	73.6	230	74.3	48.7	59.5	45.0
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2003)	(2003)	(2003)	(2001)
MIN	37.6	32.8	40.5	39.0	54.1	53.0	53.0	75.1	45.4	44.1	39.2	34.4
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2002)	(2002)	(2002)

07052152 WILSON CREEK NEAR BROOKLINE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL MEAN	63.8		50.8		59.3	
HIGHEST ANNUAL MEAN					67.8	2002
LOWEST ANNUAL MEAN					50.8	2003
HIGHEST DAILY MEAN	2,750	May 8	474	Aug 2	2,750	May 8, 2002
LOWEST DAILY MEAN	25	Nov 29	25	Nov 29	25	Nov 29, 2002
ANNUAL SEVEN-DAY MINIMUM	28	Nov 26	28	Nov 26	28	Nov 26, 2002
MAXIMUM PEAK FLOW	---		2,410	Jun 30	Unknown	May 8, 2002
MAXIMUM PEAK STAGE	---		7.76	Jun 30	10.27	May 8, 2002
INSTANTANEOUS LOW FLOW	---		16	Several Days	6.1	Sep 18, 2002
ANNUAL RUNOFF (INCHES)	21.94		17.45		20.39	
10 PERCENT EXCEEDS	81		70		81	
50 PERCENT EXCEEDS	40		43		43	
90 PERCENT EXCEEDS	32		32		33	



07052152 WILSON CREEK NEAR BROOKLINE, MO--Continued
(Ambient Water-Quality Monitoring Network)

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
19...	1415	Environmental	38	15.1	169	7.2	1,150	19.0	200	62.5	9.55	14.2
JAN												
28...	1335	Environmental	37	18.8	190	7.4	1,110	13.8	--	--	--	--
28...	1336	Replicate	--	18.4	186	7.4	1,110	13.8	--	--	--	--
MAR												
18...	1025	Environmental	46	16.5	178	7.3	1,050	16.4	--	--	--	--
MAY												
20...	1515	Environmental	73	14.9	169	7.6	1,070	19.7	220	79.2	6.28	10.4
JUL												
28...	1225	Environmental	44	13.7	177	7.4	1,290	26.0	--	--	--	--
SEP												
16...	0835	Environmental	38	11.8	144	7.3	1,220	23.2	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
19...	152	152	153	186	<1	153	0.63	80.4	655	<10	1.4	0.21	9.10
JAN													
28...	--	133	132	161	<1	--	--	--	--	<10	1.3	E.04	13.4
28...	--	--	--	--	--	--	--	--	--	11	1.3	E.03	13.0
MAR													
18...	--	153	152	185	<1	--	--	--	--	<10	1.6	0.09	14.4
MAY													
20...	118	204	206	252	<1	132	0.5	68.6	624	<10	5.0	3.35	5.50
JUL													
28...	--	118	118	144	<1	--	--	--	--	<16	1.6	0.15	15.9
SEP													
16...	--	168	167	203	<1	--	--	--	--	<10	6.4d	<0.41d	0.95d

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
19...	0.022	0.29	0.32	0.64	1,020	1,020	124	40	227	<3.9	0.07	<0.2	E5n
JAN													
28...	<0.008	0.39	0.42	0.69	9k	52	28k	--	--	--	--	--	--
28...	<0.008	0.38	0.41	0.64	27k	67	37k	--	--	--	--	--	--
MAR													
18...	0.011	0.39	0.45	0.76	77	550k	325	--	--	--	--	--	--
MAY													
20...	0.157	0.23	0.28	0.38	240	1,200	64	40	114	0.8	0.05	<0.2	E3
JUL													
28...	0.012	0.09	0.20	0.38	44	680	397	--	--	--	--	--	--
SEP													
16...	0.246	0.14	0.18	0.30	520k	480k	535k	--	--	--	--	--	--

07052152 WILSON CREEK NEAR BROOKLINE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µug/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
19...	30	0.72	1	27.5	<0.02	<7.5	39	37
JAN								
28...	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--
MAR								
18...	--	--	--	--	--	--	--	--
MAY								
20...	34	0.45	M	42.9	<0.02	1.9	33	33
JUL								
28...	--	--	--	--	--	--	--	--
SEP								
16...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07052160 WILSON CREEK NEAR BATTLEFIELD, MO

LOCATION.--Lat 37°07'04", long 93°24'14", in SW ¼ NW ¼ sec.24, T.28 N., R.23 W., Greene County, Hydrologic Unit 11010002, on left bank 50 ft downstream from bridge on Greene County Road 182, 0.3 mi upstream from McElhaney Branch, and 1.8 mi west of Battlefield.

DRAINAGE AREA.--58.3 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1968 to September 1970, October 1972 to September 1982, Aug. 3, 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,100 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 20, 1972, at site 50 ft upstream. For period 1972 to 1982, at site 250 ft downstream.

REMARKS.--No estimated daily discharges. Water-discharge records good. Natural flow partially regulated and affected by sewage effluent. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

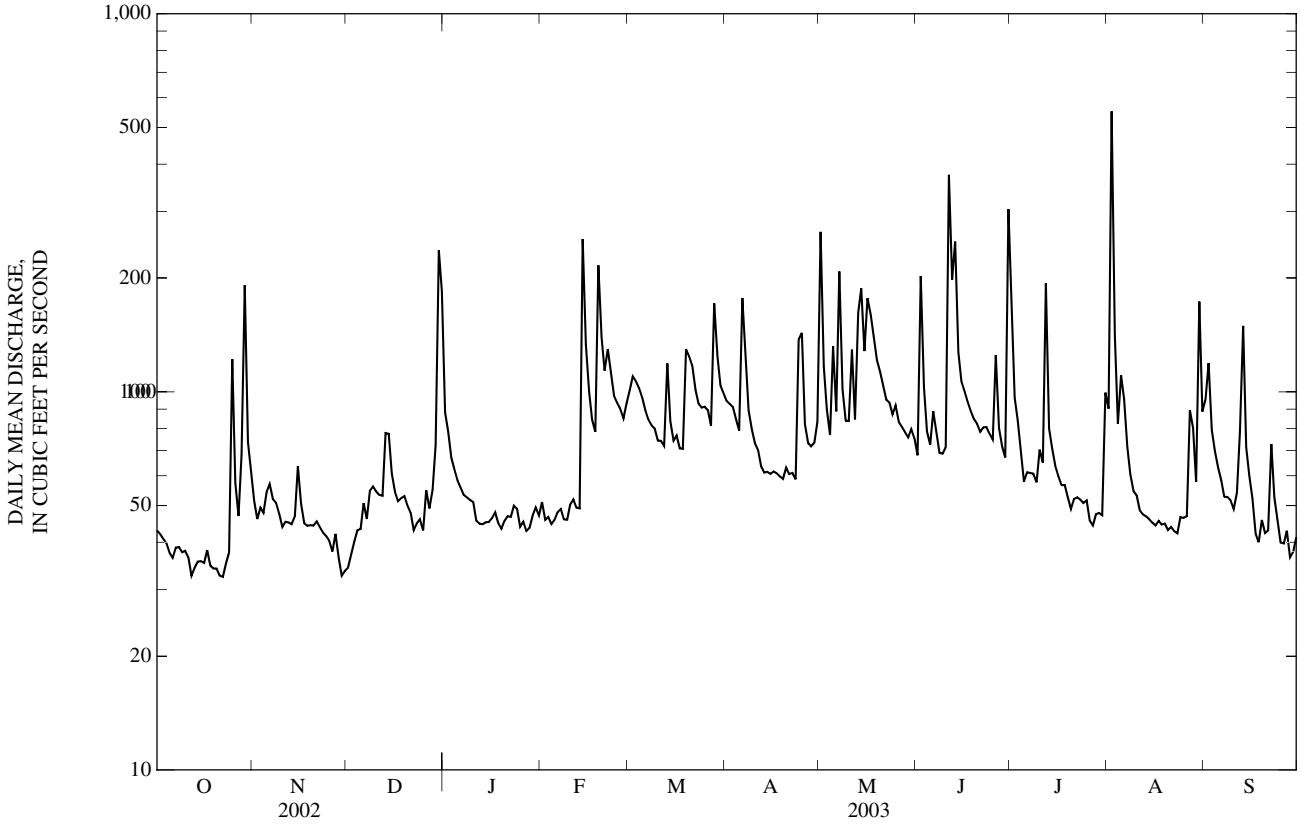
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	51	34	88	51	101	95	265	68	172	90	96
2	42	46	37	79	46	110	93	117	202	96	551	119
3	41	49	40	67	47	107	91	90	103	84	141	79
4	40	48	43	62	45	102	84	77	79	70	82	69
5	37	54	43	58	46	97	79	132	72	58	110	63
6	36	57	51	56	48	89	177	89	89	61	96	58
7	39	52	46	53	49	84	120	208	78	61	72	53
8	39	51	55	53	46	82	89	102	69	61	60	53
9	38	48	56	52	46	80	80	84	69	58	55	52
10	38	44	55	51	50	74	73	84	71	70	53	49
11	36	45	53	46	52	74	70	129	375	65	49	54
12	33	45	53	45	49	72	64	85	198	193	47	79
13	34	45	78	45	49	119	61	162	250	80	47	149
14	36	47	77	45	254	84	61	188	127	71	46	71
15	36	64	61	45	133	74	61	128	107	64	45	60
16	35	51	54	46	100	77	62	177	100	60	44	52
17	38	45	51	48	84	71	61	160	94	57	46	42
18	35	44	52	45	78	71	60	139	89	57	45	40
19	34	44	53	43	216	130	59	121	85	53	45	46
20	34	44	50	46	140	124	63	113	82	49	43	42
21	33	45	48	47	114	117	61	104	78	52	44	43
22	32	44	43	47	130	101	61	95	81	53	43	73
23	35	42	45	50	112	93	59	94	81	52	42	53
24	38	42	46	49	98	91	137	87	77	51	47	45
25	122	40	43	44	93	91	143	92	75	52	46	40
26	57	38	55	45	90	89	82	83	125	46	47	40
27	47	42	49	43	85	81	73	81	80	44	89	43
28	68	36	55	44	93	172	72	78	72	47	80	36
29	191	33	72	47	---	125	73	76	67	48	58	38
30	74	34	237	49	---	104	83	80	304	47	173	41
31	61	---	184	47	---	99	---	75	---	100	89	---
MEAN	48.5	45.7	61.9	51.1	87.3	96.3	81.6	116	115	68.8	81.5	59.3
MAX	191	64	237	88	254	172	177	265	375	193	551	149
MIN	32	33	34	43	45	71	59	75	67	44	42	36
IN.	0.96	0.87	1.22	1.01	1.56	1.90	1.56	2.29	2.20	1.36	1.61	1.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2003, BY WATER YEAR (WY)

MEAN	60.4	99.7	81.6	73.7	96.4	139	115	120	98.6	76.4	55.1	58.3
MAX	103	354	208	169	189	289	281	378	201	236	82.4	155
(WY)	(1973)	(1973)	(1974)	(1973)	(2001)	(1973)	(1973)	(2002)	(1974)	(2000)	(1982)	(1977)
MIN	36.1	23.9	23.4	24.9	32.1	53.4	57.0	45.7	48.5	34.9	27.7	25.3
(WY)	(1977)	(1977)	(1977)	(1977)	(1970)	(1976)	(2000)	(1977)	(1969)	(1969)	(1970)	(1980)

07052160 WILSON CREEK NEAR BATTLEFIELD, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1968 - 2003	
ANNUAL MEAN	109		76.0		90.4	
HIGHEST ANNUAL MEAN					150	1973
LOWEST ANNUAL MEAN					56.9	1977
HIGHEST DAILY MEAN	2,730	May 8	551	Aug 2	2,830	May 20, 1979
LOWEST DAILY MEAN	32	Oct 22	32	Oct 22	17	Aug 27, 1970
ANNUAL SEVEN-DAY MINIMUM	34	Oct 16	34	Oct 16	20	Aug 24, 1970
MAXIMUM PEAK FLOW	---		1,810	Jun 30	7,240	May 20, 1979
MAXIMUM PEAK STAGE	---		7.34	Jun 30	14.03	May 20, 1979
INSTANTANEOUS LOW FLOW	---		21	Oct 21,22	11	Oct 24, 1999
ANNUAL RUNOFF (INCHES)	25.41		17.69		21.06	
10 PERCENT EXCEEDS	195		125		165	
50 PERCENT EXCEEDS	66		61		59	
90 PERCENT EXCEEDS	42		42		31	



07052160 WILSON CREEK NEAR BATTLEFIELD, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 2001 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
22...	0935	Environmental	23	6.3	70	7.3	967	18.2	--	--	--	--
25...	0855	Environmental	335	7.2	79	7.1	734	17.8	170	56.2	6.25	9.58
25...	0856	Replicate	--	--	--	--	--	--	160	55.9	6.14	9.47
NOV												
19...	1145	Environmental	43	10.6	108	7.6	926	15.0	220	72.9	8.56	8.85
DEC												
10...	1300	Environmental	55	11.5	114	7.5	1,210	12.8	--	--	--	--
JAN												
28...	1105	Environmental	47	11.6	107	7.5	889	10.2	220	72.8	8.19	10.0
FEB												
20...	1045	Environmental	145	11.4	108	7.1	731	11.4	--	--	--	--
MAR												
18...	0915	Environmental	60	8.4	87	7.2	780	14.4	--	--	--	--
28...	1100	Environmental	232	9.9	--	7.4	914	12.3	250	87.3	6.85	7.61
APR												
23...	1140	Environmental	54	10.6	112	7.3	1,000	16.3	--	--	--	--
MAY												
20...	1215	Environmental	116	9.6	104	7.3	781	17.6	240	88.5	5.22	5.74
JUN												
25...	1555	Environmental	81	6.4	80	7.4	1,010	23.3	--	--	--	--
JUL												
28...	1350	Environmental	49	9.1	116	7.4	1,110	25.2	210	67.2	9.52	11.4

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
22...	--	144	146	178	<1	--	--	--	--	<10	0.66	E.03	8.78
25...	87.1	140	142	173	<1	91.9	0.40	52.5	458	300	4.2	0.90	5.26
25...	85.2	--	--	--	<1	91.2	0.50	51.7	451	292	4.9	0.86	5.16
NOV													
19...	99.6	158	159	194	<1	103	0.40	73.9	548	<10	0.53	<0.04	9.41
DEC													
10...	--	170	169	206	<1	--	--	--	--	<10	0.63	0.12	6.99
JAN													
28...	91.6	150	150	183	<1	102	0.41	62.1	521	<10	0.72	<0.04	4.01
FEB													
20...	--	149	150	183	<1	--	--	--	--	<10	0.96	0.05	5.13
MAR													
18...	--	165	166	202	<1	--	--	--	--	<10	0.82	0.06	10.8
28...	95.3	172	174	212	<1	116	0.32	60.3	553	34	1.6	0.48	7.30
APR													
23...	--	186	189	230	<1	--	--	--	--	<10	1.8	1.00	8.36
MAY													
20...	63.7	198	201	245	<1	79.8	0.30	44.0	473	<10	0.68	0.16	4.42
JUN													
25...	--	180	180	220	<1	--	--	--	--	<10	2.3	1.28	8.95
JUL													
28...	136	149	145	176	<1	145	0.50	95.0	658	<10	0.84	0.06	11.2

07052160 WILSON CREEK NEAR BATTLEFIELD, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
22...	0.015	0.29	0.31	0.33	100	235	82	--	--	--	--	--	--
25...	0.054	0.24	0.26	2.46	21,000	33,000	21,000	10	4,020	--u	0.07	0.2	6
25...	0.054	0.23	0.25	2.41	--	--	--	11	4,090	--u	0.06	E.3n	E5n
NOV													
19...	0.021	0.28	0.29	0.30	73	190	58	18	50	<3.9	0.07	<0.2	<6
DEC													
10...	0.066	0.15	0.17	0.18	16k	78k	12k	--	--	--	--	--	--
JAN													
28...	E.006	0.10	0.10	0.35	32k	130k	66	26	87	2.8	0.17	<0.2	E4
FEB													
20...	0.013	0.09	0.11	0.23	440	600k	389	--	--	--	--	--	--
MAR													
18...	0.216	0.46	0.48	0.56	56	540k	360	--	--	--	--	--	--
28...	0.128	0.25	0.30	0.51	1,900k	630	3,700	21	531	3.4	0.11	<0.2	<6
APR													
23...	0.163	0.29	0.32	0.36	17k	110	7k	--	--	--	--	--	--
MAY													
20...	0.100	0.22	0.25	0.31	23k	112	57k	12	117	0.6	0.05	<0.2	<6
JUN													
25...	0.698	0.14	0.17	0.20	59	160	35	--	--	--	--	--	--
JUL													
28...	0.022	0.14	0.20	0.22	3k	170	155	25	119	--u	1.78	<0.2	E4n

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)	2,6-Di-ethyl-aniline water fltrd 0.7µ GF ug/L (82660)	CIAT, water, fltrd, µg/L (04040)	Aceto-chlor, water, fltrd, µg/L (49260)	Ala-chlor, water, fltrd, µg/L (46342)	alpha-HCH, water, fltrd, µg/L (34253)
OCT													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	40	0.40	30	133	0.20	--u	21	124	<0.006	<0.006	<0.006	<0.004	<0.005
25...	35	0.40	31	129	0.10	--u	21	129	<0.006	<0.006	<0.006	<0.004	<0.005
NOV													
19...	17	0.41	M	11.4	<0.02	E5.4n	24	22	--	--	--	--	--
DEC													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
28...	23	0.42	M	15.7	<0.02	8.8	33	33	--	--	--	--	--
FEB													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	24	0.63	3	46.0	0.05	9.9	33	45	<0.006	<0.006	0.029	<0.004	<0.005
APR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
20...	E10	0.20	M	18.9	<0.02	0.9	20	21	--	--	--	--	--
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
28...	10	0.55	1	14.7	<0.02	--u	28	29	--	--	--	--	--

07052160 WILSON CREEK NEAR BATTLEFIELD, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Atrazine, water, fltrd, µg/L (39632)	Azinphos-methyl, water, fltrd 0.7µ GF µg/L (82686)	Benfluralin, water, fltrd 0.7µ GF µg/L (82673)	Butylate, water, fltrd, µg/L (04028)	Carbaryl, water, fltrd 0.7µ GF µg/L (82680)	Carbofuran, water, fltrd 0.7µ GF µg/L (82674)	Chlorpyrifos water, fltrd, µg/L (38933)	cis-Permethrin water fltrd 0.7µ GF µg/L (82687)	Cyanazine, water, fltrd, µg/L (04041)	DCPA, water fltrd 0.7µ GF µg/L (82682)	Diazinon, water, fltrd, µg/L (39572)	Dieldrin, water, fltrd, µg/L (39381)	Disulfoton, water, fltrd 0.7µ GF µg/L (82677)
OCT													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	<0.007	<0.050	<0.010	<0.002	E.019	<0.020	<0.005	<0.006	<0.018	<0.003	0.025	<0.005	<0.02
25...	<0.007	<0.050	<0.010	<0.002	E.019	<0.020	<0.005	<0.006	<0.018	<0.003	0.024	<0.005	<0.02
NOV													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	<0.007	<0.150	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	0.016	<0.005	<0.02
APR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	EPTC, water, fltrd 0.7µ GF µg/L (82668)	Ethalfluralin, water, fltrd 0.7µ GF µg/L (82663)	Ethoprop, water, fltrd 0.7µ GF µg/L (82672)	Fonofos water, fltrd, µg/L (04095)	Lindane water, fltrd, µg/L (39341)	Linuron water fltrd 0.7µ GF µg/L (82666)	Malathion, water, fltrd, µg/L (39532)	Methyl parathion, water, fltrd 0.7µ GF µg/L (82667)	Metolachlor, water, fltrd, µg/L (39415)	Metribuzin, water, fltrd, µg/L (82630)	Molinate, water, fltrd 0.7µ GF µg/L (82671)	Napropamide, water, fltrd 0.7µ GF µg/L (82684)	p,p-' DDE, water, fltrd, µg/L (34653)
OCT													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003
25...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003
NOV													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	E.005n	<0.006	<0.002	<0.007	<0.003
APR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--

07052160 WILSON CREEK NEAR BATTLEFIELD, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Parathion, water, fltrd, µg/L (39542)	Pebulate, water, fltrd 0.7µ GF µg/L (82669)	Pendimethalin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water fltrd 0.7µ GF µg/L (82664)	Prometon, water, fltrd, µg/L (04037)	Pronamide, water, fltrd 0.7µ GF µg/L (82676)	Propachlor, water, fltrd, µg/L (04024)	Propanil, water, fltrd 0.7µ GF µg/L (82679)	Propargite, water, fltrd 0.7µ GF µg/L (82685)	Simazine, water, fltrd, µg/L (04035)	Tebuthiuron water fltrd 0.7µ GF µg/L (82670)	Terbacil, water, fltrd 0.7µ GF µg/L (82665)	Terbufos, water, fltrd 0.7µ GF µg/L (82675)
OCT													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	<0.010	<0.004	<0.022	<0.011	0.08	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
25...	<0.010	<0.004	<0.022	<0.011	0.08	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
NOV													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	<0.010	<0.004	<0.022	<0.011	0.06	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
APR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Thiobencarb water fltrd 0.7µ GF µg/L (82681)	Triallate, water, fltrd 0.7µ GF µg/L (82678)	Trifluralin, water, fltrd 0.7µ GF µg/L (82661)
OCT			
22...	--	--	--
25...	S.005	0.049	<0.009
25...	<0.005	0.050	<0.009
NOV			
19...	--	--	--
DEC			
10...	--	--	--
JAN			
28...	--	--	--
FEB			
20...	--	--	--
MAR			
18...	--	--	--
28...	<0.005	<0.002	<0.009
APR			
23...	--	--	--
MAY			
20...	--	--	--
JUN			
25...	--	--	--
JUL			
28...	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified
S -- Most probable value

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above LT-MDL

Null value qualifier codes used in this table:
u -- Unable to determine-matrix interference

07052250 JAMES RIVER NEAR BOAZ, MO

LOCATION.--Lat 37°00'25", long 93°21'50", in NE ¼ NE ¼ NW ¼ sec.32, T.27 N., R.22 W., Christian County, Hydrologic Unit 11010002, on left bank 150 ft downstream from Frazier Bridge, 0.2 mi upstream from Turkey Hollow, and 2.0 mi southeast of Boaz.

DRAINAGE AREA.--462 mi^2.

WATER-DISCHARGE RECORDS

PREIOD OF RECORD.--October 1972 to September 1980, October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1035.35 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Partially regulated at low flow by Lake Springfield and sewage effluent from Southwest Treatment Plant.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	109	49	775	82	432	e490	392	154	648	170	270
2	56	91	54	525	79	522	e410	421	291	256	846	336
3	58	93	57	406	77	631	352	413	310	197	689	290
4	57	89	69	335	76	621	309	347	230	170	381	277
5	56	95	64	285	74	560	280	373	204	139	323	203
6	54	102	64	250	78	495	490	302	198	131	290	162
7	57	94	66	215	80	435	744	619	218	123	212	135
8	62	86	71	190	77	391	633	477	176	114	164	114
9	57	83	81	188	74	359	524	382	154	110	150	100
10	54	75	80	176	83	325	444	328	149	116	133	93
11	52	73	78	153	90	296	389	373	1,120	121	113	90
12	49	74	76	142	92	280	345	382	1,700	269	114	141
13	47	69	97	130	91	337	312	333	1,880	239	105	261
14	49	70	128	125	338	307	285	572	1,190	184	96	239
15	52	87	105	119	558	283	262	545	819	150	93	177
16	55	92	88	119	656	267	255	538	621	126	87	148
17	59	74	86	111	525	267	250	679	490	115	84	123
18	59	69	81	103	440	245	234	691	396	112	79	107
19	58	71	87	102	680	e245	215	589	338	104	80	102
20	57	71	146	99	1,180	e510	224	496	292	96	73	101
21	55	69	220	102	896	e930	205	423	249	93	70	98
22	54	67	162	102	730	e1,030	191	366	226	97	67	150
23	51	64	130	90	734	e960	182	322	201	90	64	145
24	54	61	134	86	680	e770	273	284	178	85	65	121
25	141	57	112	80	567	e660	315	271	164	81	65	105
26	125	58	98	78	496	e540	327	259	213	73	64	93
27	89	62	95	79	452	e450	300	233	194	65	64	92
28	120	63	84	75	425	e480	269	208	157	65	137	86
29	306	52	98	79	---	e700	244	190	152	68	83	78
30	169	51	215	84	---	e670	234	182	223	68	166	84
31	131	---	945	82	---	e600	---	173	---	72	243	---
MEAN	77.4	75.7	126	177	372	503	333	392	430	141	173	151
MAX	306	109	945	775	1,180	1,030	744	691	1,880	648	846	336
MIN	47	51	49	75	74	245	182	173	149	65	64	78
IN.	0.19	0.18	0.32	0.44	0.84	1.26	0.80	0.98	1.04	0.35	0.43	0.36

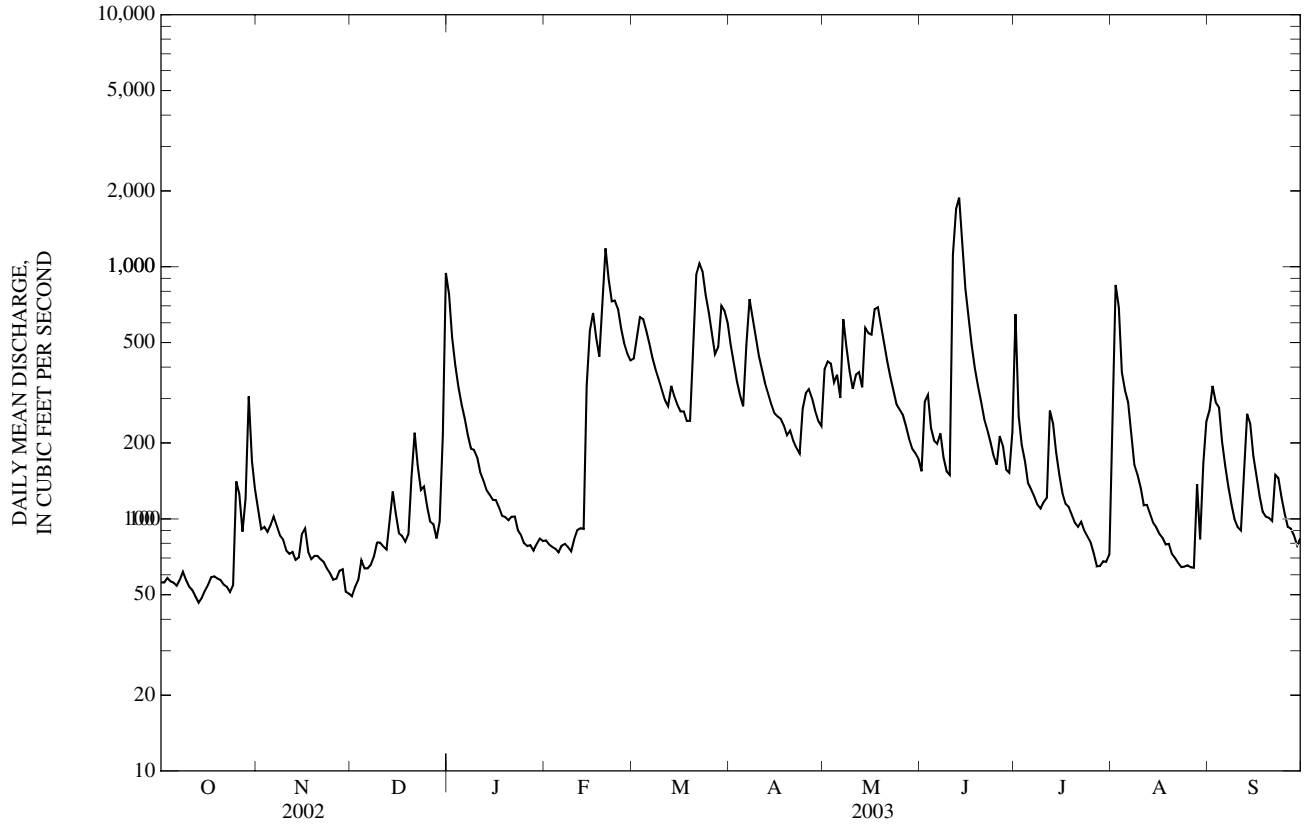
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	211	642	431	360	546	1,133	842	860	446	293	147	268
MAX	444	2,292	1,122	1,105	1,465	2,106	1,755	2,353	1,294	990	359	1,222
(WY)	(1978)	(1973)	(1974)	(1973)	(1975)	(1978)	(1973)	(2002)	(1974)	(1979)	(1979)	(1977)
MIN	63.4	55.1	55.0	53.3	101	183	268	116	170	67.3	54.7	40.7
(WY)	(1977)	(1977)	(1977)	(1977)	(1977)	(1976)	(1977)	(1977)	(1980)	(1980)	(1980)	(1980)

07052250 JAMES RIVER NEAR BOAZ, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	476		245		514	
HIGHEST ANNUAL MEAN					879	1973
LOWEST ANNUAL MEAN					242	1977
HIGHEST DAILY MEAN	13,400	May 8	1,880	Jun 13	15,400	Nov 2, 1972
LOWEST DAILY MEAN	47	Oct 13	47	Oct 13	36	Sep 22, 1980
ANNUAL SEVEN-DAY MINIMUM	51	Oct 10	51	Oct 10	38	Sep 21, 1980
MAXIMUM PEAK FLOW	---		2,420	Jun 13	21,700	May 8, 2002
MAXIMUM PEAK STAGE	---		5.86	Jun 13	16.76	May 8, 2002
INSTANTANEOUS LOW FLOW	---		39	Oct 12-14	35	Sep 19, 2002
ANNUAL RUNOFF (INCHES)	13.98		7.20		15.12	
10 PERCENT EXCEEDS	948		563		1,100	
50 PERCENT EXCEEDS	180		149		233	
90 PERCENT EXCEEDS	60		64		67	

e Estimated



07052250 JAMES RIVER NEAR BOAZ, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1967 to September 1982, November 1983 to June 1987, November 1992 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
19...	1000	Environmental	75	10.2	90	7.8	773	8.8	170	59.3	5.85	5.12
MAR												
18...	1330	Environmental	245	10.9	119	8.2	533	17.0	--	--	--	--
APR												
23...	0950	Environmental	184	7.3	77	7.5	555	16.0	--	--	--	--
MAY												
20...	1015	Environmental	504	6.7	75	7.8	475	20.1	200	68.2	7.28	2.90
JUN												
25...	1430	Environmental	157	7.2	92	7.8	589	26.6	--	--	--	--
JUL												
30...	0850	Environmental	71	5.0	64	7.5	906	25.4	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
19...	55.5	187	189	230	<1	77.1	0.4	55.5	438	<10	0.38	<0.04	4.64
MAR													
18...	--	156	156	190	<1	--	--	--	--	<10	0.53	0.06	5.51
APR													
23...	--	170	172	210	<1	--	--	--	--	<10	0.42	<0.04	3.98
MAY													
20...	19.4	169	171	208	<1	27.7	<0.2	17.4	280	15	0.45	<0.04	2.56
JUN													
25...	--	167	167	203	<1	--	--	--	--	<10	0.50	0.08	4.65
JUL													
30...	--	159	161	196	<1	--	--	--	--	11	0.66	E.03	6.67

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
19...	E.006	0.14	0.14	0.14	23	21k	22	E2	28	E1.1n	0.06	<0.2	<6
MAR													
18...	0.218	0.10	0.12	0.16	15k	66	14k	--	--	--	--	--	--
APR													
23...	0.015	0.12	0.14	0.15	13k	59	11k	--	--	--	--	--	--
MAY													
20...	0.041	0.06	0.08	0.14	42	124	80	15	349	1.0	<0.04	<0.2	<6
JUN													
25...	0.109	0.09	0.11	0.12	8k	30	13k	--	--	--	--	--	--
JUL													
30...	0.016	0.14	0.16	0.19	19k	69k	225	--	--	--	--	--	--

07052250 JAMES RIVER NEAR BOAZ, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)	2,6-Di-ethyl-aniline water fltrd 0.7µ GF ug/L (82660)	CIAT, water, fltrd, µg/L (04040)	Aceto-chlor, water, fltrd, µg/L (49260)	Ala-chlor, water, fltrd, µg/L (46342)	alpha-HCH, water, fltrd, µg/L (34253)
NOV													
19...	<10	0.23	<1	E1.6n	<0.02	E2.5n	13	14	<0.006	E.005	<0.006	<0.004	<0.005
MAR													
18...	--	--	--	--	--	--	--	--	<0.006	E.003	<0.006	<0.004	<0.005
APR													
23...	--	--	--	--	--	--	--	--	<0.006	E.003	<0.006	<0.004	<0.005
MAY													
20...	<10	E.06	2	11.7	E.01	1.5	2	9	<0.006	E.004	<0.006	<0.004	<0.005
JUN													
25...	--	--	--	--	--	--	--	--	<0.006	E.004	<0.006	<0.004	<0.005
JUL													
30...	--	--	--	--	--	--	--	--	<0.006	<0.006	<0.006	<0.004	<0.005

Date	Atra-zine, water, fltrd, µg/L (39632)	Azin-phos-methyl, water, fltrd 0.7µ GF µg/L (82686)	Ben-flur-alin, water, fltrd 0.7µ GF µg/L (82673)	Butyl-ate, water, fltrd, µg/L (04028)	Car-baryl, water, fltrd 0.7µ GF µg/L (82680)	Carbo-furan, water, fltrd 0.7µ GF µg/L (82674)	Chlor-pyrifos water, fltrd, µg/L (38933)	cis-Per-methrin water fltrd 0.7µ GF µg/L (82687)	Cyana-zine, water, fltrd, µg/L (04041)	DCPA, water fltrd 0.7µ GF µg/L (82682)	Diazi-non, water, fltrd, µg/L (39572)	Diel-drin, water, fltrd, µg/L (39381)	Disul-foton, water, fltrd 0.7µ GF µg/L (82677)
NOV													
19...	E.007n	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.060	<0.003	0.011	<0.005	<0.02
MAR													
18...	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	E.005n	<0.005	<0.02
APR													
23...	0.011	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	0.006	<0.005	<0.02
MAY													
20...	0.044	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	0.009	<0.005	<0.02
JUN													
25...	0.020	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	0.009	<0.005	<0.02
JUL													
30...	<0.007	E.112	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	0.018	<0.005	<0.02

Date	EPTC, water, fltrd 0.7µ GF µg/L (82668)	Ethal-flur-alin, water, fltrd 0.7µ GF µg/L (82663)	Etho-prop, water, fltrd 0.7µ GF µg/L (82672)	Fonofos water, fltrd, µg/L (04095)	Lindane water, fltrd, µg/L (39341)	Linuron water fltrd 0.7µ GF µg/L (82666)	Mala-thion, water, fltrd, µg/L (39532)	Methyl para-thion, water, fltrd 0.7µ GF µg/L (82667)	Metola-chlor, water, fltrd, µg/L (39415)	Metri-buzin, water, fltrd, µg/L (82630)	Moli-nate, water, fltrd 0.7µ GF µg/L (82671)	Naprop-amide, water, fltrd 0.7µ GF µg/L (82684)	p,p-' DDE, water, fltrd, µg/L (34653)
NOV													
19...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003
MAR													
18...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003
APR													
23...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.020	<0.013	<0.006	<0.002	<0.007	<0.003
MAY													
20...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	E.006n	<0.006	<0.002	<0.007	<0.003
JUN													
25...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003
JUL													
30...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003

07052250 JAMES RIVER NEAR BOAZ, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Parathion, water, fltrd, µg/L (39542)	Pebulate, water, fltrd 0.7µ GF µg/L (82669)	Pendimethalin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water fltrd 0.7µ GF µg/L (82664)	Prometon, water, fltrd, µg/L (04037)	Pronamide, water, fltrd 0.7µ GF µg/L (82676)	Propachlor, water, fltrd, µg/L (04024)	Propanil, water, fltrd 0.7µ GF µg/L (82679)	Propargite, water, fltrd 0.7µ GF µg/L (82685)	Simazine, water, fltrd, µg/L (04035)	Tebuthiuron water fltrd 0.7µ GF µg/L (82670)	Terbacil, water, fltrd 0.7µ GF µg/L (82665)	Terbufos, water, fltrd 0.7µ GF µg/L (82675)
NOV													
19...	<0.010	<0.004	<0.022	<0.011	0.03	<0.004	<0.010	<0.011	<0.02	E.004n	0.02	<0.034	<0.02
MAR													
18...	<0.010	<0.004	<0.022	<0.011	E.01n	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
APR													
23...	<0.010	<0.004	<0.022	<0.011	0.02	<0.004	<0.010	<0.011	<0.02	0.068	<0.02	<0.034	<0.02
MAY													
20...	<0.010	<0.004	<0.022	<0.011	0.02	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
JUN													
25...	<0.010	<0.004	<0.022	<0.011	0.03	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
JUL													
30...	<0.010	<0.004	<0.022	<0.011	0.04	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02

Date	Thiobencarb water fltrd 0.7µ GF µg/L (82681)	Triallate, water, fltrd 0.7µ GF µg/L (82678)	Trifluralin, water, fltrd 0.7µ GF µg/L (82661)
NOV			
19...	<0.005	<0.002	<0.009
MAR			
18...	<0.005	<0.002	<0.009
APR			
23...	<0.005	<0.002	<0.009
MAY			
20...	<0.005	<0.002	<0.009
JUN			
25...	<0.005	<0.002	<0.009
JUL			
30...	<0.005	<0.002	<0.009

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07052345 FINLEY CREEK BELOW RIVERDALE, MO

LOCATION.--Lat 36°58'30", long 93°19'39", in SW ¼ NW ¼ NE ¼ sec.10, T.26 N., R.10 W., Christian County, Hydrologic Unit 11010002, on downstream side of center pier of Aspen Road bridge, 12.4 mi southeast of junction of Highway 160 and 60.

DRAINAGE AREA.--261 mi^2.

WATER-DISCHARGE RECORDS

PREIOD OF RECORD.--October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--Water-discharge records good. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	49	27	456	36	229	189	164	56	153	16	31
2	18	46	27	324	35	286	176	274	60	107	126	97
3	18	46	27	237	35	364	164	281	64	83	231	171
4	17	45	35	188	32	361	154	228	60	68	152	140
5	15	45	36	157	31	324	142	193	57	57	119	108
6	15	46	35	135	33	281	236	168	57	51	99	85
7	15	44	34	118	34	243	1,330	146	56	47	76	68
8	14	41	34	106	32	215	788	129	51	45	62	56
9	15	39	36	97	32	189	530	117	48	41	53	48
10	16	39	37	88	34	170	388	110	47	39	46	42
11	16	35	37	81	33	156	305	108	91	37	41	39
12	15	34	37	75	33	147	250	94	146	71	37	127
13	14	33	48	70	34	149	211	93	388	78	34	226
14	15	34	56	66	63	139	181	114	261	60	31	165
15	15	35	53	62	97	132	160	110	198	e48	29	132
16	15	34	50	61	186	128	142	120	158	e42	26	105
17	17	34	50	57	208	124	132	146	131	e36	24	87
18	18	34	84	54	192	120	123	160	113	e33	22	72
19	20	32	107	52	239	133	115	155	98	e32	20	62
20	22	32	157	51	512	165	113	139	88	e30	18	53
21	22	31	130	48	477	296	114	124	80	e29	17	51
22	22	31	108	45	387	406	114	110	73	29	16	69
23	24	28	96	43	442	365	108	98	66	27	14	53
24	19	29	93	41	444	310	121	92	61	24	14	44
25	32	29	83	39	348	267	158	87	56	23	13	39
26	27	28	74	38	289	232	256	80	62	20	12	36
27	30	27	68	37	257	205	236	73	58	21	11	34
28	44	27	65	37	233	202	200	68	53	19	11	29
29	73	27	67	38	---	206	174	63	49	19	11	26
30	65	27	113	37	---	211	152	64	92	18	31	26
31	54	---	297	36	---	202	---	60	---	16	34	---
MEAN	23.9	35.4	71.0	95.9	172	224	249	128	95.9	45.3	46.6	77.4
MAX	73	49	297	456	512	406	1,330	281	388	153	231	226
MIN	14	27	27	36	31	120	108	60	47	16	11	26
IN.	0.11	0.15	0.31	0.42	0.69	0.99	1.06	0.57	0.41	0.20	0.21	0.33

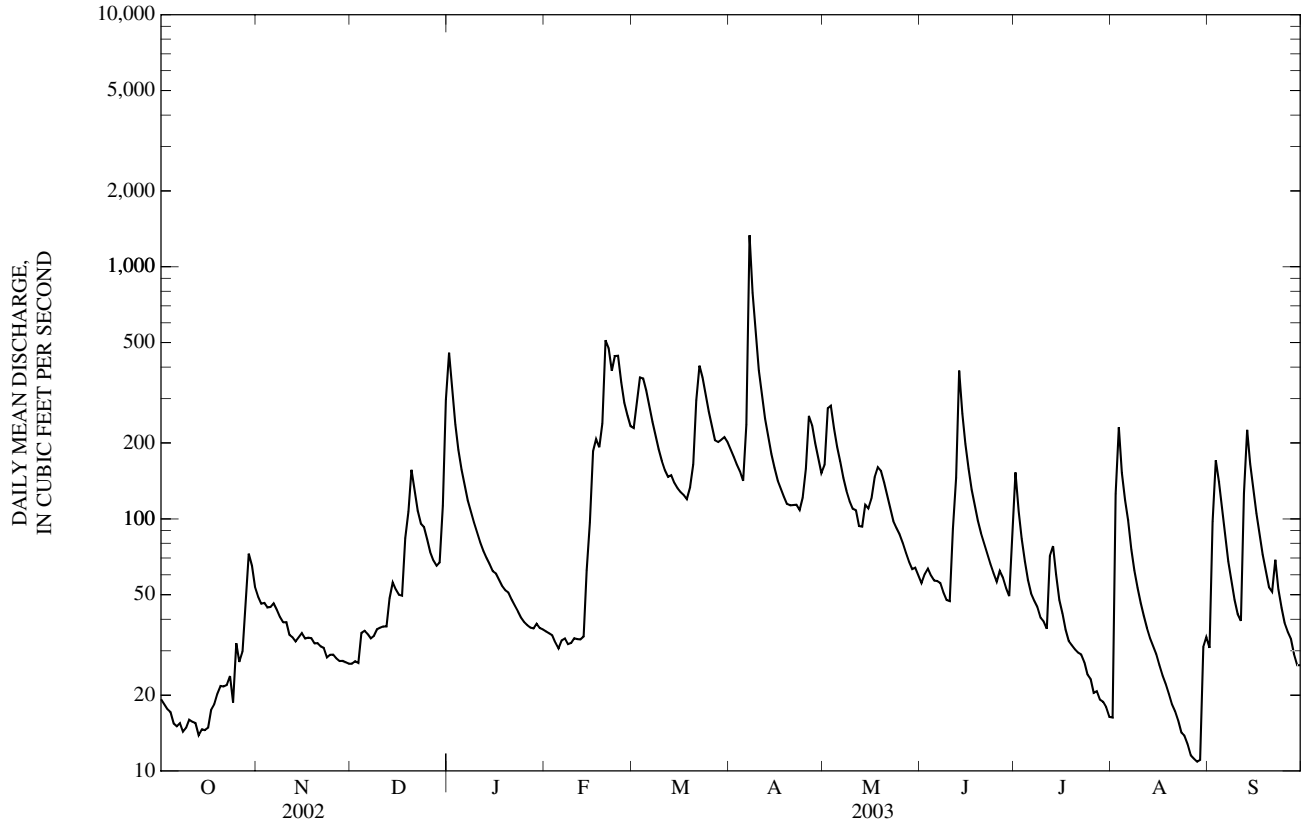
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	30.8	38.2	236	99.4	292	377	408	765	123	61.0	53.6	50.3
MAX	37.7	41.0	401	103	412	530	567	1,401	150	76.7	60.6	77.4
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2003)
MIN	23.9	35.4	71.0	95.9	172	224	249	128	95.9	45.3	46.6	23.3
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)

07052345 FINLEY CREEK BELOW RIVERDALE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL MEAN	288		105		211	
HIGHEST ANNUAL MEAN					318	2002
LOWEST ANNUAL MEAN					105	2003
HIGHEST DAILY MEAN	10,500	May 8	1,330	Apr 7	10,500	May 8, 2002
LOWEST DAILY MEAN	14	Oct 8,13	11	Aug 27-29	11	Aug 27-29, 2003
ANNUAL SEVEN-DAY MINIMUM	15	Oct 7	12	Aug 23	12	Aug 23, 2003
MAXIMUM PEAK FLOW	---		1,850	Apr 7	21,400	May 8, 2002
MAXIMUM PEAK STAGE	---		5.13	Apr 7	16.31	May 8, 2002
INSTANTANEOUS LOW FLOW	---		9.6	Aug 28,29	9.6	Aug 28,29, 2003
ANNUAL RUNOFF (INCHES)	14.97		5.45		10.99	
10 PERCENT EXCEEDS	644		236		433	
50 PERCENT EXCEEDS	84		61		76	
90 PERCENT EXCEEDS	22		20		25	

e Estimated



07052345 FINLEY CREEK BELOW RIVERDALE, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 2001 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
21...	1600	Environmental	21	11.7	117	8.0	406	13.6	--	--	--	--
NOV												
19...	0845	Environmental	32	9.2	80	7.5	418	8.1	200	62.6	9.44	2.76
DEC												
10...	1115	Environmental	37	14.3	114	8.0	403	4.5	--	--	--	--
JAN												
28...	0920	Environmental	37	12.8	97	7.6	381	2.5	180	53.5	10.0	2.35
FEB												
20...	0900	Environmental	565	11.9	99	7.4	356	6.3	--	--	--	--
MAR												
18...	1215	Environmental	117	13.9	142	8.0	337	14.1	--	--	--	--
APR												
23...	0840	Environmental	108	7.6	77	7.4	344	14.6	--	--	--	--
MAY												
20...	0830	Environmental	141	7.0	74	7.5	364	16.6	180	55.9	9.00	2.22
JUN												
12...	1218	Environmental	138	7.4	86	7.9	375	20.3	170	56.1	8.22	2.72
24...	1530	Environmental	61	7.3	94	7.5	392	26.6	--	--	--	--
30...	2005	Environmental	290	7.3	87	7.7	213	22.1	87	28.6	3.87	8.20
JUL												
28...	1535	Environmental	20	7.2	95	7.7	413	27.4	190	61.0	9.39	3.21
AUG												
20...	1330	Environmental	18	9.5	128	8.0	417	28.5	--	--	--	--
SEP												
03...	1005	Environmental	187	6.5	76	7.9	381	21.3	170	59.6	6.23	3.12

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
21...	--	166	165	201	<1	--	--	--	--	<10	0.15	<0.04	2.55
NOV													
19...	11.1	165	165	202	<1	16.7	<0.2	8.8	233	<10	0.14	<0.04	1.57
DEC													
10...	--	159	160	195	<1	--	--	--	--	<10	0.10	<0.04	1.69
JAN													
28...	11.0	149	149	182	<1	13.6	<0.2	6.5	155	<10	0.15	<0.04	2.20
FEB													
20...	--	139	139	169	<1	--	--	--	--	<10	0.21	<0.04	1.74
MAR													
18...	--	142	143	174	<1	--	--	--	--	<10	0.21	<0.04	1.30
APR													
23...	--	148	148	181	<1	--	--	--	--	<10	0.18	<0.04	1.49
MAY													
20...	6.26	157	157	192	<1	13.2	<0.2	6.3	212	<10	0.18	<0.04	1.32
JUN													
12...	8.24	150	151	184	<1	14.6	<0.2	6.8	225	<10	0.29	<0.04	1.44
24...	--	162	160	196	<1	--	--	--	--	<10	0.22	E.02	1.22
30...	4.17	83	83	102	<1	8.69	<0.2	3.8	138	224	1.8	<0.04	0.96
JUL													
28...	11.4	176	176	215	<1	18.6	<0.2	7.4	238	<10	0.33	0.42	1.29
AUG													
20...	--	173	173	211	<1	--	--	--	--	<10	0.22	<0.04	1.78
SEP													
03...	9.67	174	174	212	<1	17.4	<0.2	7.1	240	<10	0.27	<0.04	1.87

07052345 FINLEY CREEK BELOW RIVERDALE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
21...	0.010	0.34	0.34	0.34	13k	61	44	--	--	--	--	--	--
NOV													
19...	E.005	0.17	0.17	0.19	16k	33	53	<2	13	0.3	E.02	<0.2	<6
DEC													
10...	0.010	0.16	0.17	0.17	4k	9k	21k	--	--	--	--	--	--
JAN													
28...	0.015	0.11	0.10	0.11	40	45	6k	2	11	E.2	E.03	<0.2	<6
FEB													
20...	0.042	<0.02	E.03	0.05	130	360	334	--	--	--	--	--	--
MAR													
18...	0.011	0.03	0.06	0.06	7k	110	5k	--	--	--	--	--	--
APR													
23...	0.010	0.05	0.07	0.07	18k	60	20	--	--	--	--	--	--
MAY													
20...	0.009	0.06	0.07	0.11	27k	156	108	<2	57	E.2	<0.04	<0.2	<6
JUN													
12...	0.011	0.11	0.12	0.14	650	1,030k	300	2	117	0.3	E.02	<0.2	<7
24...	0.010	0.13	0.15	0.16	43	36	20	--	--	--	--	--	--
30...	0.018	0.38	0.42	0.79	21,000k@	28,800k@	38,400k@	6	3,090	0.6	E.03	E.2	<7
JUL													
28...	E.004	0.07	0.23	0.25	4k	20	85	E1	87	0.5	E.02	<0.2	<7
AUG													
20...	0.016	0.18	0.23	0.24	140	133k	140	--	--	--	--	--	--
SEP													
03...	0.009	0.17	0.18	0.21	270k	450k	520	103	7	0.5	0.04	E.02n	<6

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)	2,6-Di-ethyl-aniline water fltrd 0.7µ GF ug/L (82660)	CIAT, water, fltrd, µg/L (04040)	Aceto-chlor, water, fltrd, µg/L (49260)	Ala-chlor, water, fltrd, µg/L (46342)	alpha-HCH, water, fltrd, µg/L (34253)
OCT													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
19...	<10	E.04	<1	3.9	<0.02	<0.5	5	4	--	--	--	--	--
DEC													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
28...	<10	0.12	<1	4.3	<0.02	E.4	8	8	--	--	--	--	--
FEB													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
20...	<10	E.04	M	7.6	<0.02	<0.5	2	3	--	--	--	--	--
JUN													
12...	<8	<0.08	M	12.6	<0.02	<0.5	10	15	<0.006	<0.006	<0.006	<0.004	<0.005
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	22	E.05	10	4.4	0.03	<0.5	3	44	<0.006	<0.006	<0.006	<0.004	<0.005
JUL													
28...	E5	E.06	M	26.9	<0.02	<0.5	3	5	--	--	--	--	--
AUG													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
03...	82	0.47	M	32.0	<0.02	<0.5	5	5	--	--	--	--	--

07052345 FINLEY CREEK BELOW RIVERDALE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Atrazine, water, fltrd, µg/L (39632)	Azinphos-methyl, water, fltrd 0.7µ GF µg/L (82686)	Benflur-alin, water, fltrd 0.7µ GF µg/L (82673)	Butylate, water, fltrd, µg/L (04028)	Carbaryl, water, fltrd 0.7µ GF µg/L (82680)	Carbofuran, water, fltrd 0.7µ GF µg/L (82674)	Chlorpyrifos water, fltrd, µg/L (38933)	cis-Permethrin water fltrd 0.7µ GF µg/L (82687)	Cyanazine, water, fltrd, µg/L (04041)	DCPA, water fltrd 0.7µ GF µg/L (82682)	Diazinon, water, fltrd, µg/L (39572)	Dieldrin, water, fltrd, µg/L (39381)	Disulfoton, water, fltrd 0.7µ GF µg/L (82677)
OCT													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
12...	<0.007	<0.050	<0.010	<0.002	E.103	<0.020	<0.005	<0.006	<0.018	<0.003	0.089	<0.005	<0.02
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	0.006	<0.005	<0.02
JUL													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	EPTC, water, fltrd 0.7µ GF µg/L (82668)	Ethalflur-alin, water, fltrd 0.7µ GF µg/L (82663)	Ethoprop, water, fltrd 0.7µ GF µg/L (82672)	Fonofos water, fltrd, µg/L (04095)	Lindane water, fltrd, µg/L (39341)	Linuron water fltrd 0.7µ GF µg/L (82666)	Malathion, water, fltrd, µg/L (39532)	Methyl parathion, water, fltrd 0.7µ GF µg/L (82667)	Metolachlor, water, fltrd, µg/L (39415)	Metribuzin, water, fltrd, µg/L (82630)	Molinate, water, fltrd 0.7µ GF µg/L (82671)	Napropamide, water, fltrd 0.7µ GF µg/L (82684)	p,p-' DDE, water, fltrd, µg/L (34653)
OCT													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
12...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003
JUL													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--

07052345 FINLEY CREEK BELOW RIVERDALE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Parathion, water, fltrd, µg/L (39542)	Pebulate, water, fltrd 0.7µ GF µg/L (82669)	Pendimethalin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water fltrd 0.7µ GF µg/L (82664)	Prometon, water, fltrd, µg/L (04037)	Pronamide, water, fltrd 0.7µ GF µg/L (82676)	Propachlor, water, fltrd, µg/L (04024)	Propanil, water, fltrd 0.7µ GF µg/L (82679)	Propargite, water, fltrd 0.7µ GF µg/L (82685)	Simazine, water, fltrd, µg/L (04035)	Tebuthiuron water fltrd 0.7µ GF µg/L (82670)	Terbacil, water, fltrd 0.7µ GF µg/L (82665)	Terbufos, water, fltrd 0.7µ GF µg/L (82675)
OCT													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
12...	<0.010	<0.004	<0.022	<0.011	0.05	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
JUL													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Thiobencarb water fltrd 0.7µ GF µg/L (82681)	Triallate, water, fltrd 0.7µ GF µg/L (82678)	Trifluralin, water, fltrd 0.7µ GF µg/L (82661)
OCT			
21...	--	--	--
NOV			
19...	--	--	--
DEC			
10...	--	--	--
JAN			
28...	--	--	--
FEB			
20...	--	--	--
MAR			
18...	--	--	--
APR			
23...	--	--	--
MAY			
20...	--	--	--
JUN			
12...	<0.005	<0.002	<0.009
24...	--	--	--
30...	<0.005	<0.002	<0.009
JUL			
28...	--	--	--
AUG			
20...	--	--	--
SEP			
03...	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL
@ -- Holding time exceeded

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.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 977: 1935(M), 1941(M).

GAGE.--Water-stage recorder. Datum of gage is 921.37 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 11, 1927, nonrecording gage at site 500 ft downstream at datum 1.48 ft higher; Dec. 11, 1927, to July 22, 1939, nonrecording gage, and July 23, 1939, to Sept. 30, 1953, water-stage recorder at present site and at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Water-discharge records fair. Slight regulation at low flow by Lake Springfield since 1957 and sewage effluent from Southwest Treatment Plant since 1959, approximately 35 mi upstream. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

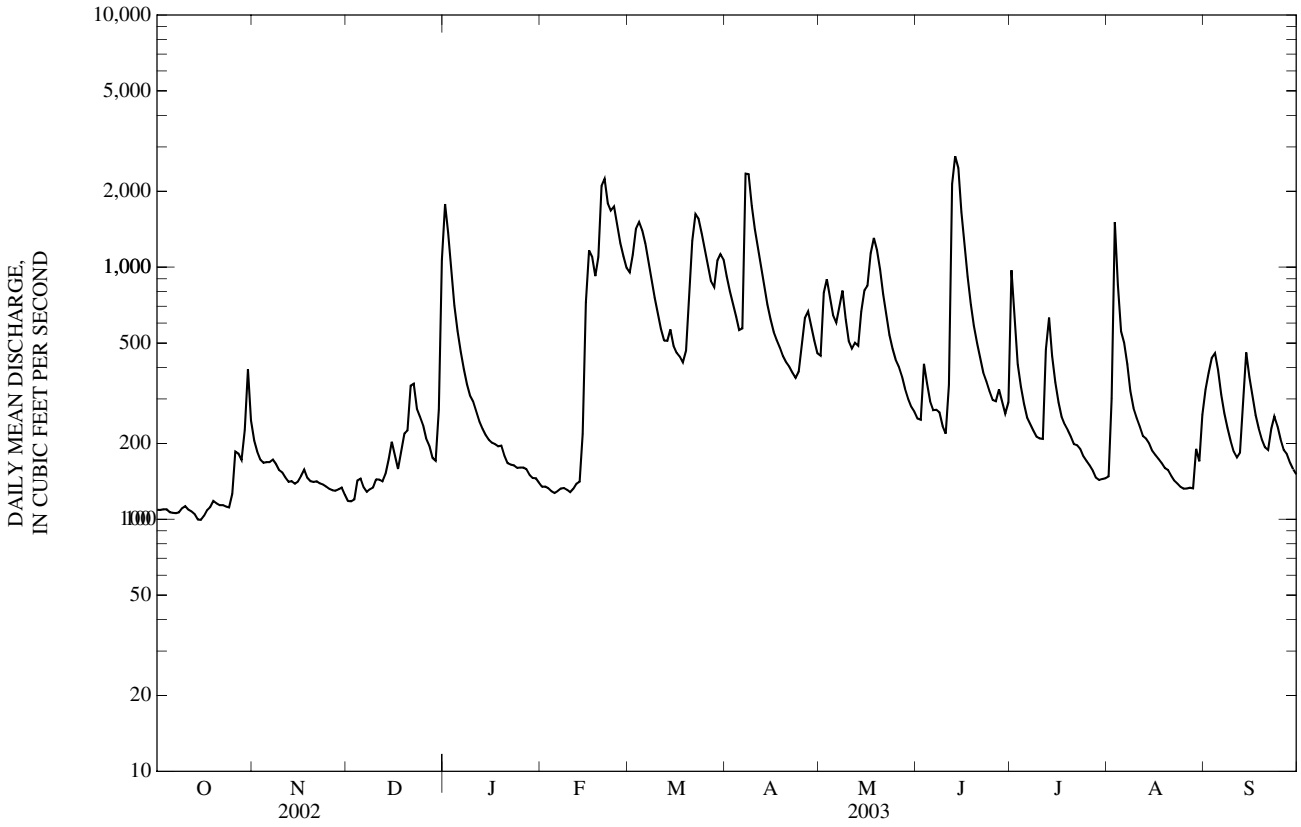
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	109	205	118	1,780	135	953	921	445	251	973	148	327
2	109	185	118	1,370	135	1,120	803	792	248	650	301	380
3	110	172	120	966	133	1,420	715	895	413	412	1,510	437
4	109	167	142	705	129	1,510	637	756	346	335	850	456
5	107	169	145	558	127	1,400	563	646	293	288	556	391
6	106	169	134	461	129	1,240	571	603	271	253	502	312
7	106	172	128	395	132	1,060	2,350	695	272	238	412	264
8	107	165	132	343	133	897	2,340	808	266	225	323	230
9	111	157	134	310	131	757	1,750	622	234	213	276	206
10	113	153	144	293	128	652	1,420	509	219	209	252	186
11	109	146	144	269	132	569	1,180	475	341	208	234	176
12	107	141	141	244	138	512	991	501	2,140	471	214	184
13	105	142	151	228	141	511	830	488	2,760	630	209	305
14	100	138	174	216	218	566	713	666	2,470	444	200	459
15	100	141	203	206	725	488	622	810	1,660	349	187	366
16	103	148	178	201	1,160	458	554	844	1,220	291	180	310
17	109	157	158	198	1,100	442	514	1,130	916	256	173	259
18	112	146	185	195	921	419	479	1,310	712	238	167	230
19	118	142	219	196	1,100	467	444	1,170	584	226	160	207
20	116	141	225	179	2,100	775	420	976	500	212	157	193
21	114	141	339	167	2,240	1,270	403	780	434	198	149	188
22	114	139	345	165	1,790	1,620	382	642	381	196	142	229
23	112	137	275	164	1,680	1,560	364	540	351	190	139	256
24	111	135	255	160	1,740	1,360	384	474	322	178	135	234
25	126	132	236	160	1,470	1,170	500	430	297	170	132	208
26	185	130	209	160	1,250	1,010	628	403	294	163	132	188
27	182	130	195	158	1,100	878	667	369	327	156	133	182
28	172	132	175	150	996	832	583	329	292	146	133	168
29	226	134	171	146	---	1,060	510	300	263	143	190	158
30	393	125	273	145	---	1,120	455	279	291	144	170	151
31	246	---	1,070	140	---	1,070	---	267	---	145	259	---
MEAN	134	150	214	356	761	941	790	644	646	289	281	261
MAX	393	205	1,070	1,780	2,240	1,620	2,350	1,310	2,760	973	1,510	459
MIN	100	125	118	140	127	419	364	267	219	143	132	151
IN.	0.16	0.17	0.25	0.42	0.80	1.10	0.89	0.75	0.73	0.34	0.33	0.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2003, BY WATER YEAR (WY)

MEAN	481	852	949	887	1,131	1,518	1,754	1,630	1,154	586	388	416
MAX	2,494	4,407	5,435	3,443	3,485	5,372	8,376	9,549	6,383	4,010	5,159	5,684
(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)

07052500 JAMES RIVER AT GALENA, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1922-2003	
ANNUAL MEAN	1,045		453		977	
HIGHEST ANNUAL MEAN					2,499	1927
LOWEST ANNUAL MEAN					119	1954
HIGHEST DAILY MEAN	29,500	May 9	2,760	Jun 13	57,000	Sep 25, 1993
LOWEST DAILY MEAN	100	Oct 14,15	100	Oct 14,15	11	Aug 22, 1954
ANNUAL SEVEN-DAY MINIMUM	105	Oct 11	105	Oct 11	12	Aug 18, 1954
MAXIMUM PEAK FLOW	---		3,490	Jun 13	73,200	Sep 25, 1993
MAXIMUM PEAK STAGE	---		6.72	Jun 13	33.46	Sep 25, 1993
INSTANTANEOUS LOW FLOW	---		96	Oct 15	10	Sep 20, 1954
ANNUAL RUNOFF (INCHES)	14.38		6.23		13.45	
10 PERCENT EXCEEDS	2,250		1,100		2,130	
50 PERCENT EXCEEDS	369		255		425	
90 PERCENT EXCEEDS	119		131		120	



07052500 JAMES RIVER AT GALENA, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
21...	1355	Environmental	115	14.9	150	8.6	563	14.4	--	--	--	--
NOV												
18...	1530	Environmental	146	15.9	145	8.7	584	9.8	200	68.2	7.57	4.45
DEC												
09...	1320	Environmental	135	17.9	140	8.5	543	4.0	--	--	--	--
JAN												
27...	1640	Environmental	160	17.7	130	8.8	481	1.1	190	61.7	7.92	4.22
FEB												
19...	1605	Environmental	1,080	13.1	114	8.2	404	8.0	--	--	--	--
19...	1606	Replicate	--	13.0	113	8.2	403	8.0	--	--	--	--
MAR												
17...	1255	Environmental	451	14.3	148	8.5	437	14.6	--	--	--	--
APR												
22...	1330	Environmental	382	10.6	114	7.8	435	16.8	--	--	--	--
MAY												
19...	1655	Blank	--	--	--	--	--	--	--	0.02	<0.008	<0.16
19...	1700	Environmental	1,140	8.6	101	8.0	425	21.9	190	63.8	6.90	2.56
JUN												
24...	1340	Environmental	318	8.6	114	7.8	459	27.1	--	--	--	--
JUL												
29...	1510	Environmental	144	8.8	112	7.7	532	29.4	180	62.4	7.39	4.70
AUG												
11...	1515	Environmental	228	9.8	129	7.7	487	27.8	--	--	--	--
SEP												
15...	1540	Environmental	335	9.7	116	8.0	442	22.3	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
21...	--	153	152	167	9	--	--	--	--	<10	0.18	<0.04	3.08
NOV													
18...	42.8	171	171	187	11	50.6	0.20	34.1	339	<10	0.19	<0.04	3.71
DEC													
09...	--	150	147	157	11	--	--	--	--	<10	0.18	<0.04	4.31
JAN													
27...	37.8	150	150	166	8	53.3	0.16	26.8	313	<10	0.24	<0.04	4.37
FEB													
19...	--	139	140	171	<1	--	--	--	--	<10	0.20	<0.04	2.39
19...	--	--	--	--	--	--	--	--	--	<10	0.28	<0.04	2.44
MAR													
17...	--	148	148	171	5	--	--	--	--	<10	0.26	<0.04	2.19
APR													
22...	--	156	158	193	<1	--	--	--	--	<10	0.30	<0.04	2.47
MAY													
19...	<0.09	--	--	--	--	<0.20	<0.20	<0.2	<10	<10	<0.10	<0.04	E.04
19...	12.8	158	157	192	<1	20.7	<0.20	11.5	251	13	0.29	<0.04	1.98
JUN													
24...	--	162	163	199	<1	--	--	--	--	<10	0.29	<0.04	1.84
JUL													
29...	37.4	155	155	189	<1	49.0	0.20	26.3	312	<10	0.31	0.36	2.02
AUG													
11...	--	159	160	196	<1	--	--	--	--	<10	0.24	<0.04	2.11
SEP													
15...	--	149	151	185	<1	--	--	--	--	<10	0.32	<0.04	2.22

07052500 JAMES RIVER AT GALENA, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
21...	E.006	0.07	0.07	0.09	<1b	3k	3k	--	--	--	--	--	--
NOV													
18...	E.004	0.07	0.07	0.07	<1b	3k	1k	<2	5	<0.3	0.05	<0.2	<6
DEC													
09...	0.008	0.02	E.03	E.03	3k	1k	5k	--	--	--	--	--	--
JAN													
27...	0.030	0.02	E.03	E.02	<1b	<1b	2k	2	8	1.1	0.07	<0.2	<6
FEB													
19...	0.015	0.05	0.05	0.07	<10b	20k	40k	--	--	--	--	--	--
19...	0.014	0.05	0.06	0.07	<10b	<10b	50k	--	--	--	--	--	--
MAR													
17...	0.018	0.03	0.05	0.06	1k	1k	<1b	--	--	--	--	--	--
APR													
22...	0.010	0.07	0.10	0.09	<1b	2k	6k	--	--	--	--	--	--
MAY													
19...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<6
19...	0.008	0.07	0.09	0.12	4k	62k	19k	2	154	0.6	<0.04	<0.2	<6
JUN													
24...	E.007	0.08	0.10	0.11	17k	24k	12k	--	--	--	--	--	--
JUL													
29...	0.013	<0.02	0.12	0.12	<1b	13k	26	2	92	2.4	0.26	<0.2	<7
AUG													
11...	E.004n	E.09nd	0.10	0.12	2k	6k	30	--	--	--	--	--	--
SEP													
15...	0.011	0.09	0.10	0.11	<1b	14k	18k	--	--	--	--	--	--

07052500 JAMES RIVER AT GALENA, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT								
21...	--	--	--	--	--	--	--	--
NOV								
18...	<10	E.07	<1	E.8n	<0.02	3.5	6	6
DEC								
09...	--	--	--	--	--	--	--	--
JAN								
27...	<10	0.16	<1	<2.0	<0.02	2.8	9	10
FEB								
19...	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--
MAR								
17...	--	--	--	--	--	--	--	--
APR								
22...	--	--	--	--	--	--	--	--
MAY								
19...	<10	<0.08	<1	<2.0	<0.02	<0.5	M	<2
19...	<10	E.07	M	4.2	<0.02	0.5	2	4
JUN								
24...	--	--	--	--	--	--	--	--
JUL								
29...	<8	0.11	M	8.8	<0.02	5.8	4	4
AUG								
11...	--	--	--	--	--	--	--	--
SEP								
15...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07052800 FLAT CREEK AT JENKINS, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 36°46'33", long 93°41'09", in SW ¼ SE ¼ NE ¼ sec.24, T.24 N., R.26 W., Barry County, Hydrologic Unit 11010002, 1.0 mi north of U.S. Highway 248 on County Road 1215 in Jenkins.

DRAINAGE AREA.--190 mi^2.

PERIOD OF RECORD.--October 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
21...	1205	Environmental	30	10.0	101	7.6	313	14.1	--	--	--	--
NOV												
18...	1355	Environmental	28	11.7	111	8.0	320	11.0	160	57.4	3.01	1.40
DEC												
09...	1250	Environmental	28	14.0	116	7.7	315	6.2	--	--	--	--
JAN												
27...	1500	Environmental	25	17.0	134	7.9	296	4.0	150	55.1	3.25	1.26
FEB												
19...	1335	Environmental	169	12.5	110	7.6	293	8.3	--	--	--	--
MAR												
17...	1435	Environmental	95	14.9	156	8.2	281	14.9	--	--	--	--
APR												
22...	1130	Environmental	60	9.9	101	7.5	300	14.7	--	--	--	--
MAY												
19...	1450	Environmental	96	10.1	117	7.9	312	20.4	150	55.8	3.47	1.58
JUN												
24...	1135	Environmental	29	7.4	91	7.6	327	23.6	--	--	--	--
JUL												
29...	1240	Environmental	20	7.3	94	7.6	321	25.9	150	54.3	3.71	1.90
29...	1245	Blank	--	--	--	--	--	--	--	0.04	E.003n	<0.16
AUG												
11...	1230	Environmental	22	8.3	104	7.7	334	24.4	--	--	--	--
SEP												
15...	1415	Environmental	27	8.8	104	7.4	313	22.3	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
21...	--	136	136	160	<1	--	--	--	--	<10	E.05	<0.04	1.73
NOV													
18...	4.38	145	145	177	<1	8.89	<0.2	3.4	187	<10	E.06	<0.04	1.67
DEC													
09...	--	128	128	156	<1	--	--	--	--	<10	<0.10	<0.04	1.72
JAN													
27...	4.66	125	127	155	<1	8.68	<0.2	4.1	159	<10	E.08	<0.04	1.12
FEB													
19...	--	120	120	147	<1	--	--	--	--	<10	0.22	<0.04	2.39
MAR													
17...	--	116	116	141	<1	--	--	--	--	<10	0.17	<0.04	2.38
APR													
22...	--	129	130	158	<1	--	--	--	--	<10	0.16	<0.04	2.05
MAY													
19...	3.77	135	135	164	<1	7.44	<0.2	4.3	190	<10	0.14	<0.04	1.60
JUN													
24...	--	139	138	169	<1	--	--	--	--	<10	0.14	<0.04	1.07
JUL													
29...	5.02	142	142	174	<1	9.96	<0.2	3.9	175	<10	0.17	<0.04	0.90
29...	<0.10	--	--	--	--	E.11n	<0.2	<0.2	<10	<10	<0.10	E.03	<0.06
AUG													
11...	--	146	146	178	<1	--	--	--	--	<10	0.13	<0.04	0.99
SEP													
15...	--	144	146	178	<1	--	--	--	--	<10	E.08n	<0.04	0.91

07052900 FLAT CREEK AT JENKINS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
21...	<0.008	0.02	E.03	E.04	8k	45	55	--	--	--	--	--	--
NOV													
18...	<0.008	E.01	0.04	E.02	44	60	60	<2	11	E.2	E.02	<0.2	<6
DEC													
09...	<0.008	E.01	E.02	<0.04	5k	18k	37	--	--	--	--	--	--
JAN													
27...	<0.008	<0.02	<0.04	<0.04	<1b	1k	2k	<2	8	E.1	E.03	<0.2	<6
FEB													
19...	0.027	<0.02	<0.04	E.02	20k	450	527	--	--	--	--	--	--
MAR													
17...	0.010	E.01	E.03	E.04	5k	13k	7k	--	--	--	--	--	--
APR													
22...	0.010	E.01	E.03	E.03	<1b	17k	6k	--	--	--	--	--	--
MAY													
19...	E.005	0.02	E.02	0.04	7k	52	64	<2	77	E.2	<0.04	E.2	<6
JUN													
24...	0.008	E.01	E.03	E.02	42	62	42	--	--	--	--	--	--
JUL													
29...	E.006	E.02	E.02	E.04	1k	68k	115	E1n	60	0.3	E.02n	<0.2	<7
29...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	E1n	<0.3	<0.04	<0.2	<7
AUG													
11...	<0.008	<0.18d	<0.04	E.03n	1k	27	85	--	--	--	--	--	--
SEP													
15...	E.005n	E.01n	E.03n	E.03n	8k	39	60	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT								
21...	--	--	--	--	--	--	--	--
NOV								
18...	<10	<0.08	<1	E1.9b	<0.02	E.2	1	E1
DEC								
09...	--	--	--	--	--	--	--	--
JAN								
27...	<10	<0.08	<1	E1.1	<0.02	<0.5	M	E1
FEB								
19...	--	--	--	--	--	--	--	--
MAR								
17...	--	--	--	--	--	--	--	--
APR								
22...	--	--	--	--	--	--	--	--
MAY								
19...	<10	<0.08	6	4.3	<0.02	<0.5	M	3
JUN								
24...	--	--	--	--	--	--	--	--
JUL								
29...	<8	<0.08	<1	8.5	<0.02	E.4n	2	3
29...	<8	<0.08	<1	<0.4	<0.02	<0.5	<1	2
AUG								
11...	--	--	--	--	--	--	--	--
SEP								
15...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07053400 TABLE ROCK LAKE NEAR BRANSON, MO

LOCATION.--Lat 36°35'46", long 93°18'35", in NW ¼ sec.22, T.22 N., R.22 W., Taney County, Hydrologic Unit 11010001, at dam on White River, 3.0 mi upstream from Fall Creek, and 6.1 mi southwest of Branson.

DRAINAGE AREA.--4,020 mi^2.

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

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

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, 2,788,000 ac-ft, May 26, 27 and June 13, elevation, 916.97 ft; minimum, 2,447,000 ac-ft, Sept. 29, elevation, 908.85 ft.

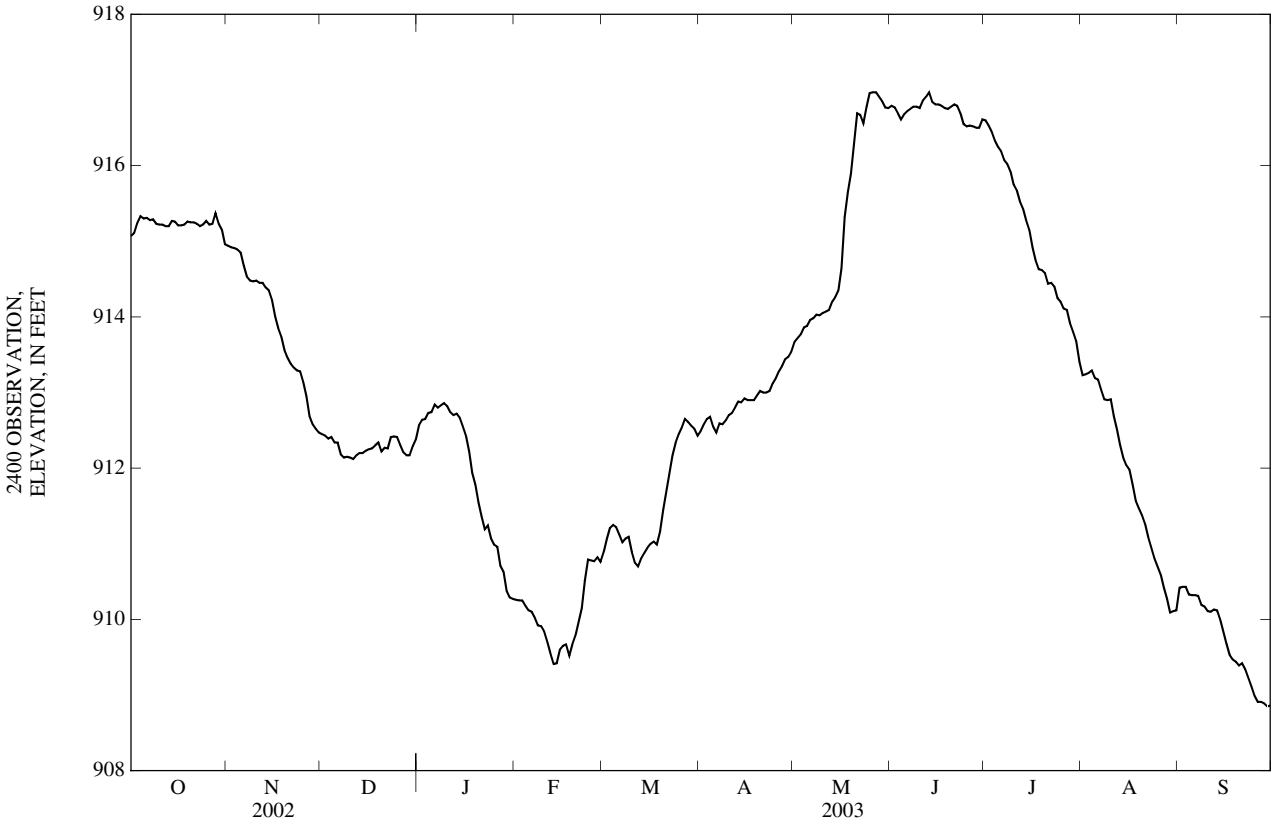
ELEVATION, IN FEET WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
OBSERVATION AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	915.07	914.94	912.45	912.57	910.26	910.89	912.49	913.67	916.79	916.60	913.23	910.42
2	915.11	914.92	912.43	912.64	910.25	911.06	912.58	913.72	916.77	916.53	913.24	910.43
3	915.24	914.91	912.39	912.65	910.25	911.21	912.65	913.77	916.69	916.45	913.26	910.43
4	915.33	914.89	912.41	912.73	910.18	911.25	912.68	913.86	916.61	916.33	913.29	910.33
5	915.30	914.85	912.34	912.74	910.12	911.22	912.55	913.88	916.68	916.25	913.19	910.32
6	915.31	914.68	912.34	912.84	910.10	911.12	912.47	913.96	916.72	916.19	913.17	910.32
7	915.28	914.53	912.18	912.80	910.02	911.02	912.59	913.98	916.75	916.07	913.03	910.31
8	915.29	914.48	912.14	912.83	909.92	911.07	912.58	914.03	916.78	916.02	912.91	910.19
9	915.23	914.47	912.15	912.86	909.91	911.09	912.63	914.02	916.78	915.92	912.90	910.17
10	915.22	914.48	912.14	912.82	909.84	910.89	912.70	914.05	916.76	915.75	912.91	910.11
11	915.22	914.45	912.12	912.74	909.70	910.75	912.73	914.07	916.86	915.67	912.69	910.10
12	915.20	914.45	912.17	912.70	909.55	910.70	912.80	914.09	916.91	915.53	912.51	910.13
13	915.20	914.39	912.20	912.72	909.41	910.81	912.88	914.20	916.97	915.43	912.31	910.12
14	915.27	914.35	912.20	912.67	909.42	910.88	912.87	914.26	916.84	915.28	912.14	910.00
15	915.26	914.23	912.23	912.55	909.60	910.95	912.92	914.35	916.81	915.15	912.04	909.84
16	915.21	914.01	912.25	912.43	909.65	911.00	912.90	914.64	916.81	914.92	911.98	909.68
17	915.21	913.85	912.26	912.22	909.67	911.03	912.90	915.32	916.79	914.75	911.78	909.53
18	915.22	913.74	912.30	911.94	909.52	910.99	912.90	915.65	916.76	914.63	911.57	909.47
19	915.26	913.56	912.34	911.78	909.67	911.16	912.96	915.89	916.75	914.62	911.47	909.44
20	915.25	913.46	912.22	911.55	909.79	911.45	913.02	916.28	916.78	914.58	911.38	909.39
21	915.25	913.38	912.27	911.36	909.96	911.69	913.00	916.69	916.81	914.44	911.26	909.42
22	915.23	913.33	912.26	911.19	910.15	911.93	913.00	916.67	916.79	914.45	911.09	909.34
23	915.20	913.29	912.41	911.24	910.51	912.17	913.02	916.56	916.69	914.40	910.95	909.23
24	915.22	913.28	912.42	911.07	910.79	912.34	913.12	916.78	916.55	914.25	910.81	909.11
25	915.27	913.14	912.41	910.99	910.78	912.45	913.19	916.96	916.52	914.20	910.70	908.99
26	915.22	912.95	912.31	910.96	910.77	912.54	913.28	916.97	916.53	914.11	910.59	908.91
27	915.23	912.69	912.21	910.71	910.82	912.65	913.35	916.97	916.52	914.09	910.42	908.91
28	915.37	912.58	912.17	910.63	910.76	912.61	913.44	916.91	916.50	913.92	910.27	908.89
29	915.23	912.52	912.17	910.38	---	912.56	913.47	916.85	916.50	913.80	910.09	908.85
30	915.15	912.47	912.29	910.29	---	912.52	913.54	916.77	916.61	913.68	910.11	908.86
31	914.96	---	912.38	910.27	---	912.43	---	916.76	---	913.41	910.12	---
MEAN	915.23	913.91	912.28	911.93	910.05	911.50	912.91	915.24	916.72	915.08	911.85	909.71
MAX	915.37	914.94	912.45	912.86	910.82	912.65	913.54	916.97	916.97	916.60	913.29	910.43
MIN	914.96	912.47	912.12	910.27	909.41	910.70	912.47	913.67	916.50	913.41	910.09	908.85
(-)	2,700,000	2,595,000	2,591,000	2,504,000	2,524,000	2,593,000	2,640,000	2,778,000	2,772,000	2,634,000	2,498,000	2,447,000
(=)	-4,000	-105,000	-4,000	-87,000	+20,000	+69,000	+47,000	+138,000	-6,000	-138,000	-136,000	-51,000

CAL YR 2002.... -99,000
WTR YR 2003....-257,000

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

07053400 TABLE ROCK LAKE NEAR BRANSON, MO—Continued



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 southwest 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 exceeds 20 percent of the year. The monitor was not operated from Jan. 7 to June 17.

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	12.7	11.2	11.8	12.5	11.9	12.0	13.3	11.8	12.4	10.0	9.4	9.6
2	---	---	---	12.4	11.5	12.0	13.1	11.9	12.3	9.6	9.4	9.5
3	---	---	---	12.4	11.4	11.9	12.2	11.7	12.0	9.6	9.3	9.4
4	---	---	---	12.5	11.8	12.3	12.0	10.6	11.5	10.5	9.1	9.6
5	---	---	---	12.5	11.6	12.3	12.4	11.1	11.7	10.3	9.0	9.4
6	---	---	---	12.7	11.6	12.4	12.2	11.1	11.5	9.7	8.9	9.0
7	12.5	11.5	12.0	12.7	11.7	12.2	11.8	11.2	11.4	---	---	---
8	12.7	11.0	11.4	12.7	11.9	11.9	11.7	11.0	11.4	---	---	---
9	12.3	11.1	11.6	12.6	12.2	12.4	11.6	10.9	11.2	---	---	---
10	12.2	11.2	11.5	12.7	11.7	12.1	11.8	10.8	11.2	---	---	---
11	12.2	11.2	11.5	12.8	11.3	12.2	11.6	10.6	11.1	---	---	---
12	12.6	11.1	11.5	12.9	11.2	12.3	11.5	10.9	11.1	---	---	---
13	12.4	10.7	11.4	12.9	11.5	12.4	11.4	10.8	11.0	---	---	---
14	12.3	10.6	11.6	12.8	11.9	12.5	11.9	10.3	10.9	---	---	---
15	12.8	10.7	11.8	12.7	11.8	12.5	12.0	10.2	10.8	---	---	---
16	12.3	10.9	11.8	12.8	12.5	12.7	11.5	10.3	10.8	---	---	---
17	12.2	11.1	11.8	13.0	12.3	12.7	11.6	10.8	11.0	---	---	---
18	12.3	11.2	11.7	13.2	12.4	12.8	11.7	10.8	11.1	---	---	---
19	12.1	11.4	11.6	13.1	12.2	12.8	11.4	10.6	10.9	---	---	---
20	12.1	11.2	11.6	13.3	12.4	12.8	11.6	10.3	10.8	---	---	---
21	12.2	11.1	11.7	13.0	11.8	12.7	11.5	10.0	10.7	---	---	---
22	12.3	11.3	11.9	13.0	11.9	12.7	11.5	9.7	10.4	---	---	---
23	12.4	11.4	11.9	13.2	11.7	12.4	10.5	9.9	10.2	---	---	---
24	12.4	11.2	11.9	13.2	11.7	12.4	10.3	9.2	9.9	---	---	---
25	12.3	11.4	11.9	12.7	11.6	12.4	10.7	9.1	9.8	---	---	---
26	12.2	11.5	11.7	12.8	12.0	12.5	10.2	9.4	9.8	---	---	---
27	12.1	11.3	11.5	12.7	11.9	12.4	9.9	9.7	9.8	---	---	---
28	12.3	11.3	11.9	12.9	12.0	12.4	10.1	9.6	9.8	---	---	---
29	12.3	11.5	12.0	12.9	12.0	12.5	10.5	9.2	9.8	---	---	---
30	12.8	11.9	12.3	13.3	11.9	12.5	10.0	9.6	9.8	---	---	---
31	12.5	12.3	12.4	---	---	---	10.3	9.6	9.7	---	---	---
MONTH	12.8	10.6	11.8	13.3	11.2	12.4	13.3	9.1	10.8	10.5	8.9	9.4

07053450 WHITE RIVER BELOW TABLE ROCK DAM NEAR BRANSON, MO—Continued

TEMPERATURE, WATER, DEGREES CELSIUS,—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	8.6	6.9	7.2	8.6	7.9	8.1	9.5	8.4	8.8
2	---	---	---	7.9	6.9	7.2	8.8	7.6	8.0	9.3	8.4	8.8
3	---	---	---	7.9	6.9	7.2	10.0	7.6	8.0	9.8	8.5	9.0
4	---	---	---	7.3	7.1	7.2	8.2	7.6	7.9	10.3	8.3	9.0
5	---	---	---	8.0	7.0	7.2	8.3	7.8	8.0	9.8	8.3	8.8
6	---	---	---	7.8	7.0	7.2	8.8	7.8	8.0	10.7	8.3	9.0
7	---	---	---	8.3	7.1	7.4	9.0	7.8	8.1	9.9	8.3	8.8
8	---	---	---	8.5	7.0	7.5	8.8	7.7	8.1	9.6	8.3	8.6
9	---	---	---	8.4	7.1	7.4	9.1	8.0	8.3	10.1	8.5	9.0
10	---	---	---	8.5	7.2	7.5	9.8	7.7	8.2	10.0	8.4	8.9
11	---	---	---	7.5	6.9	7.3	8.7	7.6	8.1	10.2	8.5	8.9
12	---	---	---	7.9	7.2	7.4	8.4	7.7	8.1	9.3	8.5	8.8
13	---	---	---	7.5	7.3	7.4	8.5	7.8	8.1	9.8	8.6	9.1
14	---	---	---	7.7	7.2	7.4	9.0	7.8	8.2	10.2	9.2	9.4
15	---	---	---	8.0	7.2	7.5	9.0	7.9	8.3	10.0	8.4	9.1
16	---	---	---	8.4	7.4	7.6	8.8	7.9	8.2	9.6	8.5	9.2
17	---	---	---	10.6	7.2	7.7	8.7	7.9	8.4	9.9	8.6	9.2
18	7.7	6.7	7.0	---	---	---	8.8	8.3	8.5	10.0	8.7	9.3
19	8.1	6.8	7.2	---	---	---	9.4	7.9	8.5	10.1	9.0	9.2
20	8.3	6.9	7.2	---	---	---	9.1	7.9	8.5	10.8	8.5	9.2
21	8.6	6.7	7.2	---	---	---	8.9	8.4	8.7	10.1	8.6	8.9
22	8.6	6.8	7.3	---	---	---	9.0	8.3	8.8	10.3	8.6	9.4
23	7.2	6.8	7.0	---	---	---	9.6	8.2	8.7	9.8	8.7	9.3
24	8.1	6.9	7.2	---	---	---	9.3	8.2	8.7	10.6	8.7	9.3
25	7.9	6.9	7.1	---	---	---	9.4	8.2	8.7	9.7	8.9	9.4
26	8.2	6.9	7.3	---	---	---	9.3	8.3	8.8	9.9	9.4	9.5
27	9.1	6.7	7.3	---	---	---	9.2	8.3	8.9	10.0	8.8	9.3
28	8.2	6.8	7.2	---	---	---	9.3	8.4	8.9	10.2	8.7	9.3
29	8.8	6.8	7.3	---	---	---	9.3	8.4	8.9	10.2	8.4	9.0
30	7.9	6.8	7.1	8.0	7.7	7.9	10.2	8.5	8.8	9.7	8.7	9.0
31	---	---	---	8.3	7.8	8.0	9.8	8.4	8.7	---	---	---
MONTH	9.1	6.7	7.2	10.6	6.9	7.4	10.2	7.6	8.4	10.8	8.3	9.1

07053450 WHITE RIVER BELOW TABLE ROCK DAM NEAR BRANSON, MO—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	6.6	5.3	6.0	6.4	2.8	4.3	7.8	5.5	6.8	7.5	4.9	6.2
2	---	---	---	---	---	---	8.0	5.3	6.5	7.5	5.6	6.6
3	---	---	---	---	---	---	8.8	5.3	6.6	7.7	6.2	7.0
4	---	---	---	---	---	---	12.4	5.7	7.0	7.7	5.2	6.4
5	---	---	---	6.4	3.8	5.0	9.4	5.8	7.4	7.1	5.0	5.9
6	---	---	---	6.4	3.0	4.3	8.8	5.7	7.1	7.2	5.2	6.5
7	6.2	3.4	4.9	6.5	2.8	6.5	8.7	6.1	7.7	---	---	---
8	5.6	1.5	3.0	---	---	---	9.2	5.0	6.9	---	---	---
9	8.1	1.2	4.3	---	---	---	8.1	5.6	6.6	---	---	---
10	6.9	0.9	3.4	5.4	1.7	3.3	9.3	5.6	7.1	---	---	---
11	5.9	0.7	3.0	7.1	1.6	2.9	9.0	5.6	7.3	---	---	---
12	6.3	0.8	3.1	7.5	2.3	4.8	9.6	6.3	7.5	---	---	---
13	7.3	1.7	3.3	8.0	1.7	4.8	9.0	6.3	7.7	---	---	---
14	7.2	1.9	4.5	7.7	2.3	5.6	8.7	6.4	7.4	---	---	---
15	7.8	2.3	5.4	7.2	2.0	4.5	7.9	5.3	6.3	---	---	---
16	8.3	2.9	5.3	7.8	3.0	5.3	9.1	5.4	7.4	---	---	---
17	9.6	2.0	5.9	6.7	2.7	5.5	9.7	6.3	7.9	---	---	---
18	7.4	2.4	4.8	7.9	2.5	5.6	9.0	6.3	7.8	---	---	---
19	8.2	2.2	4.3	8.6	0.9	5.8	9.2	6.2	7.3	---	---	---
20	8.7	1.9	4.9	8.2	3.8	5.6	9.6	5.5	7.2	---	---	---
21	8.0	1.9	5.0	8.3	0.6	4.7	7.0	5.0	5.8	---	---	---
22	9.7	1.6	5.0	7.4	0.4	5.3	6.8	4.9	5.7	---	---	---
23	10.2	1.9	5.2	6.8	0.1	1.4	7.2	4.6	5.7	---	---	---
24	9.5	1.9	5.2	6.7	1.0	3.3	7.2	5.1	5.9	---	---	---
25	7.6	1.5	4.6	7.6	0.1	3.7	7.6	5.3	6.2	---	---	---
26	6.6	2.3	3.7	7.3	0.1	4.9	7.7	5.2	6.5	---	---	---
27	6.3	1.5	3.1	7.4	3.2	5.8	7.4	5.9	6.8	---	---	---
28	8.6	1.3	4.6	7.7	3.2	5.5	7.6	6.1	7.2	---	---	---
29	8.3	1.2	5.3	7.7	2.8	5.2	7.4	5.2	6.4	---	---	---
30	8.3	3.0	6.6	8.7	4.1	6.3	7.5	5.6	6.6	---	---	---
31	7.3	3.3	5.0	---	---	---	7.5	6.0	6.8	---	---	---
MONTH	10.2	0.7	4.6	8.7	0.1	4.8	12.4	4.6	6.9	7.7	4.9	6.4

	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	11.6	7.7	9.1	10.8	6.9	6.5	11.6	4.7	6.9
2	---	---	---	10.8	8.1	9.1	11.9	6.4	8.3	12.6	4.4	7.2
3	---	---	---	11.6	7.8	8.9	10.7	6.3	8.4	12.5	5.1	7.8
4	---	---	---	10.1	8.2	9.2	12.9	6.5	8.2	12.8	4.1	7.3
5	---	---	---	11.2	8.0	9.3	12.6	6.4	8.5	11.5	5.0	8.0
6	---	---	---	10.6	7.9	9.1	11.1	6.4	8.6	11.8	6.0	8.9
7	---	---	---	11.2	7.7	8.9	11.8	7.1	8.8	10.4	5.0	8.3
8	---	---	---	11.7	7.8	9.4	12.0	6.3	8.1	5.0	4.0	4.7
9	---	---	---	10.8	7.8	8.7	12.9	7.3	10.6	8.5	4.5	4.5
10	---	---	---	12.3	7.6	9.6	13.2	6.2	8.8	9.7	3.6	5.5
11	---	---	---	12.1	7.7	8.8	12.2	6.3	7.5	9.5	3.8	5.8
12	---	---	---	10.8	7.4	8.8	12.1	5.3	7.4	9.0	3.4	5.7
13	---	---	---	10.0	7.6	8.6	11.6	5.7	7.1	9.1	4.0	6.4
14	---	---	---	10.6	7.5	8.6	13.3	6.0	7.9	9.3	5.1	7.3
15	---	---	---	10.0	7.4	8.3	12.7	6.1	7.6	10.7	4.1	6.7
16	---	---	---	9.8	7.3	8.3	11.1	6.1	7.3	9.4	4.0	6.7
17	10.6	7.8	8.4	12.2	7.3	8.2	11.1	5.9	7.6	9.7	4.2	6.8
18	11.2	7.2	8.6	12.1	6.6	9.3	11.5	6.7	8.6	9.3	4.2	6.7
19	11.5	7.8	9.3	10.9	5.7	8.9	11.5	6.6	7.8	10.2	4.5	6.9
20	11.2	7.9	9.2	10.5	5.8	8.8	11.7	6.6	7.3	9.5	4.4	6.6
21	11.3	7.6	9.3	10.0	7.0	7.7	11.6	6.6	8.5	9.9	3.2	5.7
22	11.2	7.7	9.1	12.1	6.4	8.9	11.5	6.2	7.9	9.8	2.5	6.3
23	10.3	8.0	8.9	12.4	6.0	9.2	11.7	10.6	7.6	9.5	4.0	7.0
24	12.1	8.0	9.6	12.4	5.9	8.6	---	---	---	9.7	3.8	6.7
25	11.6	8.0	9.1	11.8	6.0	8.7	---	---	---	9.5	4.8	7.5
26	11.8	8.0	9.7	11.9	5.7	8.3	11.7	5.8	7.7	9.6	4.6	7.5
27	10.7	7.8	9.0	11.3	5.6	8.8	10.9	5.7	7.0	10.0	2.8	5.8
28	10.8	7.6	8.8	11.9	6.4	8.3	8.6	5.3	6.9	10.0	3.6	6.2
29	11.6	7.8	9.4	11.9	7.3	8.9	10.9	5.3	7.0	9.7	3.7	5.8
30	11.4	7.7	9.0	13.6	6.6	8.1	11.4	4.8	7.4	9.0	2.2	4.7
31	---	---	---	9.0	6.6	7.2	11.2	4.8	7.4	---	---	---
MONTH	12.1	7.2	9.1	13.6	5.6	8.7	13.3	4.8	7.9	12.8	2.2	6.6

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 exceeds 20 percent of the year. The monitor was not operated from Jan. 7 to June 17.

TEMPERATURE, WATER, DEGREES CELSIUS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	13.8	11.9	12.3	12.5	11.9	12.2	11.9	10.9	11.4	9.3	8.6	9.0
2	13.7	12.0	12.4	12.1	11.2	11.7	12.4	10.6	11.5	9.3	8.2	8.8
3	13.6	12.0	12.4	11.8	11.4	11.6	11.8	11.0	11.6	9.5	8.4	9.0
4	14.6	12.3	12.8	12.5	11.8	12.0	11.4	9.8	11.0	9.0	8.2	8.8
5	13.3	11.9	12.5	12.6	12.0	12.3	11.6	10.4	11.1	9.2	8.4	8.8
6	13.7	12.6	12.9	13.0	11.7	12.3	11.3	10.1	10.9	8.8	8.4	8.6
7	14.5	12.4	13.4	13.2	11.6	12.5	11.4	10.6	11.0	---	---	---
8	12.6	12.0	12.2	13.4	11.6	12.6	11.3	10.5	10.9	---	---	---
9	12.3	11.9	12.1	13.5	12.8	13.1	11.1	10.5	10.9	---	---	---
10	12.8	12.0	12.2	13.5	12.8	13.2	11.2	10.1	10.7	---	---	---
11	12.9	12.0	12.4	12.8	12.0	12.4	10.8	10.0	10.5	---	---	---
12	13.5	12.8	13.0	12.9	11.4	12.3	10.8	10.3	10.6	---	---	---
13	12.9	11.9	12.6	13.1	11.7	11.8	10.8	10.2	10.5	---	---	---
14	12.9	11.1	11.3	12.7	12.0	12.5	11.1	10.1	10.5	---	---	---
15	13.1	11.0	11.9	12.6	12.2	12.4	10.8	9.7	10.1	---	---	---
16	12.4	11.2	12.0	12.6	12.1	12.4	11.1	9.3	10.3	---	---	---
17	13.1	11.5	12.3	13.0	12.1	12.6	11.5	10.5	10.9	---	---	---
18	12.4	11.8	12.1	13.0	12.2	12.6	11.4	10.8	11.0	---	---	---
19	12.4	12.0	12.2	13.3	12.3	12.8	10.9	10.5	10.7	---	---	---
20	12.0	11.8	11.9	13.2	12.0	12.6	10.7	9.7	10.4	---	---	---
21	13.1	11.7	12.0	12.9	11.8	12.5	10.4	9.8	10.1	---	---	---
22	12.9	11.9	12.3	13.1	11.9	12.6	9.9	9.2	9.6	---	---	---
23	12.8	11.8	12.3	12.6	11.8	12.2	9.2	8.3	8.8	---	---	---
24	13.0	11.7	12.2	12.4	11.6	11.9	8.7	7.8	8.3	---	---	---
25	12.4	12.1	12.3	12.5	11.1	12.0	8.6	7.7	8.3	---	---	---
26	12.5	12.1	12.2	12.6	11.8	12.3	9.5	7.3	8.7	---	---	---
27	12.1	11.6	11.9	12.6	11.4	12.1	10.0	9.1	9.6	---	---	---
28	12.3	11.2	11.9	12.7	11.3	12.1	9.7	8.9	9.3	---	---	---
29	12.3	12.1	12.2	12.5	11.3	12.2	9.5	8.9	9.2	---	---	---
30	12.4	12.1	12.3	12.2	11.1	11.9	9.9	9.1	9.6	---	---	---
31	12.3	12.0	12.2	---	---	---	9.9	9.3	9.5	---	---	---
MONTH	14.6	11.0	12.3	13.5	11.1	12.3	12.4	7.3	10.2	9.5	8.2	8.8

07053600 LAKE TANEYCOMO AT COLLEGE OF THE OZARKS—Continued

TEMPERATURE, WATER, DEGREES CELSIUS,—CONTINUEDWATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	10.7	7.5	8.3	9.0	8.1	8.4	13.0	11.5	12.4
2	---	---	---	9.8	7.5	8.0	12.5	8.3	9.0	15.3	9.8	12.8
3	---	---	---	9.7	7.4	7.8	12.0	8.5	9.4	11.7	9.7	10.1
4	---	---	---	8.5	7.4	7.8	9.5	8.4	9.0	11.9	9.4	10.2
5	---	---	---	9.3	7.4	7.9	9.6	8.2	8.7	12.0	9.3	10.3
6	---	---	---	10.4	7.4	8.2	10.4	8.2	8.7	11.2	9.4	10.2
7	---	---	---	10.4	7.5	8.0	10.5	8.2	8.7	12.3	11.1	11.7
8	---	---	---	9.9	7.6	8.0	10.3	8.2	8.6	13.3	9.4	10.7
9	---	---	---	10.0	7.6	8.1	10.6	8.2	9.1	11.8	9.2	10.2
10	---	---	---	9.8	7.6	8.1	13.8	10.4	11.8	14.2	9.6	11.7
11	---	---	---	9.5	7.6	8.0	13.9	8.4	11.2	11.7	9.6	10.2
12	---	---	---	9.4	7.6	8.1	9.6	8.4	8.6	10.7	9.7	10.1
13	---	---	---	8.7	7.6	7.9	9.4	8.5	8.7	11.8	9.8	10.5
14	---	---	---	9.2	7.6	8.0	9.6	8.6	8.9	11.1	9.5	10.1
15	---	---	---	9.1	7.6	8.1	10.5	8.7	8.9	11.1	9.3	9.8
16	---	---	---	8.6	7.8	8.1	10.7	8.7	9.1	11.2	9.2	9.6
17	---	---	--	8.7	7.9	8.1	9.7	8.7	9.0	11.3	9.4	9.8
18	9.5	7.3	7.8	9.3	8.0	8.2	9.3	8.6	8.8	11.8	9.3	9.8
19	10.0	7.3	8.0	12.4	8.1	9.7	9.5	8.7	9.0	12.0	9.7	10.4
20	11.1	7.3	8.3	12.0	8.2	10.0	9.7	8.8	9.1	11.7	9.5	10.4
21	11.0	8.3	9.3	12.1	8.1	9.8	9.9	8.7	9.0	12.0	11.4	11.6
22	14.9	10.7	12.2	10.5	8.0	8.5	9.7	8.9	9.3	13.0	9.8	11.6
23	12.5	7.3	8.7	11.8	8.0	9.9	10.0	9.0	9.3	11.2	9.6	10.0
24	9.3	7.2	7.6	12.1	8.0	10.3	10.1	9.0	9.4	11.6	9.5	9.8
25	8.8	7.5	7.8	10.2	7.9	8.3	10.6	9.0	9.4	11.3	9.5	10
26	9.2	7.5	8.2	10.7	7.9	8.5	10.4	9.1	9.4	11.6	9.5	10.1
27	12.9	9.2	10.6	12.3	8.0	9.0	10.1	9.3	9.4	11.5	10.1	10.6
28	14.3	9.1	11.8	8.9	8.1	8.4	10.5	9.3	9.5	12.6	10.5	11.4
29	11.0	8.6	9.6	9.3	8.2	8.5	10.3	9.3	9.5	12.6	10.4	11.4
30	12.3	7.5	10.1	9.0	8.0	8.2	11.3	9.3	10.1	10.4	9.9	10.2
31	---	---	---	9.2	8.0	8.3	12.2	11.0	11.4	---	---	---
MONTH	14.9	7.2	9.1	12.4	7.4	8.5	13.9	8.1	9.3	15.3	9.2	10.6

07053600 LAKE TANEYCOMO AT COLLEGE OF THE OZARKS—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.23	3.57	4.28	6.73	3.85	4.91	7.34	6.49	6.86	10.6	9.55	10.2
2	6.69	3.87	4.38	5.86	3.62	4.31	7.72	5.30	6.42	10.7	9.39	9.97
3	6.34	3.81	4.79	6.13	5.01	5.83	7.83	5.15	6.00	11.5	9.39	10.3
4	7.98	5.05	5.99	6.38	4.11	5.04	8.15	5.30	6.15	10.8	9.71	10.0
5	7.32	5.99	6.52	5.88	3.97	4.53	7.95	5.45	6.00	11.1	9.88	10.3
6	7.20	6.23	6.69	6.53	3.74	4.99	7.50	5.68	6.33	11.2	9.68	10.7
7	8.31	6.38	7.46	6.28	3.88	4.71	8.07	5.60	6.84	---	---	---
8	6.38	4.96	5.82	6.62	4.04	4.84	7.89	5.81	6.74	---	---	---
9	7.64	4.49	5.45	5.49	4.25	4.98	7.44	5.81	6.35	---	---	---
10	6.60	4.03	4.82	5.79	4.69	5.38	8.89	5.51	6.40	---	---	---
11	4.95	3.62	4.38	5.95	4.49	5.03	8.38	5.97	6.75	---	---	---
12	6.44	4.67	5.60	6.50	4.30	4.75	7.94	6.11	6.72	---	---	---
13	7.00	5.22	6.00	6.68	4.44	5.07	8.26	7.01	7.72	---	---	---
14	7.85	5.32	6.33	5.52	4.22	4.79	8.02	7.06	7.63	---	---	---
15	8.68	4.62	5.54	5.83	4.16	4.87	8.20	7.14	7.68	---	---	---
16	6.41	4.11	5.04	7.46	4.94	5.21	9.01	7.15	7.72	---	---	---
17	8.55	3.97	5.27	7.11	5.37	5.92	8.85	7.17	7.66	---	---	---
18	6.99	4.83	5.82	6.72	5.27	5.73	8.51	7.25	7.60	---	---	---
19	6.24	3.87	4.77	7.25	5.15	6.43	8.27	6.90	7.42	---	---	---
20	6.20	5.40	5.75	7.63	4.98	5.82	9.60	7.49	8.22	---	---	---
21	7.67	4.61	6.10	7.57	5.39	5.88	8.99	8.28	8.58	---	---	---
22	6.65	3.94	4.54	7.92	5.41	6.57	9.45	8.56	8.96	---	---	---
23	6.97	3.63	4.49	7.06	5.41	6.46	10.1	8.59	9.05	---	---	---
24	7.22	3.64	4.68	7.33	6.26	6.85	10.2	9.14	9.68	---	---	---
25	6.49	3.08	4.31	7.55	5.83	6.54	10.2	9.47	9.88	---	---	---
26	5.14	3.76	4.24	7.14	5.17	5.98	10.9	9.86	10.5	---	---	---
27	5.81	3.86	4.62	6.98	4.92	5.67	10.8	8.79	9.30	---	---	---
28	5.91	3.97	4.91	6.54	4.89	5.78	11.6	9.75	10.5	---	---	---
29	6.37	3.90	4.69	6.74	5.69	6.25	11.2	10.4	10.8	---	---	---
30	6.22	3.92	4.79	7.78	6.30	6.72	10.8	8.98	9.79	---	---	---
31	6.02	3.92	4.76	---	---	---	10.6	8.65	9.32	---	---	---
MONTH	8.68	3.08	5.25	7.92	3.62	5.53	11.6	5.15	7.92	11.5	9.39	10.2

	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	11.2	9.57	10.2	8.90	7.17	7.98	10.3	7.57	9.02
2	---	---	---	10.6	8.74	9.50	8.75	7.51	8.07	10.1	7.32	9.00
3	---	---	---	11.3	8.38	9.10	10.6	7.27	8.48	9.62	6.40	7.51
4	---	---	---	10.3	8.49	9.71	9.48	8.40	8.97	8.82	5.65	6.61
5	---	---	---	11.1	9.02	9.93	9.79	7.26	8.29	8.93	4.84	6.40
6	---	---	---	11.7	7.72	9.57	10.0	8.23	8.16	10.0	6.54	8.57
7	---	---	---	10.9	8.32	9.25	10.3	7.81	8.82	10.2	8.14	9.27
8	---	---	---	10.6	7.54	9.01	10.0	6.47	8.03	9.49	6.47	7.35
9	---	---	---	10.1	6.92	8.35	9.31	6.67	8.10	8.25	6.59	7.47
10	---	---	---	10.6	7.98	8.94	11.4	7.67	9.17	10.2	4.84	8.12
11	---	---	---	11.1	7.75	8.57	11.5	6.40	9.21	8.32	5.00	6.28
12	---	---	---	10.7	8.24	9.41	9.77	6.73	7.50	7.06	5.10	5.88
13	---	---	---	10.2	8.64	9.48	9.27	6.33	7.09	8.15	5.06	6.82
14	---	---	---	11.2	8.06	9.12	9.42	6.29	7.16	9.30	5.47	7.43
15	---	---	---	10.2	8.00	8.85	9.45	6.42	7.27	9.12	5.01	6.19
16	---	---	---	10.2	7.88	8.65	9.24	6.30	7.02	9.17	4.36	6.57
17	11.7	10.1	10.5	9.54	7.61	8.22	9.70	6.17	6.99	8.40	5.22	6.34
18	11.6	9.64	10.3	9.43	7.54	8.17	9.43	6.38	7.65	8.99	6.02	7.07
19	11.9	9.10	10.0	11.0	7.64	8.89	9.22	6.32	7.15	8.98	5.50	6.95
20	12.5	9.00	9.93	10.7	8.60	9.76	9.12	5.83	6.67	8.04	5.49	6.94
21	11.0	9.47	10.3	11.0	7.47	9.10	9.45	6.13	7.90	9.22	6.93	7.88
22	12.6	10.4	11.7	10.9	7.58	8.73	9.24	6.88	7.63	9.83	4.76	7.29
23	11.8	8.99	10.0	11.0	8.01	9.59	9.62	5.88	7.21	8.19	5.17	6.58
24	11.9	8.80	9.68	11.2	7.23	9.59	9.50	5.67	7.26	8.53	4.33	6.41
25	10.9	0.00	9.29	9.54	7.17	7.97	10.7	6.26	7.79	8.96	4.69	6.63
26	9.95	8.33	9.21	9.63	7.12	7.64	9.73	5.83	6.70	8.37	4.88	6.62
27	12.6	9.49	11.0	11.2	6.64	7.89	8.35	5.52	6.28	7.97	3.11	6.19
28	12.5	10.3	11.8	9.58	7.10	8.34	9.45	5.33	6.20	9.32	5.16	7.83
29	10.9	9.52	10.1	9.27	6.96	7.48	7.68	5.26	6.39	9.96	7.62	8.71
30	11.6	9.23	10.0	10.2	7.18	8.30	9.42	6.29	7.56	7.89	5.53	6.84
31	---	---	---	9.80	6.79	8.04	9.45	6.57	8.50	---	---	---
MONTH	12.6	0.00	10.3	11.7	6.64	8.88	11.5	5.26	7.65	10.3	3.11	7.23

07053700 LAKE TANEYCOMO AT BRANSON, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 36°38'09", long 93°12'52", in SE ¼ SE ¼ NW ¼ sec.4, T.22 N., R.21 W., Taney County, Hydrologic Unit 11010003, 1,000 ft downstream of Turkey Creek, at bridge on Business Route 65 in Branson.

PERIOD OF RECORD.--July 1977 to June 1991 and November 1996 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf µS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Hard-ness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)
NOV											
14...	1530	Environmental	4.8	47	7.4	225	12.5	110	35.0	5.49	1.78
MAR											
26...	0845	Environmental	10.1	94	7.6	275	11.2	--	--	--	--
APR											
22...	1530	Environmental	12.7	121	7.9	257	12.2	--	--	--	--
22...	1531	Replicate	12.0	123	7.8	258	12.1	--	--	--	--
MAY											
29...	0915	Environmental	10.0	85	7.1	249	7.1	110	34.3	5.74	1.94
JUN											
18...	0909	Blank	--	--	--	--	--	--	--	--	--
18...	0910	Environmental	9.3	86	7.6	275	10.8	--	--	--	--
JUL											
16...	1545	Environmental	9.2	82	7.3	247	9.5	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicar-bonate, wat unf incrm. titr., field, mg/L (00450)	Carbon-ate, wat unf incrm. titr., field, mg/L (00447)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
14...	3.86	112	111	135	<1	5.64	<0.2	6.8	132	<10	0.23	<0.04	0.40
MAR													
26...	--	122	125	153	<1	--	--	--	--	<10	0.19	<0.04	0.30
APR													
22...	--	108	107	130	<1	--	--	--	--	<10	0.26	<0.04	0.34
22...	--	--	--	--	--	--	--	--	--	--	0.29	<0.04	0.34
MAY													
29...	5.44	104	104	127	<1	8.29	<0.2	7.6	136	<10	0.10	<0.04	0.09
JUN													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	105	106	129	<1	--	--	--	--	<10	0.23	<0.04	0.44
JUL													
16...	--	106	106	130	<1	--	--	--	--	<10	0.18	<0.04	0.49

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
14...	E.006	<0.02	E.02	E.03	30	30	13k	<2	9	0.5	<0.04	<0.2	<6
MAR													
26...	<0.008	<0.02	<0.04	<0.04	3k	3k	5k	--	--	--	--	--	--
APR													
22...	<0.008	<0.02	E.02	<0.04	<1b	2k	3k	--	--	--	--	--	--
22...	<0.008	<0.02	E.02	<0.04	<1b	5k	5k	--	--	--	--	--	--
MAY													
29...	<0.008	<0.02	<0.04	<0.04	13k	55	38	M	8	0.4	<0.04	<0.2	<7
JUN													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	<0.008	<0.02	<0.04	E.02	790k	1,050k	435	--	--	--	--	--	--
JUL													
16...	<0.008	<0.02	<0.04	<0.04	<1b	7k	4k	--	--	--	--	--	--

07053700 LAKE TANEYCOMO AT BRANSON, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)	2,6-Di- ethyl- aniline water fltrd 0.7µ GF µg/L (82660)	CIAT, water, fltrd, µg/L (04040)	Aceto- chlor, water, fltrd, µg/L (49260)	Ala- chlor, water, fltrd, µg/L (46342)	alpha- HCH, water, fltrd, µg/L (34253)
NOV													
14...	12	<0.08	<1	125	<0.02	<0.5	M	E1	--	--	--	--	--
MAR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
29...	<8	<0.08	<1	3.2	<0.02	<0.5	<1	<2	--	--	--	--	--
JUN													
18...	--	--	--	--	--	--	--	--	<0.006	<0.006	<0.006	<0.004	<0.005
18...	--	--	--	--	--	--	--	--	<0.006	<0.006	<0.006	<0.004	<0.005
JUL													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Atra- zine, water, fltrd, ug/L (39632)	Azin- phos- methyl, water, fltrd 0.7u GF ug/L (82686)	Ben- flur- alin, water, fltrd 0.7u GF ug/L (82673)	Butyl- ate, water, fltrd, ug/L (04028)	Car- baryl, water, fltrd 0.7u GF ug/L (82680)	Carbo- furan, water, fltrd 0.7u GF ug/L (82674)	Chlor- pyrifos water, fltrd, ug/L (38933)	cis- Per- methrin water fltrd 0.7u GF ug/L (82687)	Cyana- zine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazi- non, water, fltrd, ug/L (39572)	Diel- drin, water, fltrd, ug/L (39381)	Disul- foton, water, fltrd 0.7u GF ug/L (82677)
NOV													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
18...	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
18...	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
JUL													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	EPTC, water, fltrd 0.7µ GF µg/L (82668)	Ethal- flur- alin, water, fltrd 0.7µ GF µg/L (82663)	Etho- prop, water, fltrd 0.7µ GF µg/L (82672)	Fonofos water, fltrd, µg/L (04095)	Lindane water, fltrd, µg/L (39341)	Linuron water fltrd 0.7µ GF µg/L (82666)	Mala- thion, water, fltrd, µg/L (39532)	Methyl para- thion, water, fltrd 0.7µ GF µg/L (82667)	Metola- chlor, water, fltrd, µg/L (39415)	Metri- buzin, water, fltrd, µg/L (82630)	Moli- nate, water, fltrd 0.7µ GF µg/L (82671)	Naprop- amide, water, fltrd 0.7µ GF µg/L (82684)	p,p-' DDE, water, fltrd, µg/L (34653)
NOV													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
18...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003
18...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003
JUL													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--

07053700 LAKE TANEYCOMO AT BRANSON, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Parathion, water, fltrd, µg/L (39542)	Pebulate, water, fltrd 0.7µ GF µg/L (82669)	Pendimethalin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water fltrd 0.7µ GF µg/L (82664)	Prometon, water, fltrd, µg/L (04037)	Pronamide, water, fltrd 0.7µ GF µg/L (82676)	Propachlor, water, fltrd, µg/L (04024)	Propanil, water, fltrd 0.7µ GF µg/L (82679)	Propargite, water, fltrd 0.7µ GF µg/L (82685)	Simazine, water, fltrd, µug/L (04035)	Tebuthiuron water fltrd 0.7µ GF µg/L (82670)	Terbacil, water, fltrd 0.7µ GF µg/L (82665)	Terbufos, water, fltrd 0.7µ GF µg/L (82675)
NOV													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
18...	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
18...	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
JUL													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Thiobencarb water fltrd 0.7µ GF µg/L (82681)	Triallate, water, fltrd 0.7µ GF µg/L (82678)	Trifluralin, water, fltrd 0.7µ GF µg/L (82661)
NOV			
14...	--	--	--
MAR			
26...	--	--	--
APR			
22...	--	--	--
22...	--	--	--
MAY			
29...	--	--	--
JUN			
18...	<0.005	<0.002	<0.009
18...	<0.005	<0.002	<0.009
JUL			
16...	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07053810 BULL CREEK NEAR WALNUT SHADE, MO

LOCATION.--Lat 36°43'05", long 93°12'24", in NW ¼ SE ¼ SE ¼ sec.4, T.23 N., R.21 W., Taney County, Hydrologic Unit 11010003, on downstream side of State Highway F bridge pier, 1.3 miles southwest of Walnut Shade and 3.9 miles upstream from Lake Taneycomo.

DRAINAGE AREA.--191 mi^2.

PERIOD OF RECORD.--October 1994 to September 1996, October 1997 to current year. Stage only station July 1991 to September 1994, and October 1996 to September 1997.

GAGE.--Water-stage recorder. Datum of gage is 712.45 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	7.5	e4.1	401	16	236	132	156	21	11	2.4	117
2	2.2	e6.9	e4.0	236	16	308	120	263	28	50	110	647
3	2.2	e6.4	e4.0	161	16	300	108	209	33	44	90	256
4	2.2	e5.9	e7.0	120	15	257	100	164	32	35	50	128
5	2.3	e5.5	e6.6	97	14	211	89	138	28	29	42	80
6	2.0	e6.2	e6.1	77	16	167	113	113	27	23	43	54
7	2.2	e7.0	e5.7	64	16	136	382	95	24	19	33	38
8	2.7	e6.7	e5.3	57	16	114	335	81	21	17	25	29
9	2.9	e6.3	e4.9	48	16	96	256	70	19	15	20	23
10	3.1	e6.0	e4.6	43	16	81	205	62	17	14	16	19
11	3.3	e5.7	e4.4	39	17	71	170	55	19	14	13	16
12	3.2	e5.5	e4.3	35	20	65	145	48	25	21	11	42
13	3.2	e5.3	23	33	25	68	122	50	27	18	9.6	145
14	2.8	e6.2	36	30	511	80	107	116	26	16	9.2	135
15	2.7	e5.9	34	28	479	80	94	119	25	17	8.0	81
16	3.2	e5.7	30	27	277	75	85	249	32	14	6.8	49
17	3.7	e5.5	28	29	188	70	79	408	29	12	5.9	32
18	3.9	e5.3	49	31	146	65	73	261	25	11	5.1	24
19	4.8	e5.1	68	28	570	250	69	175	22	9.7	4.2	17
20	4.8	e4.9	50	22	690	780	92	125	20	8.2	4.2	15
21	4.5	e4.8	37	21	420	940	121	91	18	7.4	3.9	15
22	4.5	e4.7	26	e20	677	613	107	71	17	7.8	3.8	23
23	4.5	e4.6	22	19	739	408	94	59	15	7.5	3.5	19
24	3.8	e4.5	21	21	466	300	384	52	13	5.7	3.2	16
25	3.5	e4.4	18	22	304	235	405	48	11	4.9	2.0	13
26	3.5	e4.3	15	20	231	189	282	43	14	4.0	2.0	11
27	3.5	e4.5	14	19	191	159	208	38	12	3.4	2.4	13
28	3.8	e4.7	20	17	177	150	165	33	11	2.9	2.6	12
29	15	e4.4	61	17	---	176	134	29	9.5	2.5	2.8	12
30	12	e4.2	460	16	---	164	115	26	8.8	2.3	3.8	11
31	9.0	---	984	16	---	149	---	24	---	2.3	4.6	---
MEAN	4.12	5.49	66.4	58.5	224	226	163	112	21.0	14.5	17.5	69.7
MAX	15	7.5	984	401	739	940	405	408	33	50	110	647
MIN	2.0	4.2	4.0	16	14	65	69	24	8.8	2.3	2.0	11
IN.	0.02	0.03	0.40	0.35	1.22	1.36	0.95	0.68	0.12	0.09	0.11	0.41

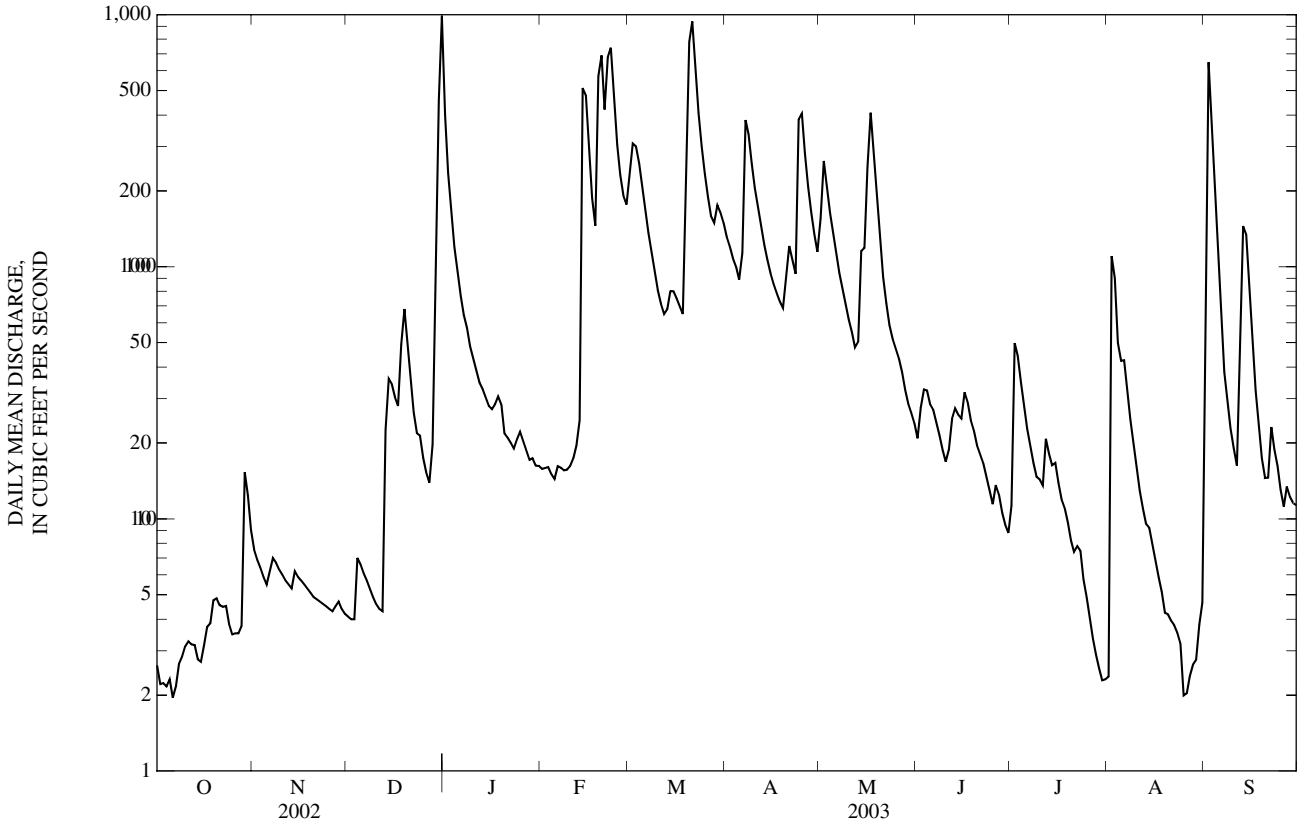
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OR RECORD, BY WATER YEAR (WY)

MEAN	22.9	94.0	155	249	306	333	384	356	150	66.4	15.4	32.8
MAX	72.3	402	501	721	704	834	809	1,253	594	323	45.8	165
(WY)	(1999)	(1995)	(2002)	(1995)	(2001)	(1998)	(1995)	(2002)	(1995)	(2000)	(2000)	(1996)
MIN	4.12	5.49	66.4	58.5	44.0	68.0	63.9	31.4	21.0	2.31	3.02	4.77
(WY)	(2003)	(2003)	(2003)	(2003)	(1996)	(1996)	(2000)	(2000)	(2003)	(1992)	(1996)	(1995)

07053810 BULL CREEK NEAR WALNUT SHADE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	240		80.9		177	
HIGHEST ANNUAL MEAN					330	1995
LOWEST ANNUAL MEAN					80.9	2003
HIGHEST DAILY MEAN	12,200	May 8	984	Dec 31	12,200	May 8, 2002
LOWEST DAILY MEAN	2.0	Oct 6	2.0	Oct 6, Aug 25,26	1.6	Sep 14, 1996
ANNUAL SEVEN-DAY MINIMUM	2.2	Oct 1	2.2	Oct 1	1.8	Aug 17, 1992
MAXIMUM PEAK FLOW	---		1,340	Dec 31	Unknown	May 8, 2002
MAXIMUM PEAK STAGE	---		5.03	Dec 31	14.41	May 8, 2002
INSTANTANEOUS LOW FLOW	---		1.9	Oct 1-4,6,7,Aug 25,26	1.6	Sep 13, 1996
ANNUAL RUNOFF (INCHES)	17.09		5.75		12.61	
10 PERCENT EXCEEDS	554		235		400	
50 PERCENT EXCEEDS	35		22		50	
90 PERCENT EXCEEDS	4.0		3.8		5.3	

e Estimated



07053900 SWAN CREEK NEAR SWAN, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 36°47'02", long 93°05'04", in SW ¼ SE ¼ NE ¼ sec.3, T.24 N., R.20 W., Taney County, Hydrologic Unit 11010003, 0.8 mi south of Swan, 4.0 mi northwest of Highway 76 on County Highway AA.

DRAINAGE AREA.--148 mi^2.

PERIOD OF RECORD.--November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
14...	1230	Environmental	16	8.5	77	8.1	433	9.6	240	52.1	26.9	1.16
14...	1231	Blank	--	--	--	--	--	--	--	E.01n	<0.008	<0.10
JAN												
22...	0915	Environmental	15	13.0	98	8.5	413	3.2	--	--	--	--
22...	0916	Blank	--	--	--	--	--	--	--	--	--	--
MAR												
25...	1405	Environmental	150	10.8	105	8.1	366	12.8	--	--	--	--
25...	1415	Blank	--	--	--	--	--	--	--	--	--	--
MAY												
28...	1430	Blank	--	--	--	--	--	--	--	0.01	E.004	<0.16
28...	1445	Environmental	27	8.6	100	7.9	423	21.1	210	46.3	23.6	1.26
JUL												
16...	1345	Blank	--	--	--	--	--	--	--	--	--	--
16...	1350	Environmental	6.4	7.5	100	7.5	460	29.4	--	--	--	--
SEP												
08...	1210	Blank	--	--	--	--	--	--	--	--	--	--
08...	1211	Environmental	24	8.6	104	7.9	428	22.4	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
14...	1.83	213	214	262	<1	3.86	<0.2	5.7	239	<10	E.07	<0.04	0.14
14...	<0.09	--	--	--	--	<0.20	<0.2	<0.2	<10	<10	<0.10	<0.04	<0.06
JAN													
22...	--	223	225	266	4	--	--	--	--	<10	E.05	<0.04	0.32
22...	--	--	--	--	--	--	--	--	--	<10	<0.10	<0.04	<0.06
MAR													
25...	--	173	173	211	<1	--	--	--	--	<10	E.08	<0.04	0.26
25...	--	--	--	--	--	--	--	--	--	<10	<0.10	<0.04	<0.06
MAY													
28...	<0.10	--	--	--	--	<0.20	<0.2	<0.2	<10	<10	<0.10	<0.04	<0.06
28...	2.02	210	210	257	<1	5.16	<0.2	5.8	231	<10	0.18	<0.04	0.41
JUL													
16...	--	--	--	--	--	--	--	--	--	<10	<0.10	<0.04	<0.06
16...	--	234	234	285	<1	--	--	--	--	<10	0.17	<0.04	0.11
SEP													
08...	--	--	--	--	--	--	--	--	--	<10	<0.10	<0.04	<0.06
08...	--	225	225	275	<1	--	--	--	--	<10	E.08n	<0.04	0.15

07053900 SWAN CREEK NEAR SWAN, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
14...	<0.008	<0.02	<0.04	<0.04	10k	18k	26	<2	8	<0.3	<0.04	<0.2	<6
14...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<6
JAN													
22...	<0.008	<0.02	<0.04	<0.04	4k	1k	9k	--	--	--	--	--	--
22...	<0.008	<0.02	<0.04	<0.04	--	--	--	--	--	--	--	--	--
MAR													
25...	<0.008	<0.02	<0.04	<0.04	3k	6k	12k	--	--	--	--	--	--
25...	<0.008	<0.02	<0.04	<0.04	--	--	--	--	--	--	--	--	--
MAY													
28...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	E1	<0.3	<0.04	<0.2	<7
28...	<0.008	<0.02	<0.04	<0.04	2k	17k	19k	<2	12	E.2	<0.04	<0.2	<7
JUL													
16...	<0.008	<0.02	<0.04	<0.04	--	--	--	--	--	--	--	--	--
16...	<0.008	<0.02	<0.04	<0.04	3k	15k	29	--	--	--	--	--	--
SEP													
08...	<0.008	<0.02	<0.04	<0.04	--	--	--	--	--	--	--	--	--
08...	<0.008	E.10nd	<0.04	<0.04	34	68k	67	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
14...	<10	<0.08	<1	E2.1b	<0.02	<0.5	<1	E1
14...	<10	<0.08	<1	<2.0	<0.02	<0.5	<1	<2
JAN								
22...	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--
MAR								
25...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
MAY								
28...	<8	<0.08	<1	<0.4	<0.02	<0.5	<1	<2
28...	<8	<0.08	<1	6.4	<0.02	<0.5	M	<2
JUL								
16...	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--
SEP								
08...	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07054080 BEAVER CREEK AT BRADLEYVILLE, MO

LOCATION.--Lat 36°46'47", long 92°54'25", in NE ¼ SW ¼ NW ¼ sec.11, T.24 N., R.18 W., Taney County, Hydrologic Unit 11010003, on downstream side of right bridge pier on State Highway 76 and 0.5 mi east of Bradleyville.

DRAINAGE AREA.--298 mi^2.

PERIOD OF RECORD.--October 1994 to current year.

GAGE.--Water-stage recorder. Datum of gage is 803.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, and discharges above 3,000 ft^3/s, which are fair. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	36	30	444	44	294	161	283	58	40	33	68
2	29	36	30	312	44	322	152	367	68	38	50	177
3	29	37	30	240	43	330	145	291	72	37	51	113
4	29	36	37	192	42	313	139	238	66	36	43	63
5	27	36	36	160	41	289	132	207	60	35	39	48
6	28	36	32	135	43	260	161	181	63	34	36	41
7	28	36	31	116	43	233	894	157	64	33	34	37
8	28	36	31	105	41	210	413	140	60	32	32	35
9	29	36	32	96	42	187	310	128	55	31	31	34
10	30	36	32	87	42	169	258	120	53	e30	30	32
11	29	35	32	80	42	158	218	112	58	e29	29	31
12	29	35	32	75	43	150	190	102	218	36	28	35
13	28	34	41	71	43	153	170	102	631	36	27	41
14	27	34	45	68	164	147	153	111	237	33	30	36
15	27	35	44	65	322	143	140	105	157	e30	29	33
16	27	35	43	65	298	140	132	115	133	e30	27	30
17	29	35	44	61	240	135	127	150	109	e29	26	29
18	29	34	47	60	200	132	120	169	93	e28	26	28
19	32	34	55	58	344	206	116	146	82	e27	26	27
20	31	33	54	57	510	352	122	128	73	e26	25	26
21	29	33	61	55	416	464	120	111	65	25	26	27
22	29	32	61	53	424	422	121	100	59	25	24	28
23	28	32	60	50	477	361	114	91	55	25	23	28
24	28	32	64	52	418	319	336	85	52	24	22	27
25	32	31	59	51	349	288	512	81	51	23	22	25
26	32	31	53	47	314	259	390	78	52	23	22	25
27	31	31	50	46	294	233	311	74	49	23	24	25
28	32	31	49	45	280	220	264	69	45	25	24	23
29	52	30	52	49	---	202	348	65	42	29	23	23
30	47	30	137	46	---	182	334	63	41	32	25	23
31	40	---	570	45	---	170	---	60	---	34	27	---
MEAN	30.8	33.9	63.7	99.5	200	240	237	136	97.4	30.3	29.5	40.6
MAX	52	37	570	444	510	464	894	367	631	40	51	177
MIN	27	30	30	45	41	132	114	60	41	23	22	23

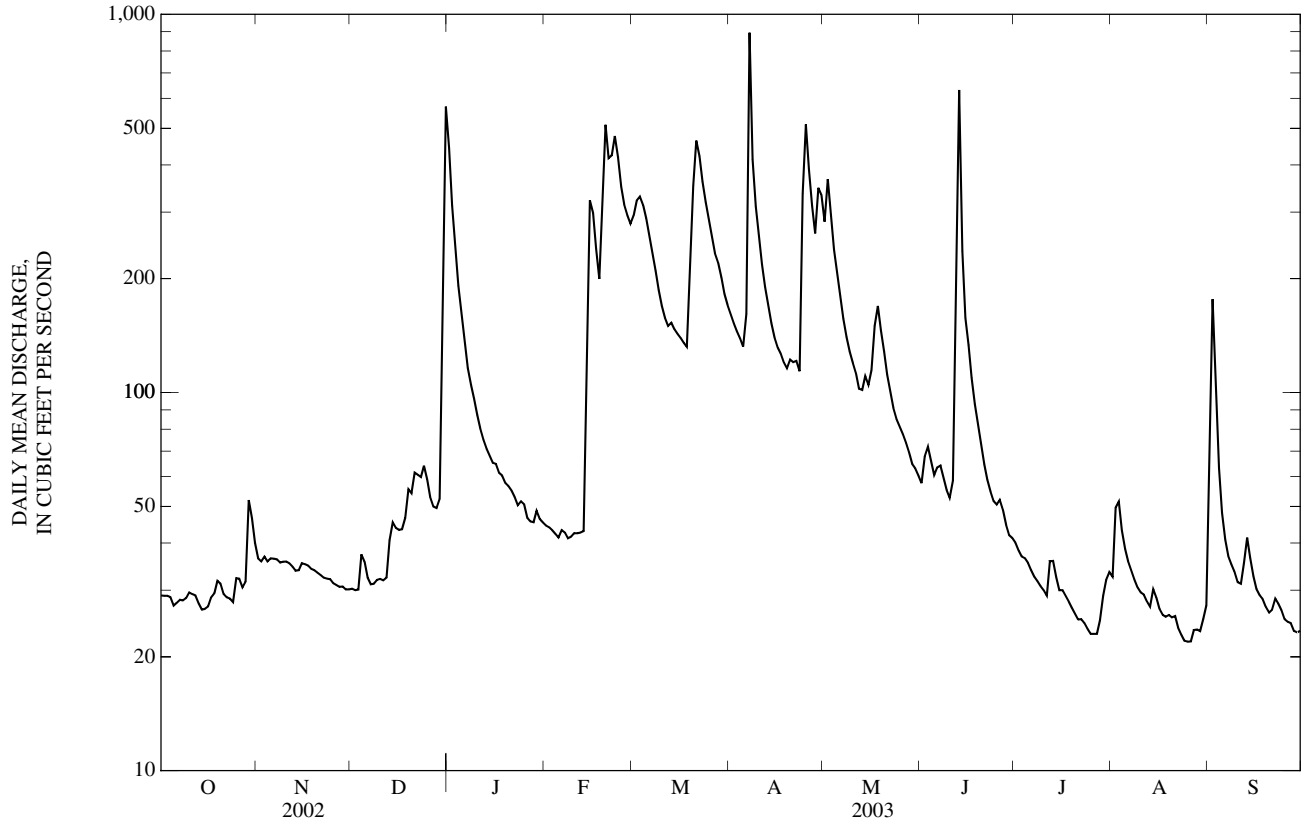
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2003, BY WATER YEAR (WY)

MEAN	53.1	239	217	300	500	507	504	498	184	75.3	61.6	77.7
MAX	134	1,074	725	919	991	1,349	935	1,540	593	168	168	309
(WY)	(1999)	(1997)	(2002)	(1995)	(1999)	(1998)	(1995)	(2002)	(1995)	(1995)	(1995)	(1996)
MIN	25.9	28.4	62.7	56.8	105	142	70.9	37.8	41.1	30.3	22.5	22.5
(WY)	(2001)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2000)	(2001)	(2003)	(2001)	(2001)

07054080 BEAVER CREEK AT BRADLEYVILLE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1994 - 2003	
ANNUAL MEAN	341		102		267	
HIGHEST ANNUAL MEAN					464	1995
LOWEST ANNUAL MEAN					62.5	2000
HIGHEST DAILY MEAN	11,800	May 8	894	Apr 7	11,800	May 8, 2002
LOWEST DAILY MEAN	27	Oct 5,14-16	22	Aug 24-26	15	Sep 7, 2001
ANNUAL SEVEN-DAY MINIMUM	28	Oct 11	23	Aug 23	17	Sep 1, 2001
MAXIMUM PEAK FLOW	---		1,880	Apr 7	20,800	May 8, 2002
MAXIMUM PEAK STAGE	---		6.49	Apr 7	17.92	May 8, 2002
INSTANTANEOUS LOW FLOW	---		21	Aug 23-27	14	Sep 7, 2001
10 PERCENT EXCEEDS	654		288		600	
50 PERCENT EXCEEDS	84		47		93	
90 PERCENT EXCEEDS	31		27		29	

e Estimated



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, 3.5 mi northeast of Tecumseh.

DRAINAGE AREA.--561 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 584.67 ft above National Geodetic Vertical Datum of 1929 (levels by the 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. Water-discharge records good. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

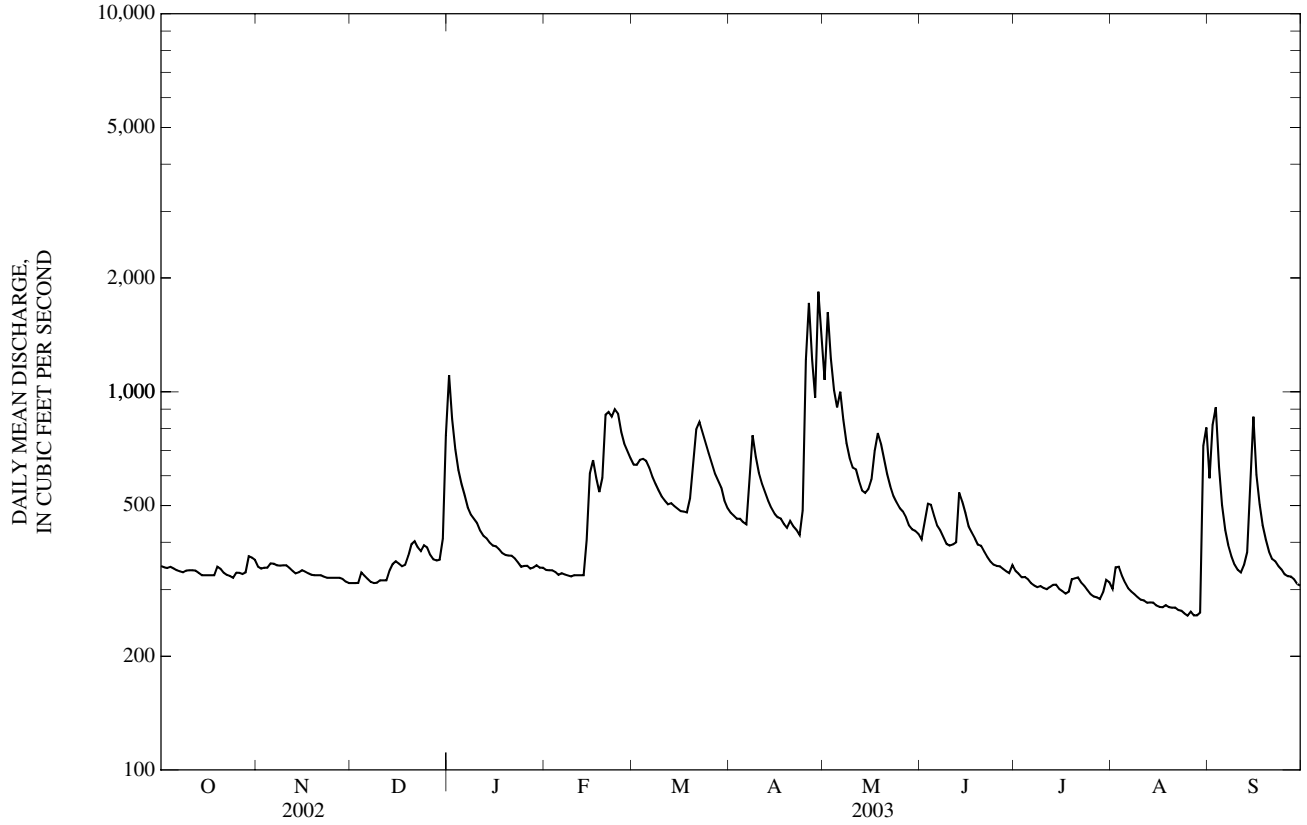
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	346	345	312	1,110	338	642	479	1,080	407	336	301	591
2	343	341	312	848	337	641	470	1,620	454	330	343	817
3	342	343	313	705	337	661	462	1,230	506	323	345	909
4	344	343	333	622	334	665	462	1,010	503	324	327	635
5	341	352	326	570	328	657	452	910	470	320	313	502
6	337	351	320	532	331	629	446	1,000	443	312	303	431
7	335	348	314	495	329	597	581	844	430	307	296	393
8	333	347	312	473	327	571	767	732	413	304	292	367
9	337	348	313	461	325	549	673	667	396	306	286	349
10	337	348	317	449	327	528	612	631	392	303	282	338
11	337	343	317	429	327	515	571	624	395	300	281	333
12	337	336	317	416	327	504	543	582	400	305	277	348
13	332	331	337	409	328	508	515	548	542	309	277	377
14	327	333	351	399	406	499	493	540	512	309	277	563
15	327	338	356	392	609	491	476	553	479	301	272	860
16	327	335	351	391	659	484	466	586	441	297	270	604
17	327	331	346	383	595	483	462	698	425	293	269	505
18	327	328	349	375	543	480	447	778	410	296	273	444
19	345	327	369	370	593	523	437	730	395	320	270	407
20	340	327	395	369	870	641	456	663	392	321	269	378
21	333	327	402	369	885	796	441	606	378	323	269	362
22	328	324	388	363	860	833	432	562	366	313	265	356
23	326	322	379	354	900	782	418	531	356	307	264	346
24	322	322	393	345	876	733	485	510	349	299	259	339
25	333	322	388	346	784	688	1,220	493	347	292	256	329
26	332	322	371	347	730	647	1,720	483	346	288	262	325
27	330	322	360	341	698	609	1,220	466	340	286	256	325
28	333	320	358	343	668	583	965	443	335	283	256	320
29	367	315	360	348	---	558	1,840	433	332	295	261	310
30	364	312	409	343	---	516	1,370	429	348	318	720	307
31	360	---	768	343	---	492	---	421	---	314	805	---
MEAN	337	333	362	453	535	597	679	690	410	308	313	449
MAX	367	352	768	1,110	900	833	1,840	1,620	542	336	805	909
MIN	322	312	312	341	325	480	418	421	332	283	256	307
IN.	0.69	0.66	0.75	0.93	0.99	1.23	1.35	1.42	0.82	0.63	0.64	0.89

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2003, BY WATER YEAR (WY)

MEAN	408	643	697	715	856	1,065	1,242	1,142	752	533	412	423
MAX	1,040	2,751	2,842	2,322	2,872	2,473	3,623	3,044	2,515	1,632	889	2,093
(WY)	(1985)	(1986)	(1983)	(1950)	(1985)	(1945)	(1945)	(2002)	(1945)	(1951)	(1958)	(1993)
MIN	214	224	223	201	261	290	359	343	276	239	204	193
(WY)	(1957)	(1955)	(1956)	(1956)	(1964)	(1981)	(2000)	(2001)	(1954)	(1954)	(1954)	(1954)

07057500 NORTH FORK RIVER NEAR TECUMSEH, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1945 - 2003	
ANNUAL MEAN	909		455		739	
HIGHEST ANNUAL MEAN					1,555	1985
LOWEST ANNUAL MEAN					299	1954
HIGHEST DAILY MEAN	22,500	May 8	1,840	Apr 29	45,100	Nov 19, 1985
LOWEST DAILY MEAN	307	Jan 22	256	Aug 25,27,28	187	Sep 15, 1954
ANNUAL SEVEN-DAY MINIMUM	315	Nov 27	259	Aug 23	188	Sep 12, 1954
MAXIMUM PEAK FLOW	---		3,410	Apr 29	133,000	Nov 19, 1985
MAXIMUM PEAK STAGE	---		5.47	Apr 29	28.10	Nov 19, 1985
INSTANTANEOUS LOW FLOW	---		251	Aug 24,25,27,28	187	Sep 14, 1954
ANNUAL RUNOFF (INCHES)	22.00		11.01		17.91	
10 PERCENT EXCEEDS	1,790		711		1,330	
50 PERCENT EXCEEDS	484		360		495	
90 PERCENT EXCEEDS	327		303		292	



07057500 NORTH FORK RIVER NEAR TECUMSEH, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1969 to June 1972, October 1978 to September 1979, November 1983 to June 1987, November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
13...	1515	Environmental	332	12.1	115	8.3	390	12.4	220	46.2	25.9	1.24
JAN												
21...	1530	Environmental	369	14.0	127	8.7	386	9.9	--	--	--	--
MAR												
25...	0845	Environmental	686	9.9	97	7.9	364	13.2	--	--	--	--
MAY												
28...	0900	Environmental	447	9.0	92	7.8	371	15.6	200	41.2	23.2	1.56
28...	0901	Replicate	--	9.0	92	7.8	372	15.6	200	41.5	23.3	1.53
JUL												
15...	1530	Environmental	302	11.1	133	7.8	393	24.2	--	--	--	--
SEP												
09...	1630	Environmental	348	13.0	151	7.8	371	20.9	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
13...	1.63	201	202	247	<1	2.95	<0.2	4.2	220	<10	E.06	<0.04	0.51
JAN													
21...	--	180	180	210	5	--	--	--	--	<10	E.06	<0.04	0.92
MAR													
25...	--	173	173	211	<1	--	--	--	--	<10	E.07	<0.04	0.78
MAY													
28...	2.08	186	186	227	<1	4.30	<0.2	4.1	201	<10	0.10	<0.04	0.54
28...	2.07	--	--	--	--	4.42	<0.2	4.1	203	<10	0.11	<0.04	0.55
JUL													
15...	--	203	206	251	<1	--	--	--	--	<10	E.08	<0.04	0.46
SEP													
09...	--	201	202	247	<1	--	--	--	--	<10	E.08n	<0.04	0.43

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
13...	<0.008	<0.02	<0.04	<0.04	3k	25	4k	<2	7	0.5	E.02	<0.2	<6
JAN													
21...	<0.008	<0.02	<0.04	<0.04	<1b	5k	2k	--	--	--	--	--	--
MAR													
25...	<0.008	<0.02	<0.04	E.03	28	24	14k	--	--	--	--	--	--
MAY													
28...	<0.008	<0.02	E.03	<0.04	66	65k	40	<2	28	0.4	<0.04	<0.2	<7
28...	<0.008	<0.02	E.03	<0.04	18k	90k	28	<2	26	0.4	<0.04	<0.2	<7
JUL													
15...	<0.008	<0.02	<0.04	<0.04	2k	3k	9k	--	--	--	--	--	--
SEP													
09...	<0.008	<0.18d	E.02n	<0.04	4k	8k	8k	--	--	--	--	--	--

07057500 NORTH FORK RIVER NEAR TECUMSEH, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
13...	<10	<0.08	<1	E2.0b	<0.02	E.3	M	E1
JAN								
21...	--	--	--	--	--	--	--	--
MAR								
25...	--	--	--	--	--	--	--	--
MAY								
28...	E4	<0.08	M	4.2	<0.02	<0.5	1	E1
28...	E6	<0.08	<1	4.3	<0.02	<0.5	1	2
JUL								
15...	--	--	--	--	--	--	--	--
SEP								
09...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07057750 BRYANT CREEK BELOW EVANS, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 36°52'16", long 92°28'18", in SE ¼ NW ¼ NW ¼ sec.10, T.25 N., R.14 W., Douglas County, Hydrologic Unit 11010006, 13 mi south of Ava, 12 mi west of Highway 95 and Highway 14 intersection, on Highway 14.

DRAINAGE AREA.--214 mi^2.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
14...	0915	Environmental	36	9.5	86	8.0	420	9.8	230	49.8	26.1	1.27
JAN												
22...	1225	Environmental	36	14.6	116	8.4	410	4.6	--	--	--	--
MAR												
25...	1110	Environmental	72	11.4	112	8.0	368	13.0	--	--	--	--
MAY												
28...	1200	Environmental	36	9.4	101	7.9	406	17.6	200	43.2	23.1	1.07
JUL												
16...	0930	Environmental	30	6.4	79	7.5	429	24.6	--	--	--	--
SEP												
09...	1430	Environmental	37	9.7	116	7.7	423	22.7	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
14...	2.67	206	206	252	<1	4.91	<0.2	4.2	238	<10	E.07	<0.04	0.53
JAN													
22...	--	225	223	256	8	--	--	--	--	<10	E.07	<0.04	0.53
MAR													
25...	--	181	181	220	<1	--	--	--	--	<10	E.10	<0.04	0.43
MAY													
28...	2.09	206	208	254	<1	4.39	<0.2	4.3	224	<10	E.10	<0.04	0.30
JUL													
16...	--	220	225	274	<1	--	--	--	--	<10	0.12	<0.04	0.32
SEP													
09...	--	226	226	276	<1	--	--	--	--	<10	0.22	<0.04	0.33

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
14...	E.004	<0.02	E.02	<0.04	8k	6k	29	<2	7	0.4	<0.04	<0.2	<6
JAN													
22...	<0.008	<0.02	<0.04	<0.04	<1b	4k	4k	--	--	--	--	--	--
MAR													
25...	E.006	<0.02	<0.04	E.03	8k	25	11k	--	--	--	--	--	--
MAY													
28...	<0.008	<0.02	<0.04	E.02	16k	45	29	<2	24	0.5	<0.04	<0.2	<7
JUL													
16...	<0.008	<0.02	<0.04	E.03	83k	75k	140	--	--	--	--	--	--
SEP													
09...	<0.008	<0.18d	<0.04	<0.04	6k	15k	30	--	--	--	--	--	--

07057750 BRYANT CREEK BELOW EVANS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
14...	<10	<0.08	<1	3.3	<0.02	<0.5	M	<2
JAN								
22...	--	--	--	--	--	--	--	--
MAR								
25...	--	--	--	--	--	--	--	--
MAY								
28...	<8	<0.08	<1	7.5	<0.02	<0.5	Mn	<2
JUL								
16...	--	--	--	--	--	--	--	--
SEP								
09...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07058000 BRYANT CREEK NEAR TECUMSEH, MO

LOCATION.--Lat 36°37'33", long 92°18'16", in E ½ sec.32, T.23 N., R.12 W., Ozark County, Hydrologic Unit 11010006, on left bank 0.8 mi downstream from Pine Creek, 3 mi northwest of Tecumseh, and 5 mi upstream from mouth.

DRAINAGE AREA.--570 mi^2.

PERIOD OF RECORD.--October 1944 to September 1985, October 1994 to September 1996, October 1998 to current year.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1441: 1945, 1946-47(M), 1950. WSP 1731: 1945-47, 1950.

GAGE.--Water-stage recorder. Datum of gage 573.15 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to July 30, 1945, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records fair. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

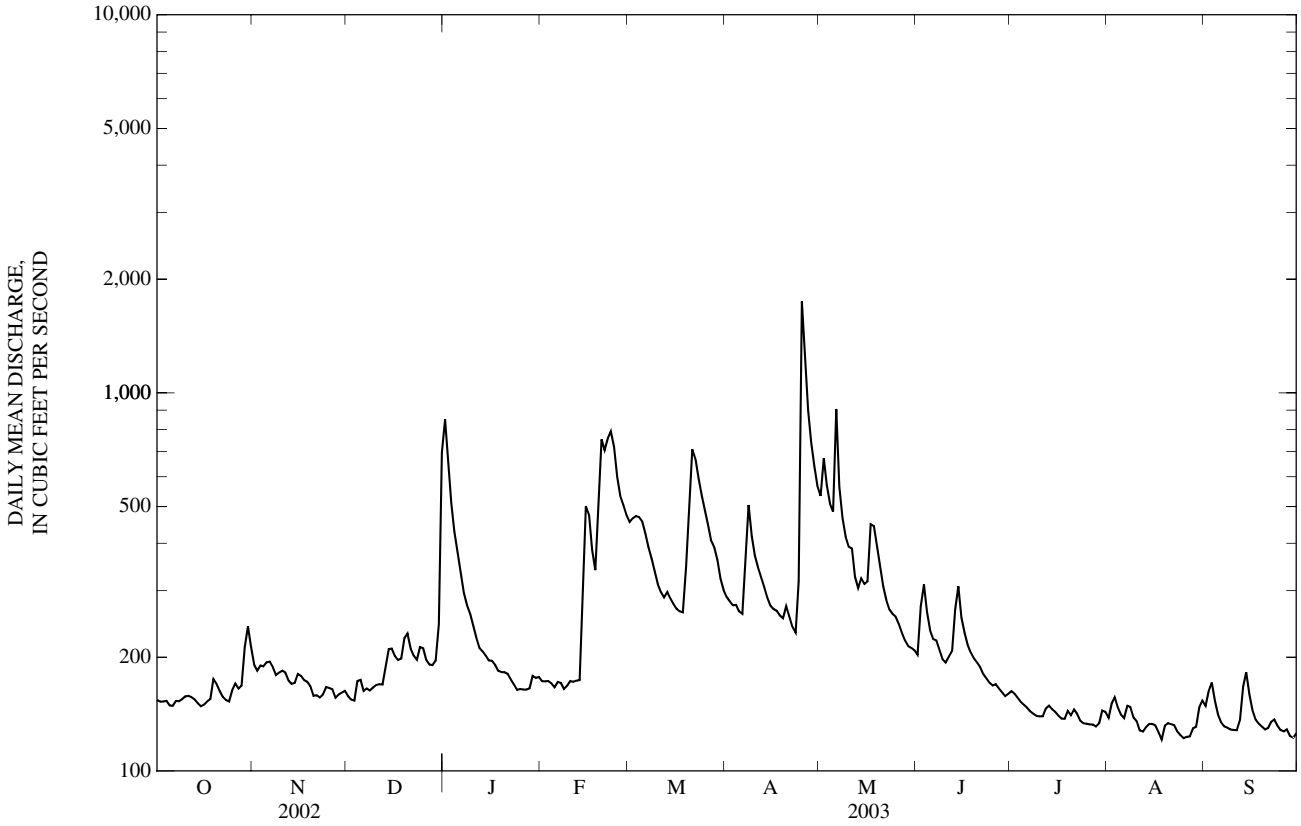
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154	191	158	850	173	456	289	534	203	163	138	149
2	153	184	154	644	173	466	281	671	272	160	151	162
3	153	190	153	510	173	472	274	570	311	156	157	171
4	153	189	173	430	170	469	275	509	263	152	147	153
5	149	194	174	376	167	457	264	485	235	150	141	141
6	149	195	163	333	172	424	261	904	223	147	138	134
7	153	188	165	296	171	391	355	566	221	144	149	131
8	153	179	163	275	165	364	505	467	209	142	148	130
9	155	182	166	261	168	337	417	416	197	140	139	129
10	158	184	169	243	173	312	371	392	193	140	135	128
11	158	182	170	226	172	297	346	388	201	140	128	128
12	157	174	169	212	173	288	326	326	208	146	127	136
13	155	170	187	207	174	298	307	304	267	149	131	167
14	151	171	210	202	297	286	288	323	308	146	133	182
15	148	181	211	196	502	276	274	312	255	143	133	159
16	150	178	201	196	475	268	268	317	232	140	132	145
17	153	174	197	191	384	264	265	449	216	138	127	137
18	155	172	198	184	340	263	258	445	205	137	121	133
19	175	167	225	183	528	345	253	396	199	144	132	131
20	170	158	231	182	753	527	273	351	194	140	134	129
21	163	159	211	181	705	709	257	308	188	145	133	130
22	157	156	202	175	757	669	241	283	180	141	132	135
23	154	159	197	169	791	595	232	267	175	136	127	137
24	153	167	213	164	720	536	317	260	171	134	124	132
25	164	166	211	165	598	490	1,740	256	168	133	122	128
26	170	164	197	164	534	449	1,220	245	170	133	123	127
27	165	156	191	164	504	408	900	232	165	133	124	129
28	168	159	191	165	476	391	741	221	161	131	130	124
29	213	161	196	178	---	362	640	214	158	134	131	123
30	241	163	244	176	---	323	568	212	160	144	147	126
31	213	---	696	177	---	301	---	208	---	143	153	---
MEAN	163	174	206	260	378	403	434	382	210	143	135	139
MAX	241	195	696	850	791	709	1,740	904	311	163	157	182
MIN	148	156	153	164	165	263	232	208	158	131	121	123
IN.	0.33	0.34	0.42	0.53	0.69	0.82	0.85	0.77	0.41	0.29	0.27	0.27

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

MEAN	232	398	502	493	629	834	944	891	507	339	227	226
MAX	893	1,664	4,280	2,350	2,129	2,483	3,497	3,059	1,990	1,748	910	654
(WY)	(1971)	(1952)	(1983)	(1950)	(1985)	(1945)	(1945)	(2002)	(1945)	(1951)	(1950)	(1996)
MIN	112	127	119	112	141	138	178	175	118	110	105	103
(WY)	(1957)	(1955)	(1956)	(1956)	(1981)	(1981)	(1981)	(1954)	(1954)	(1954)	(1954)	(1954)

07058000 BRYANT CREEK NEAR TECUMSEH, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	697		251		518	
HIGHEST ANNUAL MEAN					1,229	1985
LOWEST ANNUAL MEAN					149	1954
HIGHEST DAILY MEAN	19,300	May 8	1,740	Apr 25	52,000	Dec 3, 1982
LOWEST DAILY MEAN	148	Oct 15	121	Aug 18	97	Aug 18, 1954
ANNUAL SEVEN-DAY MINIMUM	152	Oct 2	126	Aug 23	99	Sep 13, 1954
MAXIMUM PEAK FLOW	---		2,950	Apr 25	71,100	Dec 3, 1982
MAXIMUM PEAK STAGE	---		7.87	Apr 25	26.74	Dec 3, 1982
INSTANTANEOUS LOW FLOW	---		118	Aug 25	96	Sep 16, 1954
ANNUAL RUNOFF (INCHES)	16.59		5.99		12.34	
10 PERCENT EXCEEDS	1,490		473		1,030	
50 PERCENT EXCEEDS	254		181		259	
90 PERCENT EXCEEDS	159		133		140	



07061150 WEST FORK BLACK RIVER AT CENTERVILLE, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 37°26'44", long 90°57'45", in SE ¼ SW ¼ SE ¼ sec.20, T.32 N., R.1 E., Reynolds County, Hydrologic Unit 11010007, approximately 1.0 mi north of Centerville on State Highway 72.

DRAINAGE AREA.--137 mi^2.

PERIOD OF RECORD.--November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
18...	1350	Environmental	48	11.2	106	8.4	363	11.8	190	38.0	23.6	1.07
JAN												
06...	1325	Environmental	109	12.7	105	7.8	295	6.8	--	--	--	--
MAR												
10...	1120	Environmental	91	13.8	115	7.7	276	6.9	--	--	--	--
MAY												
21...	1420	Environmental	185	9.4	101	7.8	269	18.0	140	29.0	16.7	1.08
JUL												
08...	1345	Environmental	48	8.1	106	7.5	344	26.8	--	--	--	--
SEP												
02...	1145	Environmental	79	8.5	102	7.9	370	23.0	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
18...	6.34	157	158	174	10	6.44	<0.2	34.6	214	<10	E.08	<0.04	0.06
JAN													
06...	--	127	127	154	<1	--	--	--	--	<10	<0.10	<0.04	0.30
MAR													
10...	--	116	117	143	<1	--	--	--	--	<10	E.06	<0.04	0.15
MAY													
21...	3.27	118	118	144	<1	3.34	<0.2	15.8	155	<10	<0.10	<0.04	0.11
JUL													
08...	--	149	146	182	<1	--	--	--	--	<10	E.07	<0.04	0.10
SEP													
02...	--	148	149	182	<1	--	--	--	--	<10	0.16	<0.04	0.12

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
18...	<0.008	<0.02	<0.04	<0.04	<1b	1k	2k	<2	2	E.2	<0.04	<0.2	<6
JAN													
06...	<0.008	<0.02	<0.04	<0.04	<1b	2k	2k	--	--	--	--	--	--
MAR													
10...	<0.008	<0.02	<0.04	E.02	<1b	<1b	<1b	--	--	--	--	--	--
MAY													
21...	E.005	<0.09	<0.04	<0.04	<1b	6k	6k	E1	8	E.2	<0.04	<0.2	<6
JUL													
08...	<0.008	<0.02	<0.04	<0.04	2k	9k	13k	--	--	--	--	--	--
SEP													
02...	<0.008	<0.18d	<0.04	<0.04	2k	20k	6k	--	--	--	--	--	--

07061150 WEST FORK BLACK RIVER AT CENTERVILLE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
18...	<10	<0.08	<1	E.8n	<0.02	<0.5	M	<2
JAN								
06...	--	--	--	--	--	--	--	--
MAR								
10...	--	--	--	--	--	--	--	--
MAY								
21...	<10	E.06	<1	E1.3	<0.02	<0.5	M	<2
JUL								
08...	--	--	--	--	--	--	--	--
SEP								
02...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07061260 EAST FORK BLACK RIVER NEAR IRONTON, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 37°36'14", long 90°47'19", NW ¼ SE ¼ SE ¼ sec.35, T.34 N., R.2 E., Iron County, Hydrologic Unit 11010007, approximately 6.0 mi southwest of State Highway 21 on State Highway N.

DRAINAGE AREA.--16 mi^2.

PERIOD OF RECORD.--November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
18...	1125	Environmental	9.7	10.9	96	8.0	252	8.3	140	28.1	16.1	1.02
JAN												
06...	1500	Environmental	7.5	12.6	103	7.3	138	6.0	--	--	--	--
MAR												
11...	0845	Environmental	14	11.9	95	7.3	137	4.4	--	--	--	--
MAY												
22...	0900	Environmental	43	9.0	90	7.1	114	14.0	53	11.1	6.21	1.05
JUL												
08...	1115	Environmental	6.4	7.3	95	7.3	146	27.2	--	--	--	--
SEP												
02...	1315	Environmental	11	8.2	97	7.7	267	22.0	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
18...	2.25	130	129	157	<1	2.22	<0.2	6.3	136	<10	<0.10	<0.04	<0.06
JAN													
06...	--	55	55	68	<1	--	--	--	--	<10	<0.10	<0.04	E.05
MAR													
11...	--	59	59	72	<1	--	--	--	--	<10	0.12	<0.04	E.05
MAY													
22...	1.97	48	48	58	<1	1.99	<0.2	7.1	74	<10	E.05	<0.04	E.04
JUL													
08...	--	67	67	82	<1	--	--	--	--	<10	0.14	<0.04	0.06
SEP													
02...	--	129	128	156	<1	--	--	--	--	<10	0.16	<0.04	<0.06

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
18...	<0.008	<0.02	<0.04	<0.04	<1b	1k	1k	<2	6	E.2	<0.04	<0.2	<6
JAN													
06...	<0.008	<0.02	<0.04	<0.04	<1b	2k	8k	--	--	--	--	--	--
MAR													
11...	<0.008	<0.02	E.02	<0.04	<1b	8k	7k	--	--	--	--	--	--
MAY													
22...	<0.008	<0.09	<0.04	<0.04	35	41	69	3	67	E.2	<0.04	<0.2	<6
JUL													
08...	<0.008	<0.02	E.02	<0.04	3k	3k	34	--	--	--	--	--	--
SEP													
02...	<0.008	<0.02	<0.04	<0.04	18k	78	27k	--	--	--	--	--	--

07061260 EAST FORK BLACK RIVER NEAR IRONTON, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
18...	E6	<0.08	<1	4.6	<0.02	<0.5	2	11
JAN								
06...	--	--	--	--	--	--	--	--
MAR								
11...	--	--	--	--	--	--	--	--
MAY								
22...	E9	E.05	<1	20.8	<0.02	<0.5	M	<2
JUL								
08...	--	--	--	--	--	--	--	--
SEP								
02...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range

07061500 BLACK RIVER NEAR ANNAPOLIS, MO

LOCATION.--Lat 37°20'10", long 90°47'19", in SW 1/4 NW 1/4 sec.25, T.31 N., R.2 E., Reynolds County, Hydrologic Unit 11010007, on right bank 0.4 mi downstream from Mayberry Branch, 7 mi southwest of Annapolis, 11 mi downstream from East Fork Black River, and at mile 278.5.

DRAINAGE AREA.--484 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 569.72 ft above National Geodetic Vertical Datum of 1929 (levels by the 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. Flow slightly regulated by upstream reservoir since February 1963. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

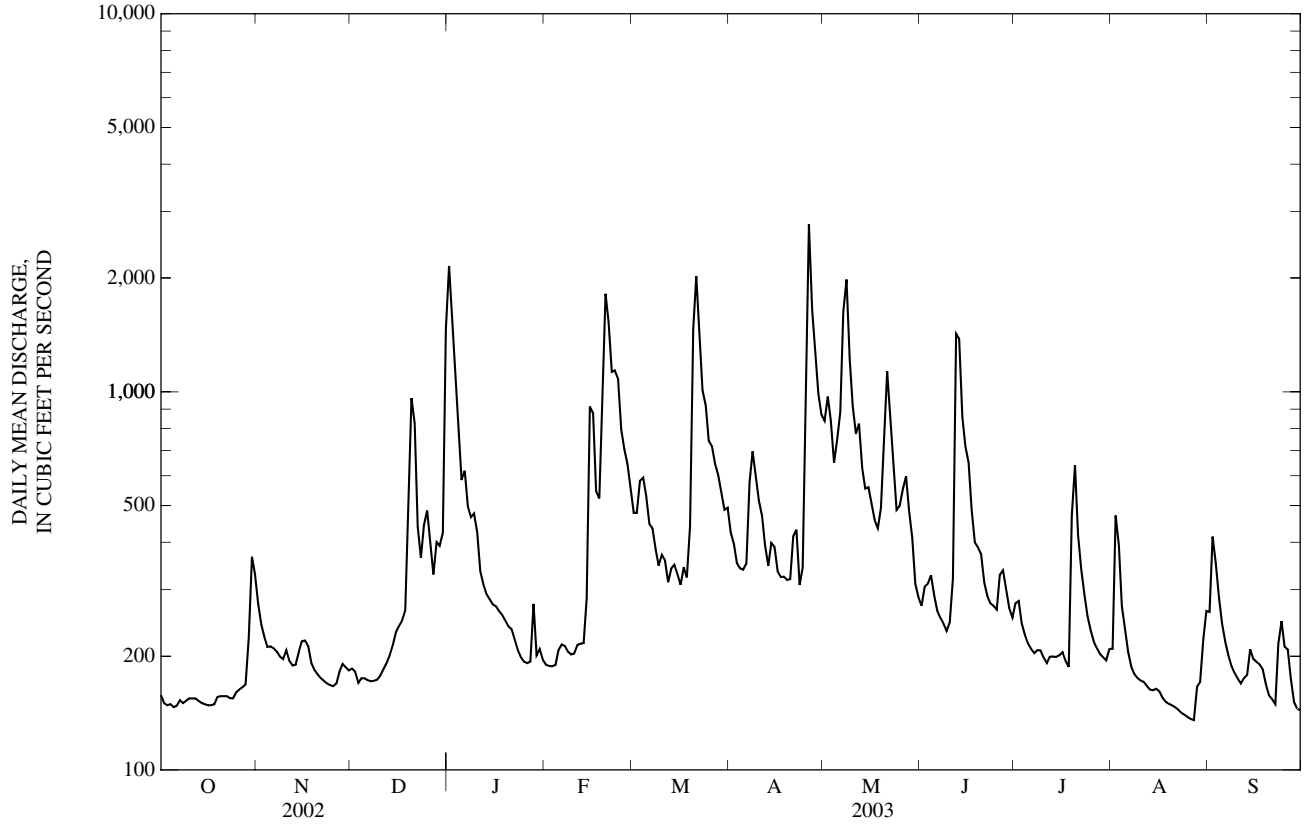
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	158	275	185	2,150	190	479	425	839	272	276	209	262
2	150	243	182	1,530	188	478	396	971	305	280	471	414
3	148	225	170	1,050	188	582	352	838	311	244	394	352
4	149	212	175	789	190	593	341	649	327	228	271	286
5	147	212	175	585	208	530	338	744	290	216	235	244
6	148	210	173	619	215	447	351	883	264	209	206	219
7	153	205	172	499	213	436	576	1,630	252	204	188	202
8	150	199	172	467	206	383	696	1,980	244	207	179	189
9	152	196	173	476	202	347	603	1,220	233	207	175	181
10	155	207	177	424	203	370	516	916	245	198	172	175
11	155	194	184	336	214	359	470	774	320	192	171	169
12	155	189	191	309	216	314	392	824	1,420	199	167	175
13	152	190	200	291	217	341	347	629	1,380	200	163	179
14	150	205	214	283	284	349	399	555	858	199	162	209
15	149	219	231	274	914	329	389	559	717	201	164	197
16	148	220	240	271	878	309	335	509	650	205	161	193
17	148	212	248	263	546	344	324	458	488	195	155	190
18	149	192	264	257	522	323	325	436	400	187	151	185
19	156	184	530	248	904	441	318	493	389	471	150	169
20	157	179	962	240	1,820	1,470	320	722	373	639	148	158
21	157	175	825	236	1,530	2,030	414	1,130	313	419	147	154
22	157	172	440	221	1,130	1,400	432	872	289	340	144	149
23	155	169	364	208	1,140	1,010	309	648	276	291	142	216
24	155	168	445	198	1,080	921	343	487	272	256	140	247
25	161	167	485	193	794	742	971	499	266	234	138	212
26	163	169	408	192	707	718	2,770	552	328	219	136	208
27	166	182	329	193	644	647	1,650	598	337	210	135	174
28	168	191	401	275	554	602	1,260	485	298	203	166	151
29	224	187	392	201	---	541	988	411	268	199	171	145
30	366	183	424	209	---	488	872	311	253	195	222	144
31	329	---	1,470	195	---	494	---	286	---	209	263	---
MEAN	169	198	355	441	575	607	607	739	421	249	190	205
MAX	366	275	1,470	2,150	1,820	2,030	2,770	1,980	1,420	639	471	414
MIN	147	167	170	192	188	309	309	286	233	187	135	144
IN.	0.40	0.46	0.85	1.05	1.24	1.45	1.40	1.76	0.97	0.59	0.45	0.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2003, BY WATER YEAR (WY)

MEAN	261	638	671	599	746	997	1,150	924	508	292	209	226
MAX	1,151	3,619	3,913	2,509	2,091	2,903	3,467	4,801	4,263	1,800	1,289	1,061
(WY)	(1942)	(1986)	(1983)	(1950)	(1985)	(1945)	(1957)	(2002)	(1945)	(1951)	(1982)	(1993)
MIN	84.8	111	119	108	147	161	228	165	140	88.5	76.7	72.4
(WY)	(1957)	(1965)	(1956)	(1956)	(1963)	(1941)	(2000)	(2000)	(1972)	(1954)	(1965)	(1955)

07061500 BLACK RIVER NEAR ANNAPOLIS, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1939 - 2003	
ANNUAL MEAN	881		395		601	
HIGHEST ANNUAL MEAN					1,420	1985
LOWEST ANNUAL MEAN					235	2000
HIGHEST DAILY MEAN	34,100	May 13	2,770	Apr 26	47,900	Nov 14, 1993
LOWEST DAILY MEAN	129	Aug 10	135	Aug 27	66	Sep 15, 1954
ANNUAL SEVEN-DAY MINIMUM	137	Aug 5	140	Aug 21	67	Aug 12, 1965
MAXIMUM PEAK FLOW	---		3,420	Apr 26	109,000	Nov 14, 1993
MAXIMUM PEAK STAGE	---		7.76	Apr 26	27.38	Nov 14, 1993
INSTANTANEOUS LOW FLOW	---		134	Aug 27,28	65	Aug 16, 1965
ANNUAL RUNOFF (INCHES)	24.71		11.09		16.88	
10 PERCENT EXCEEDS	1,600		838		1,150	
50 PERCENT EXCEEDS	238		257		276	
90 PERCENT EXCEEDS	155		157		120	



07061600 BLACK RIVER BELOW ANNAPOLIS, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 37°19'30", long 90°45'50", in NW ¼ SE ¼ NW ¼ sec.31, T.31 N., R.3 E., Reynolds County, Hydrologic Unit 11010007, approximately 4.5 mi southwest of Annapolis at the bridge on County Highway K.

DRAINAGE AREA.--493 mi^2.

PERIOD OF RECORD.--May 1993 to September 1995, November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
18...	1545	Environmental	188	11.5	107	7.9	291	11.2	160	31.7	18.9	0.88
JAN												
07...	1350	Environmental	489	12.8	105	7.6	235	6.3	--	--	--	--
MAR												
10...	1315	Environmental	329	12.6	107	7.8	214	7.8	--	--	--	--
MAY												
21...	1600	Environmental	1,320	10.0	108	7.7	172	18.1	99	20.3	11.7	1.08
JUL												
07...	1345	Environmental	203	7.5	97	7.4	276	26.7	--	--	--	--
SEP												
02...	1545	Environmental	468	8.4	101	7.4	250	23.2	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
18...	3.11	127	125	153	<1	3.70	<0.2	23.1	170	<10	<0.10	<0.04	0.08
JAN													
07...	--	97	97	118	<1	--	--	--	--	<10	<0.10	<0.04	0.29
MAR													
10...	--	98	98	120	<1	--	--	--	--	<10	E.07	<0.04	0.22
MAY													
21...	2.34	82	83	101	<1	2.57	<0.2	15.0	113	<10	E.08	<0.04	0.12
JUL													
07...	--	122	122	149	<1	--	--	--	--	<10	E.06	<0.04	0.13
SEP													
02...	--	104	103	125	<1	--	--	--	--	<10	0.11	<0.04	0.14

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
18...	<0.008	<0.02	<0.04	<0.04	<1b	2k	2k	<2	12	E.2	<0.04	<0.2	<6
JAN													
07...	<0.008	<0.02	<0.04	<0.04	<1b	1k	1k	--	--	--	--	--	--
MAR													
10...	<0.008	<0.02	<0.04	<0.04	<1b	<1b	<1b	--	--	--	--	--	--
MAY													
21...	<0.008	<0.09	<0.04	E.02	1k	33	37	2	40	E.2	<0.04	<0.2	<6
JUL													
07...	<0.008	<0.02	<0.04	<0.04	1k	3k	4k	--	--	--	--	--	--
SEP													
02...	<0.008	<0.18d	<0.04	<0.04	54	137k	48	--	--	--	--	--	--

07061600 BLACK RIVER BELOW ANNAPOLIS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
18...	<10	<0.08	<1	E1.4n	<0.02	<0.5	1	E1
JAN								
07...	--	--	--	--	--	--	--	--
MAR								
10...	--	--	--	--	--	--	--	--
MAY								
21...	<10	E.05	<1	2.6	<0.02	<0.5	M	<2
JUL								
07...	--	--	--	--	--	--	--	--
SEP								
02...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07061900 LOGAN CREEK AT ELLINGTON, MO

LOCATION.--Lat 37°14'47", long 90°57'55", in SE ¼ NW ¼ NE ¼ , sec.32, T.30 N., R.1 E., Reynolds County, Hydrologic Unit 11010007, on downstream end of center pier of bridge on State Route 21, 0.1 mi downstream from Dry Valley Creek, and about 10 mi upstream from Clearwater Lake.

DRAINAGE AREA.--139 mi^2.

PERIOD OF RECORD.--July 21, 1994 to current year.

GAGE.--Water-stage recorder. Datum of gage is 639.51 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	3.7	3.3	15	3.8	17	9.1	20	4.9	5.5	4.9	6.5
2	2.1	3.6	3.2	13	3.8	16	8.7	24	5.5	5.8	5.9	14
3	2.3	3.8	3.1	12	3.8	15	8.6	21	5.7	6.3	4.7	7.8
4	2.5	4.0	3.6	11	3.7	15	9.5	19	5.1	6.4	4.5	6.6
5	2.2	5.1	3.5	10	3.7	14	11	18	4.6	5.1	4.4	5.3
6	2.7	4.2	3.4	9.3	4.0	13	20	17	4.6	4.4	4.1	4.4
7	2.8	4.0	3.4	8.6	3.7	12	22	19	4.4	4.1	3.9	4.1
8	2.6	3.9	3.5	8.6	3.7	11	19	17	4.0	3.9	3.7	4.0
9	2.6	4.2	3.4	8.2	3.8	11	17	16	3.7	3.6	3.7	4.0
10	2.7	4.4	3.5	7.5	3.7	10	16	15	14	3.4	3.6	3.9
11	3.0	4.1	3.4	7.1	3.7	8.9	16	19	16	3.5	3.5	4.0
12	2.9	4.0	3.4	7.1	3.6	8.6	15	15	18	5.4	3.5	4.2
13	2.7	4.0	4.6	6.8	3.6	9.9	14	13	32	3.8	3.5	4.3
14	2.6	3.9	5.0	6.7	11	8.5	12	13	26	3.2	3.3	4.5
15	2.6	4.1	4.7	6.4	9.5	8.2	11	12	20	2.9	3.1	4.0
16	2.6	3.8	4.7	6.4	8.6	7.9	11	14	19	2.7	3.0	3.7
17	2.6	3.8	5.1	6.0	8.2	8.2	11	14	15	2.6	2.9	3.5
18	2.6	3.8	6.4	5.8	10	7.7	10	14	13	2.9	2.7	3.3
19	3.2	3.8	8.7	5.8	24	15	8.9	12	12	22	2.9	3.2
20	2.9	3.7	8.3	5.6	22	15	9.3	11	12	8.5	3.2	3.1
21	2.8	3.6	7.4	5.1	22	14	8.8	9.6	11	7.5	2.8	3.1
22	3.6	3.7	7.5	5.1	24	13	7.9	8.9	8.5	6.4	2.7	3.1
23	4.3	3.7	7.4	5.2	22	13	7.5	8.1	7.7	6.2	2.6	3.0
24	4.4	3.7	8.3	5.3	21	13	12	7.8	7.6	5.7	2.5	3.0
25	4.8	3.6	7.9	e5.2	19	14	35	8.4	7.4	5.3	2.3	2.8
26	4.1	3.5	7.2	e5.1	18	12	32	7.6	9.3	5.1	2.2	3.0
27	3.5	3.4	7.1	e5.0	18	12	23	7.2	6.8	4.8	2.2	3.3
28	3.6	3.4	6.8	e4.7	17	12	20	6.4	6.1	4.9	2.5	3.0
29	7.3	3.4	6.8	4.5	---	11	18	5.8	5.7	5.3	3.3	e2.8
30	4.2	3.4	7.9	4.2	---	9.9	15	5.8	5.4	4.7	4.8	e2.7
31	3.8	---	18	4.2	---	10	---	5.4	---	4.5	4.2	---
MEAN	3.19	3.84	5.82	7.11	10.8	11.8	14.6	13.0	10.5	5.37	3.45	4.27
MAX	7.3	5.1	18	15	24	17	35	24	32	22	5.9	14
MIN	2.1	3.4	3.1	4.2	3.6	7.7	7.5	5.4	3.7	2.6	2.2	2.7
IN.	0.03	0.03	0.05	0.06	0.08	0.10	0.12	0.11	0.08	0.04	0.03	0.03

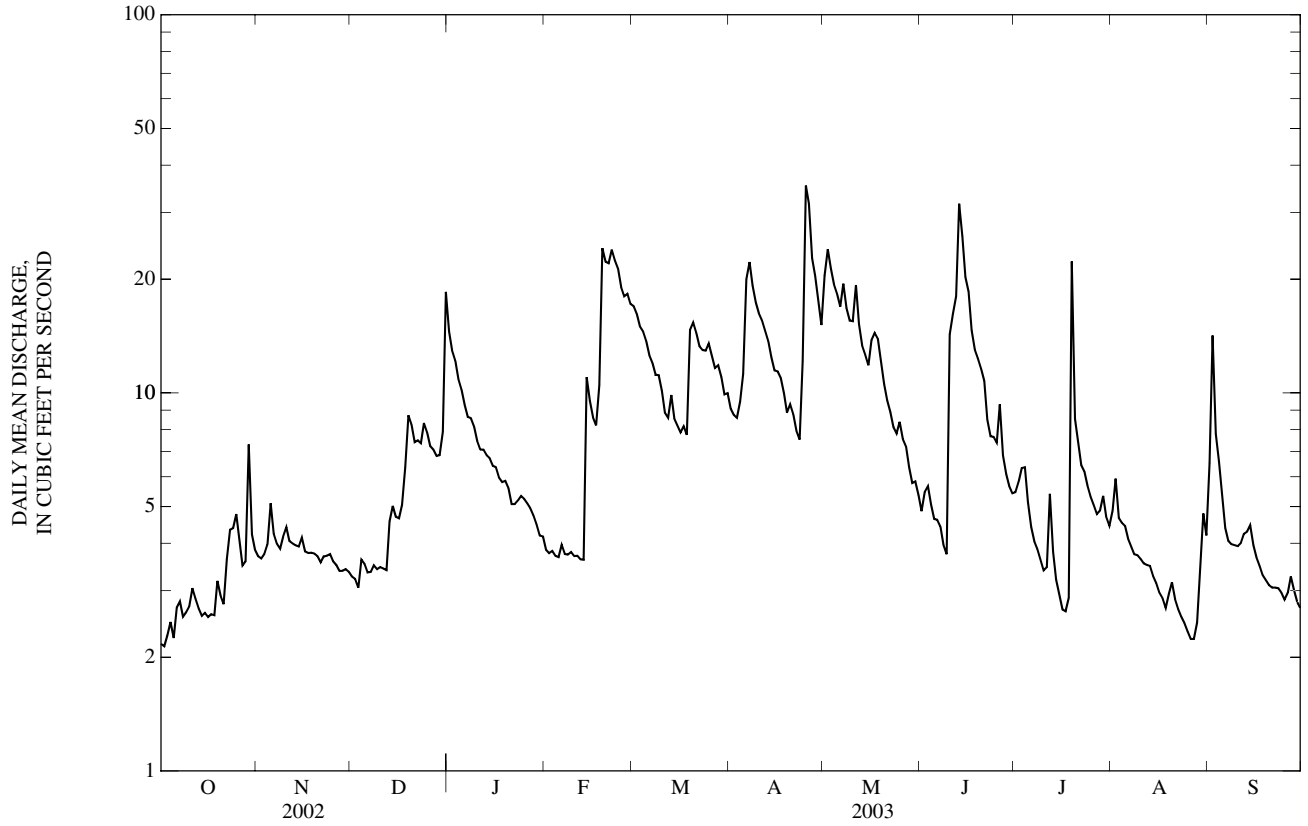
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2003, BY WATER YEAR (WY)

MEAN	4.64	15.6	13.9	11.2	41.9	34.7	59.6	134	27.4	8.38	5.91	6.04
MAX	14.6	93.7	50.2	21.8	201	85.1	225	833	138	28.3	23.2	27.9
(WY)	(1997)	(1997)	(2002)	(1999)	(1999)	(2002)	(1999)	(2002)	(1998)	(1998)	(1998)	(1996)
MIN	0.93	1.29	3.18	3.63	7.36	7.25	5.26	3.45	4.09	2.38	1.33	0.74
(WY)	(2001)	(2002)	(2001)	(2001)	(1996)	(2001)	(2000)	(2000)	(2001)	(2001)	(2001)	(2001)

07061900 LOGAN CREEK AT ELLINGTON, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1994 - 2003	
ANNUAL MEAN	89.3		7.79		30.2	
HIGHEST ANNUAL MEAN					92.7	2002
LOWEST ANNUAL MEAN					4.94	2001
HIGHEST DAILY MEAN	7,970	May 17	35	Apr 25	7,970	May 17, 2002
LOWEST DAILY MEAN	2.1	Oct 2	2.1	Oct 2	0.42	Oct 4, 2001
ANNUAL SEVEN-DAY MINIMUM	2.3	Sep 30	2.4	Oct 1	0.50	Oct 3, 2001
MAXIMUM PEAK FLOW	---		130	Jul 19	16,300	May 17, 2002
MAXIMUM PEAK STAGE	---		2.60	Jul 19	13.22	May 17, 2002
INSTANTANEOUS LOW FLOW	---		2.1	Oct 1-3,Aug 26,27	0.42	Oct 9, 2001
ANNUAL RUNOFF (INCHES)	8.72		0.76		2.96	
10 PERCENT EXCEEDS	62		16		31	
50 PERCENT EXCEEDS	7.1		5.3		7.0	
90 PERCENT EXCEEDS	3.1		2.9		2.6	

e Estimated



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 National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Lake is formed by earthfill type dam. Storage began June 3, 1948; conservation pool level reached July 4, 1948. Capacity at crest of spillway 413,700 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 is used for flood control and recreational purposes. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 409,700 ac-ft, May 20, 2002, elevation, 566.60 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, 42,000 ac-ft, Apr. 28, elevation, 504.22 ft; minimum, 22,000 ac-ft, Jan. 12, elevation, 494.04 ft.

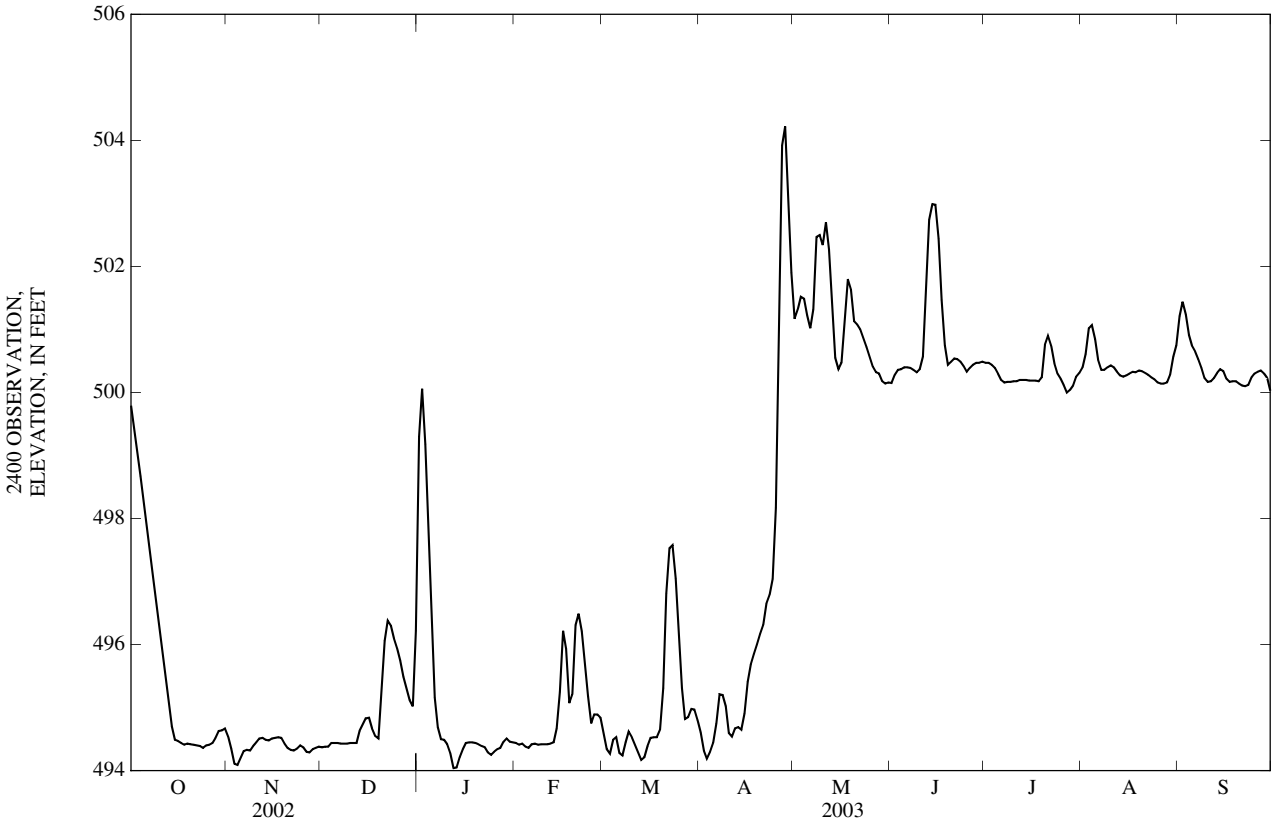
ELEVATION, IN FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
OBSERVATION AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	499.79	494.54	494.37	499.30	494.44	494.59	494.61	501.17	500.15	500.47	500.40	501.21
2	499.41	494.35	494.38	500.06	494.41	494.34	494.32	501.32	500.28	500.47	500.61	501.44
3	499.03	494.11	494.38	499.18	494.43	494.27	494.19	501.52	500.36	500.44	501.02	501.24
4	498.67	494.09	494.44	497.94	494.38	494.49	494.30	501.49	500.37	500.39	501.07	500.91
5	498.25	494.20	494.44	496.28	494.36	494.53	494.44	501.23	500.40	500.30	500.85	500.74
6	497.88	494.31	494.44	495.16	494.42	494.28	494.75	501.02	500.40	500.20	500.52	500.65
7	497.49	494.33	494.43	494.69	494.43	494.24	495.21	501.32	500.39	500.16	500.36	500.53
8	497.08	494.32	494.43	494.50	494.41	494.45	495.20	502.47	500.36	500.17	500.36	500.39
9	496.71	494.39	494.43	494.49	494.42	494.62	495.02	502.50	500.32	500.17	500.40	500.23
10	496.32	494.45	494.44	494.42	494.42	494.53	494.60	502.34	500.37	500.18	500.43	500.17
11	495.94	494.51	494.44	494.28	494.42	494.41	494.54	502.70	500.57	500.18	500.40	500.18
12	495.55	494.52	494.44	494.04	494.43	494.29	494.67	502.27	501.58	500.20	500.33	500.23
13	495.11	494.49	494.63	494.05	494.45	494.17	494.69	501.33	502.74	500.20	500.27	500.31
14	494.70	494.48	494.73	494.21	494.67	494.21	494.65	500.55	502.99	500.20	500.25	500.37
15	494.49	494.51	494.83	494.34	495.25	494.39	494.91	500.37	502.98	500.19	500.27	500.34
16	494.47	494.52	494.84	494.44	496.22	494.52	495.41	500.47	502.44	500.19	500.30	500.22
17	494.44	494.53	494.67	494.45	495.93	494.53	495.68	501.18	501.47	500.19	500.33	500.17
18	494.41	494.52	494.55	494.45	495.07	494.53	495.85	501.80	500.75	500.18	500.32	500.18
19	494.43	494.43	494.51	494.44	495.21	494.65	496.00	501.64	500.44	500.24	500.35	500.18
20	494.42	494.36	495.23	494.42	496.31	495.31	496.17	501.13	500.49	500.76	500.34	500.14
21	494.41	494.33	496.06	494.39	496.49	496.81	496.31	501.08	500.54	500.90	500.31	500.11
22	494.40	494.32	496.38	494.37	496.21	497.53	496.65	501.00	500.53	500.74	500.28	500.10
23	494.39	494.35	496.30	494.29	495.70	497.58	496.79	500.86	500.49	500.46	500.24	500.12
24	494.36	494.40	496.10	494.25	495.18	497.05	497.04	500.72	500.42	500.30	500.21	500.24
25	494.40	494.37	495.94	494.30	494.75	496.32	498.17	500.57	500.33	500.22	500.16	500.30
26	494.41	494.30	495.75	494.34	494.89	495.31	501.70	500.41	500.39	500.12	500.14	500.33
27	494.44	494.29	495.49	494.36	494.89	494.82	503.92	500.32	500.44	500.00	500.14	500.35
28	494.52	494.34	495.30	494.46	494.84	494.85	504.22	500.30	500.47	500.04	500.16	500.30
29	494.63	494.36	495.12	494.51	---	494.98	503.18	500.18	500.47	500.11	500.28	500.23
30	494.64	494.38	495.02	494.46	---	494.97	501.90	500.14	500.49	500.25	500.57	500.03
31	494.67	---	496.22	494.45	---	494.80	---	500.16	---	500.31	500.75	---
MAX	499.79	494.54	496.38	500.06	496.49	497.58	504.22	502.70	502.99	500.90	501.07	501.44
MIN	494.36	494.09	494.37	494.04	494.36	494.17	494.19	500.14	500.15	500.00	500.14	500.03
(-)	23,000	22,500	25,700	22,600	23,300	23,200	36,700	33,100	33,700	33,400	34,300	32,800
(=)	-9,900	-500	+3,200	-3,100	+700	-100	+13,500	-3,600	+600	-300	+900	-1,500

CAL YR 2002....+3,900
WTR YR 2003.... -100

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

07062000 CLEARWATER LAKE NEAR PIEDMONT, MO—Continued



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, in reports of the National Weather Service.

REVISED RECORDS.--WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 317.48 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1940, nonrecording gage at site 1,500 ft downstream at datum 2.00 ft higher; Oct. 1, 1940, to June 7, 1955, at site 1,500 ft downstream at present datum. Prior to July 12, 1985, at datum 0.10 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are fair. Considerable regulation by Clearwater Lake (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 Mar. 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	610	682	525	4,770	619	1,770	1,290	2,960	922	694	e532	604
2	664	773	530	2,320	591	1,720	1,310	2,820	877	683	e539	2,220
3	797	801	533	2,080	586	1,630	1,290	2,210	890	673	597	4,910
4	838	806	558	2,990	587	1,470	1,190	1,900	835	665	641	2,120
5	843	761	571	3,060	570	1,360	1,040	2,910	829	659	829	1,400
6	844	587	550	3,000	581	1,380	945	2,610	817	655	1,230	1,190
7	858	567	547	2,580	588	1,440	1,350	2,450	803	650	1,050	984
8	843	570	547	1,980	574	1,280	1,030	2,370	764	623	937	920
9	843	606	547	1,580	573	1,050	1,350	2,380	741	550	725	884
10	856	586	549	1,350	579	977	1,570	2,490	736	538	598	863
11	846	571	563	1,260	588	1,030	1,590	2,960	821	539	e558	808
12	845	554	564	1,190	592	1,100	1,390	2,540	999	546	e529	685
13	832	557	609	1,160	589	1,070	1,140	2,330	951	e541	e563	669
14	824	583	693	1,030	1,090	1,050	1,080	2,710	1,050	e530	587	713
15	822	606	672	824	1,520	964	1,050	2,490	1,460	e518	e571	653
16	757	605	658	770	1,360	838	945	2,140	1,530	e507	e549	651
17	561	601	674	757	1,260	803	742	2,780	1,780	e504	e539	734
18	506	600	829	769	1,500	830	713	2,130	2,110	e524	e524	711
19	503	611	1,960	759	2,220	1,040	768	1,430	1,910	619	e516	622
20	501	641	1,920	753	2,470	1,190	791	1,580	1,470	566	e502	595
21	489	655	1,320	746	2,300	1,390	785	2,080	1,090	564	e496	588
22	480	606	1,100	729	3,050	1,740	754	2,080	894	596	e488	609
23	474	581	1,010	715	3,600	1,940	739	2,040	834	779	e480	e589
24	469	548	1,150	704	3,360	1,970	769	1,810	804	877	e476	e578
25	476	535	1,360	670	3,070	2,130	844	1,560	785	828	e474	e565
26	504	524	1,310	600	2,630	2,340	1,010	1,510	829	683	e468	e555
27	499	564	1,280	575	1,980	2,340	837	1,460	867	650	e465	e551
28	491	566	1,230	563	1,820	2,010	730	1,370	782	657	e462	e543
29	508	539	1,160	566	---	1,540	1,470	1,270	720	756	467	e543
30	568	524	1,150	576	---	1,330	2,730	1,240	700	580	701	e542
31	639	---	3,990	620	---	1,280	---	1,110	---	e546	824	---
MEAN	664	610	989	1,356	1,459	1,419	1,108	2,120	1,020	623	610	953
MAX	858	806	3,990	4,770	3,600	2,340	2,730	2,960	2,110	877	1,230	4,910
MIN	469	524	525	563	570	803	713	1,110	700	504	462	542
IN.	0.62	0.55	0.92	1.26	1.22	1.31	0.99	1.96	0.91	0.58	0.57	0.85

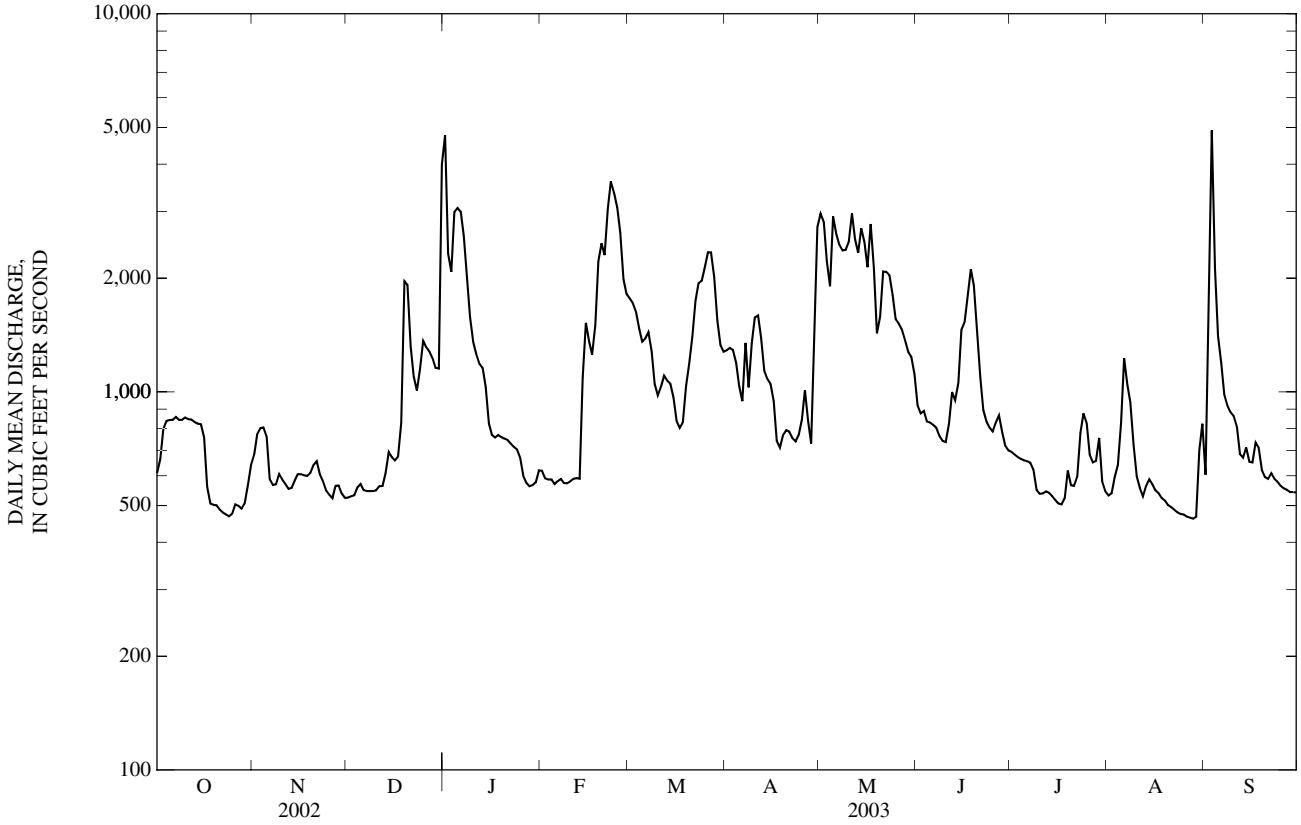
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2003, BY WATER YEAR (WY)

MEAN	655	970	1,523	1,649	1,753	2,131	2,198	1,949	1,322	901	684	645
MAX	1,913	2,962	5,501	3,890	4,938	4,485	4,873	4,407	4,030	3,673	3,232	2,071
(WY)	(1983)	(1973)	(1983)	(1950)	(1949)	(1975)	(1973)	(2002)	(2002)	(2002)	(1957)	(1985)
MIN	259	315	335	309	376	564	676	375	434	321	288	268
(WY)	(1957)	(1954)	(1954)	(1956)	(1963)	(1981)	(2000)	(2001)	(2001)	(1954)	(1954)	(1954)

07063000 BLACK RIVER AT POPLAR BLUFF, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1949 - 2003	
ANNUAL MEAN	2,116		1,076		1,363	
HIGHEST ANNUAL MEAN					2,858	1985
LOWEST ANNUAL MEAN					564	1954
HIGHEST DAILY MEAN	11,000	May 9	4,910	Sep 3	41,200	Dec 4, 1982
LOWEST DAILY MEAN	384	Sep 16	462	Aug 28	186	Sep 25, 1966
ANNUAL SEVEN-DAY MINIMUM	407	Sep 12	470	Aug 23	245	Sep 21, 1966
MAXIMUM PEAK FLOW	---		6,160	Sep 3	65,600[a]	Dec 4, 1982
MAXIMUM PEAK STAGE	---		14.82	Sep 3	21.68[b]	Dec 4, 1982
INSTANTANEOUS LOW FLOW	---		465[c]	Oct 24,25,Aug 30	180	Sep 25, 1966
ANNUAL RUNOFF (INCHES)	23.08		11.74		14.88	
10 PERCENT EXCEEDS	4,140		2,130		3,310	
50 PERCENT EXCEEDS	1,280		791		832	
90 PERCENT EXCEEDS	529		534		384	

e Estimated
[a] Post-regulation period.
[b] Former datum.
[c] Minimum recorded, may have been lower during period of estimated record.



07064533 CURRENT RIVER ABOVE AKERS, MO

LOCATION.--Lat 37°22'32", long 91°33'09", in NE ¼ NW ¼ NW ¼ sec.24, T.31 N., R.6 W., Shannon County, Hydrologic Unit 11010008, on left bank 200 ft above ferry crossing at Akers on Highway K, approximately 20 mi north of Summersville, behind old icehouse behind Akers Ferry General Store.

DRAINAGE AREA.--295 mi^2.

PERIOD OF RECORD.--July 19, 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--No estimated daily discharges. Records good. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

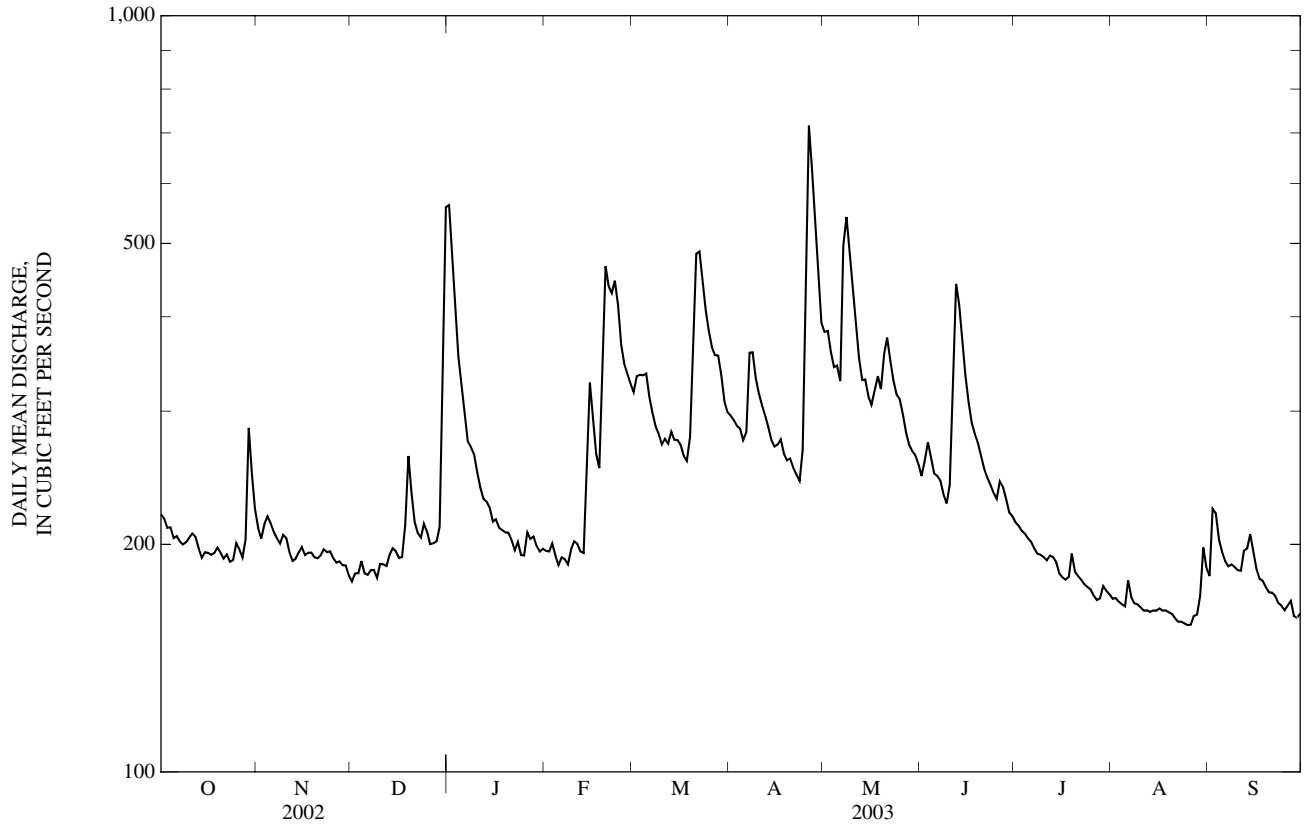
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	219	210	179	562	196	318	296	382	246	214	170	182
2	216	203	183	494	196	334	292	383	258	212	170	223
3	210	213	183	412	200	335	287	360	273	208	168	220
4	211	218	190	354	193	335	284	343	260	207	167	203
5	204	213	183	323	188	336	275	344	248	204	166	196
6	205	208	182	297	192	313	281	329	246	202	179	190
7	202	204	185	274	191	299	358	497	243	197	170	187
8	200	200	185	269	188	286	359	542	233	194	167	188
9	201	206	181	263	197	280	332	490	226	194	167	187
10	204	204	188	249	202	271	317	442	240	192	165	185
11	207	195	188	238	200	276	305	395	307	191	163	185
12	205	190	187	230	196	272	296	353	442	193	164	196
13	198	191	194	228	195	282	286	330	415	192	163	198
14	192	195	198	224	252	275	275	330	370	190	164	206
15	195	198	196	214	327	275	269	314	335	183	163	195
16	195	194	192	216	291	271	271	306	308	181	165	186
17	194	195	192	210	264	262	275	320	290	180	163	180
18	195	195	212	209	252	258	264	334	280	181	164	179
19	198	192	262	207	335	277	258	321	272	194	163	176
20	195	192	234	207	466	378	260	357	262	184	162	173
21	192	193	214	203	439	485	253	375	252	182	160	173
22	194	197	207	196	430	488	247	350	245	180	158	171
23	190	195	204	201	446	447	243	330	240	177	158	167
24	191	196	213	194	414	408	267	316	234	176	157	166
25	201	192	208	193	367	383	447	311	230	174	156	164
26	197	189	200	207	346	364	715	297	242	171	157	166
27	192	190	201	203	336	356	623	281	238	169	161	168
28	203	188	202	205	326	355	516	271	229	170	161	161
29	285	188	211	199	---	334	442	266	220	176	171	160
30	247	182	361	196	---	309	393	262	218	174	198	162
31	223	---	558	197	---	299	---	255	---	172	187	---
MEAN	205	198	215	254	279	328	333	348	270	188	166	183
MAX	285	218	558	562	466	488	715	542	442	214	198	223
MIN	190	182	179	193	188	258	243	255	218	169	156	160
IN.	0.80	0.75	0.84	0.99	0.99	1.28	1.26	1.36	1.02	0.73	0.65	0.69

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

MEAN	171	170	262	225	345	544	558	1,284	374	238	208	180
MAX	205	198	309	254	411	760	783	2,221	478	288	251	218
(WY)	(2003)	(2003)	(2002)	(2003)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)
MIN	136	142	215	196	279	328	333	348	270	188	166	138
(WY)	(2002)	(2002)	(2003)	(2002)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2001)

07064533 CURRENT RIVER ABOVE AKERS, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL MEAN	521		247		383	
HIGHEST ANNUAL MEAN					518	2002
LOWEST ANNUAL MEAN					247	2003
HIGHEST DAILY MEAN	12,700	May 8	715	Apr 26	12,700	May 8, 2002
LOWEST DAILY MEAN	143	Jan 22	156	Aug 25	130	Oct 7, 2001
ANNUAL SEVEN-DAY MINIMUM	148	Jan 16	158	Aug 21	132	Nov 6, 2001
MAXIMUM PEAK FLOW	---		759	Apr 26	Unknown	May 8, 2002
MAXIMUM PEAK STAGE	---		2.44	Apr 26	18.20	May 8, 2002
INSTANTANEOUS LOW FLOW	---		154	Aug 22-26,Sep 29	129	Oct 1, 2001
ANNUAL RUNOFF (INCHES)	23.96		11.37		17.62	
10 PERCENT EXCEEDS	927		359		666	
50 PERCENT EXCEEDS	248		207		234	
90 PERCENT EXCEEDS	190		170		159	



07065200 JACKS FORK NEAR MOUNTAIN VIEW, MO

LOCATION.--Lat 37°03'22", long 91°40'05", in NW ¼ NE ¼ SW ¼ sec.36, T.28 N., R.7 W., Texas County, Hydrologic Unit 11010008, on downstream pier of State Highway 17 bridge, 3.8 mi north of junction with Highway 60 and 8.6 mi south of Summersville.

DRAINAGE AREA.--185 mi^2.

PERIOD OF RECORD.--October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--No estimated daily discharges. Records good. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

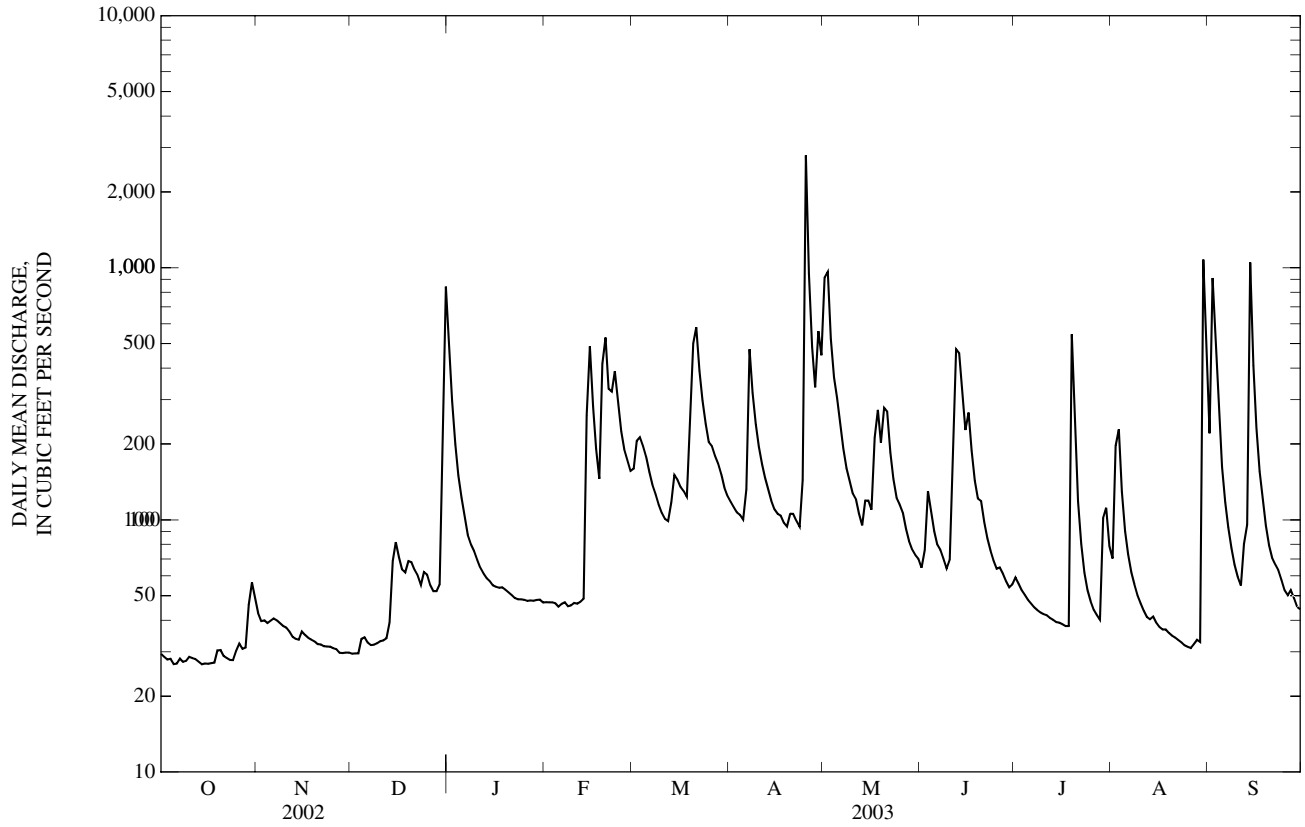
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	43	29	499	47	160	118	914	65	59	70	221
2	29	40	30	296	47	206	112	964	76	56	197	911
3	28	40	30	200	47	213	107	523	130	53	229	507
4	28	39	34	150	47	196	105	367	109	50	129	259
5	27	40	34	122	45	178	100	304	90	48	90	162
6	27	41	33	102	46	155	132	237	80	47	73	117
7	28	40	32	87	47	138	475	192	76	45	62	93
8	27	39	32	80	45	126	319	160	70	44	56	77
9	28	38	32	75	46	115	240	142	64	43	50	67
10	29	37	33	69	47	106	195	127	69	42	47	60
11	28	36	33	65	47	101	166	121	161	42	44	55
12	28	34	34	61	47	99	147	106	476	41	41	80
13	27	34	39	59	49	117	132	95	459	40	40	96
14	27	33	69	57	260	151	119	119	321	39	41	1,050
15	27	36	82	55	488	144	110	119	227	39	39	409
16	27	35	71	54	282	135	106	110	266	39	38	232
17	27	34	64	54	191	130	104	212	188	38	37	156
18	27	33	62	54	146	123	97	273	143	38	37	121
19	30	33	69	53	416	220	94	202	122	544	36	95
20	30	32	68	52	529	501	106	278	119	235	35	79
21	29	32	63	50	331	581	106	269	98	118	34	71
22	28	32	60	49	323	390	99	185	85	80	33	66
23	28	31	55	48	389	297	94	145	76	62	33	63
24	28	31	62	48	298	240	144	122	69	53	32	58
25	30	31	61	48	224	204	2,790	115	64	48	31	53
26	32	31	55	48	191	196	951	107	65	44	31	50
27	31	30	52	48	172	180	485	92	61	42	32	53
28	31	30	52	48	157	167	336	82	57	40	33	49
29	46	30	55	48	---	151	561	76	54	102	33	45
30	56	30	285	48	---	134	450	73	56	112	1,080	44
31	49	---	842	47	---	124	---	70	---	79	503	---
MEAN	30.5	34.8	82.3	89.5	179	193	303	223	133	76.2	105	180
MAX	56	43	842	499	529	581	2,790	964	476	544	1,080	1,050
MIN	27	30	29	47	45	99	94	70	54	38	31	44
IN.	0.19	0.21	0.51	0.56	1.01	1.20	1.83	1.39	0.80	0.47	0.66	1.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

MEAN	26.7	30.6	136	100	185	372	392	581	111	130	78.6	109
MAX	30.5	34.8	189	111	192	551	480	939	133	184	105	180
(WY)	(2003)	(2003)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2003)	(2002)	(2003)	(2003)
MIN	22.9	26.5	82.3	89.5	179	193	303	223	89.4	76.2	51.9	37.4
(WY)	(2002)	(2002)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2002)	(2003)	(2002)	(2002)

07065200 JACKS FORK NEAR MOUNTAIN VIEW, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL MEAN	233		135		188	
HIGHEST ANNUAL MEAN					241	2002
LOWEST ANNUAL MEAN					135	2003
HIGHEST DAILY MEAN	9,400	May 8	2,790	Apr 25	9,400	May 8, 2002
LOWEST DAILY MEAN	27	Several Days	27	Several Days	15	Oct 3, 2001
ANNUAL SEVEN-DAY MINIMUM	27	Oct 12	27	Oct 12	17	Oct 1, 2001
MAXIMUM PEAK FLOW	---		4,760	Apr 25	43,600	May 8, 2002
MAXIMUM PEAK STAGE	---		9.26	Apr 25	27.68	May 8, 2002
INSTANTANEOUS LOW FLOW	---		26	Oct 5,6	15	Oct 3, 2001
ANNUAL RUNOFF (INCHES)	17.11		9.92		13.80	
10 PERCENT EXCEEDS	458		296		388	
50 PERCENT EXCEEDS	56		65		62	
90 PERCENT EXCEEDS	30		31		29	



370857091265901 JACKS FORK ABOVE ALLEY SPRING, MO
(Jacks Fork Water-Quality Monitoring Network)

LOCATION.--Lat 37°08'57", long 91°26'59", in NE ¼ SW ¼ SW ¼ sec.25, T.29 N., R.5 W., Shannon County, Hydrologic Unit 11010008, at Alley Spring Campground, 0.5 mi upstream of Highway 106 bridge, 1.0 mi upstream from Alley Spring Branch, and 5.5 mi west of Eminence.

DRAINAGE AREA.--302 mi^2.

PERIOD OF RECORD.--May 1998 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
OCT												
08...	0945	Environmental	53	9.0	94	8.0	340	16.6	E.05	<0.04	0.06	<0.008
08...	1445	Environmental	53	8.6	94	7.9	346	18.3	--	--	--	--
09...	0855	Environmental	54	7.6	81	7.9	339	17.3	--	--	--	--
09...	1400	Environmental	54	8.8	94	8.0	343	17.8	0.12	<0.04	0.14	<0.008
JUN												
02...	1530	Environmental	112	8.3	92	8.0	300	18.4	0.10	<0.04	0.14	<0.008
09...	1330	Environmental	101	9.4	113	8.1	324	23.0	E.07	<0.04	0.12	<0.008
28...	0900	Environmental	92	7.9	92	8.1	343	21.8	<0.10	<0.04	0.11	<0.008
JUL												
26...	0945	Environmental	82	7.7	93	8.1	316	23.7	E.08	<0.04	<0.06	<0.008
AUG												
06...	0930	Environmental	128	7.0	89	8.3	320	25.6	E.07n	<0.04	E.06n	<0.008
SEP												
23...	0900	Environmental	94	7.9	86	8.0	321	18.6	E.09n	<0.04	0.12	<0.008

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/100 mL (31625)	Fecal streptococci KF MF, col/100 mL (31673)
OCT					
08...	<0.02	<0.004	48	52	62
08...	--	--	20k	32k	20k
09...	--	--	50	64	56
09...	E.01	<0.004	32k	36k	20k
JUN					
02...	--r	<0.004	12k	36	60
09...	<0.02	<0.004	1k	4k	5k
28...	<0.02	0.004	2k	10k	20
JUL					
26...	<0.02	E.003	8k	8k	24
AUG					
06...	<0.02	E.002n	5k	20	--e
SEP					
23...	<0.02	<0.004	23	70k	12k

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail
r -- Sample ruined in preparation

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 pier of State Highway 106 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.

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

GAGE.--Water-stage recorder. Datum of gage is 656.74 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1999, datum was 4.0 ft lower.

REMARKS.--No estimated daily discharges. Records good. U.S.G.S satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

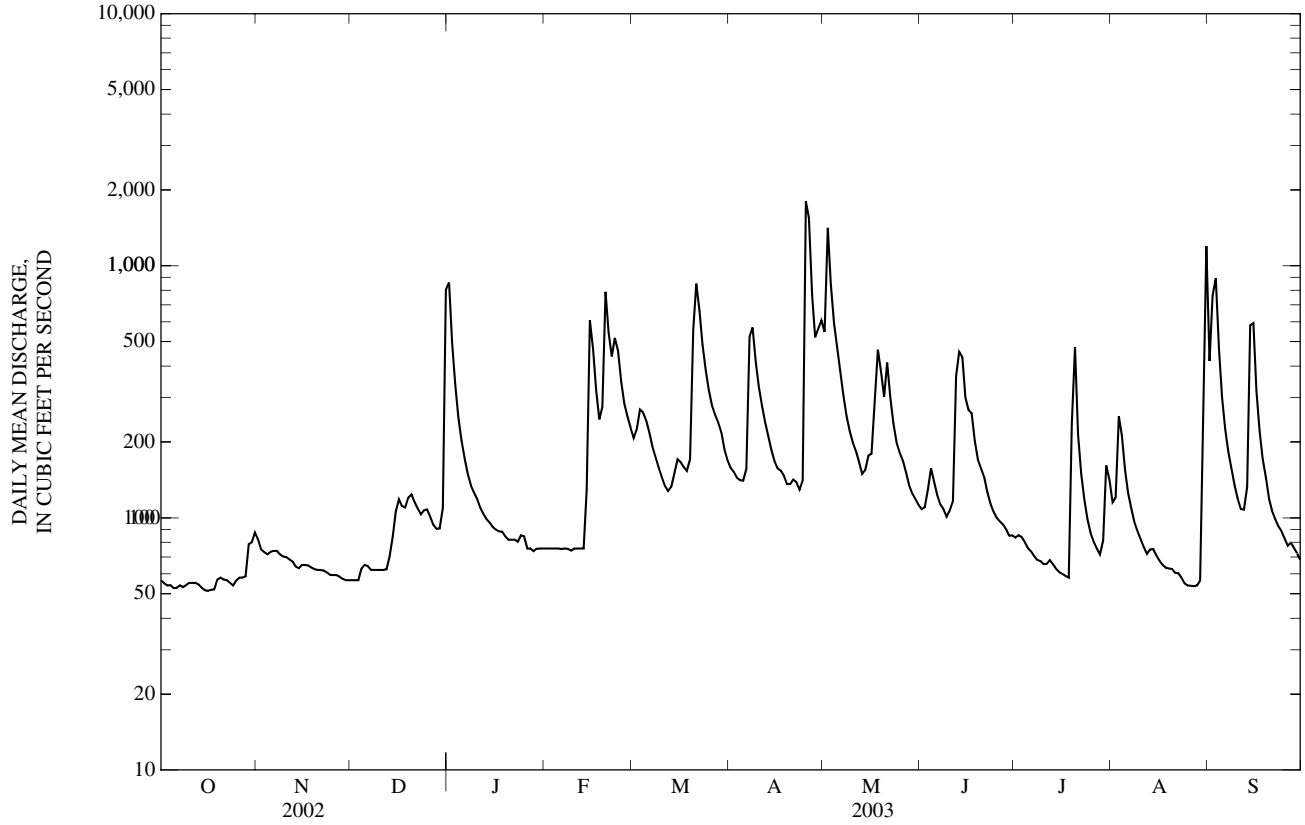
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	82	57	858	76	207	158	547	108	84	115	419
2	55	75	57	495	76	224	152	1,410	110	85	121	761
3	54	73	57	336	76	269	144	844	130	84	253	891
4	54	72	63	251	76	262	141	591	157	80	212	467
5	53	73	65	202	76	244	140	480	138	76	155	302
6	53	74	64	171	75	218	157	382	123	74	126	224
7	54	74	62	149	76	192	523	307	113	70	109	183
8	53	72	62	134	75	174	569	254	108	68	96	157
9	54	70	62	126	74	159	414	221	101	67	88	135
10	55	70	62	119	76	145	331	200	107	66	82	119
11	55	69	62	110	76	134	278	184	116	66	77	109
12	55	67	63	103	76	128	240	167	365	68	72	108
13	54	64	70	99	76	133	210	149	456	65	75	132
14	53	63	84	96	129	150	187	155	435	63	75	581
15	52	65	106	92	607	171	168	177	300	61	71	593
16	51	65	119	90	467	166	157	179	268	60	68	318
17	52	65	111	88	322	159	154	282	260	59	65	220
18	52	64	110	88	246	154	147	464	202	58	63	172
19	57	63	120	84	276	170	136	383	170	235	63	145
20	58	62	124	82	788	556	136	302	157	476	63	119
21	57	62	115	82	544	849	142	413	145	215	61	107
22	57	62	109	82	437	663	139	299	127	149	60	99
23	55	61	103	80	518	486	129	237	114	118	58	93
24	54	59	107	85	460	386	140	199	106	99	55	89
25	56	59	108	84	346	322	1,800	182	100	87	54	83
26	58	59	101	76	285	280	1,550	169	97	80	54	78
27	58	58	94	76	252	258	765	152	94	76	54	80
28	59	57	90	74	228	240	520	135	90	72	54	76
29	79	57	91	75	---	218	563	125	85	81	56	72
30	80	57	109	76	---	187	607	119	85	161	386	68
31	88	---	803	76	---	169	---	113	---	142	1,200	---
MEAN	57.5	65.8	110	150	246	260	363	317	166	105	134	233
MAX	88	82	803	858	788	849	1,800	1,410	456	476	1,200	891
MIN	51	57	57	74	74	128	129	113	85	58	54	68
IN.	0.22	0.25	0.43	0.58	0.86	1.01	1.36	1.23	0.62	0.41	0.52	0.87

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2003, BY WATER YEAR (WY)

MEAN	110	289	186	195	409	441	484	487	178	114	90.2	185
MAX	298	1,426	370	331	976	767	1,121	1,554	381	217	145	1,007
(WY)	(1999)	(1994)	(1997)	(1995)	(1999)	(2002)	(1994)	(2002)	(1995)	(2002)	(1998)	(1993)
MIN	39.3	41.3	76.6	74.5	81.6	159	86.5	93.5	83.3	52.2	31.5	31.2
(WY)	(2002)	(2002)	(2001)	(2000)	(1996)	(2001)	(2000)	(2001)	(2001)	(2001)	(2001)	(2000)

07065495 JACKS FORK AT ALLEY SPRING, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1993 - 2003	
ANNUAL MEAN	350		183		258	
HIGHEST ANNUAL MEAN					469	1994
LOWEST ANNUAL MEAN					95.9	2000
HIGHEST DAILY MEAN	15,800	May 8	1,800	Apr 25	23,300	Nov 14, 1993
LOWEST DAILY MEAN	38	Jan 17	51	Oct 16	22	Sep 22, 2000
ANNUAL SEVEN-DAY MINIMUM	40	Jan 12	53	Oct 12	23	Sep 17, 2000
MAXIMUM PEAK FLOW	---		3,770	Apr 25	48,700	Nov 14, 1993
MAXIMUM PEAK STAGE	---		7.17	Apr 25	21.97	Nov 14, 1993
INSTANTANEOUS LOW FLOW	---		51	Oct 6,15-18	22	Sep 22, 2000
ANNUAL RUNOFF (INCHES)	15.95		8.34		11.77	
10 PERCENT EXCEEDS	666		436		490	
50 PERCENT EXCEEDS	103		108		118	
90 PERCENT EXCEEDS	55		58		50	



370901091262001 ALLEY SPRING BELOW ALLEY, MO
(Jacks Fork Water-Quality Monitoring Network)

LOCATION.--Lat 37°09'01", long 91°26'20", in NE ¼ SW ¼ SE ¼ sec.25, T.29 N., R.5 W., Shannon County, Hydrologic Unit 11010008, at Alley Spring Campground, and 5.0 mi west of Eminence.

PERIOD OF RECORD.--May 1998 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
OCT												
08...	0855	Environmental	89	9.2	91	7.5	314	13.8	0.53	<0.04	0.59	0.032
08...	1405	Environmental	89	9.8	97	7.5	321	14.1	--	--	--	--
09...	0830	Environmental	89	8.9	88	7.5	312	13.9	--	--	--	--
09...	1325	Environmental	89	9.2	92	7.6	317	14.1	E.05	<0.04	0.69	<0.008
JUN												
02...	1630	Environmental	113	9.0	90	6.9	218	13.7	E.08	<0.04	0.63	<0.008
09...	1430	Environmental	117	10.6	107	7.5	231	14.5	0.11	<0.04	0.70	<0.008
28...	0945	Environmental	91	9.6	95	7.6	282	14.1	<0.10	<0.04	0.70	<0.008
JUL												
26...	1030	Environmental	86	9.4	93	7.6	295	14.4	<0.10	<0.04	0.65	<0.008
AUG												
06...	1030	Environmental	86	9.7	98	7.5	297	14.4	<0.10	<0.04	0.67	<0.008
SEP												
23...	0920	Environmental	87	9.2	92	7.6	300	14.1	E.05n	<0.04	0.66	<0.008

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/100 mL (31625)	Fecal streptococci KF MF, col/100 mL (31673)
OCT					
08...	<0.02	0.010	12k	6k	16k
08...	--	--	2k	18k	20k
09...	--	--	14k	8k	18k
09...	E.01	0.010	<2	16k	28k
JUN					
02...	--r	0.011	27	49	69
09...	<0.02	0.007	14k	15k	20
28...	<0.02	0.010	6k	26	33
JUL					
26...	<0.02	0.009	10k	18k	14k
AUG					
06...	<0.02	0.010	30	30	--e
SEP					
23...	E.01n	0.011	31	49	16k

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail
r -- Sample ruined in preparation

07066000 JACKS FORK AT EMINENCE, MO

LOCATION.--Lat 37°09'18", long 91°21'31", in SW 1/4 NW 1/4 sec.26, T.29 N., R.4 W., Shannon County, Hydrologic Unit 11010008, on right downstream bridge abutment on State Highway 19, 1.5 mi downstream from Mahans Creek, and 8.0 mi upstream from mouth.

DRAINAGE AREA.--398 mi^2.

WATER-DISCHARGE RECORDS

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: 1935(M), 1943(M), 1949(M), 1950(M), 1956(M), 1966(M), 1969(M), 1974(M), 1983(M).

GAGE.--Water-stage recorder. Datum of gage is 615.87 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1995, datum of gage 2 ft higher. 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.--Water-discharge records rated good except for the period April 3 to Sept. 30 and estimated daily discharges, which are poor. National Weather Service gage-height and U.S.G.S. satellite telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of 1895 and March 1904 reached a stage of about 27 ft, present site and datum, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	165	192	155	1,280	170	389	309	897	249	208	219	573
2	164	184	155	782	169	405	297	1,820	259	208	217	841
3	162	181	154	561	168	453	292	1,270	282	201	347	1,170
4	163	180	168	448	166	449	310	968	342	190	326	650
5	160	185	169	375	165	427	308	848	340	182	251	440
6	163	184	167	323	167	390	337	739	311	176	218	341
7	164	181	165	289	166	350	742	641	292	171	198	292
8	162	179	164	267	162	322	868	580	279	167	182	263
9	165	178	163	254	162	300	644	474	266	165	170	242
10	167	179	164	241	162	280	524	450	284	165	160	221
11	166	175	164	228	163	265	455	425	293	162	153	209
12	166	172	165	220	163	254	403	410	481	161	147	210
13	163	168	179	211	163	264	362	392	619	160	144	231
14	161	168	202	205	274	277	337	384	626	163	150	589
15	160	172	220	201	785	306	302	448	497	157	150	852
16	160	170	240	199	693	302	271	496	441	159	142	515
17	159	168	233	196	503	294	264	693	466	165	141	390
18	160	167	242	191	407	288	246	931	440	163	138	336
19	168	164	271	188	490	330	234	860	397	244	137	301
20	167	163	263	186	1,070	780	234	608	351	715	138	e260
21	165	161	248	184	839	1,250	278	705	334	373	136	e244
22	163	160	236	184	722	1,040	326	537	304	272	133	237
23	160	159	227	e181	802	787	333	433	282	230	129	234
24	158	160	238	e179	737	644	392	382	264	203	127	226
25	164	161	240	177	584	558	2,260	356	246	195	128	e210
26	164	160	220	173	500	497	2,690	331	245	180	126	e204
27	165	158	218	171	456	465	1,370	306	235	173	125	e208
28	166	158	213	171	420	440	1,000	287	221	168	126	e201
29	204	158	214	171	---	409	937	269	212	181	135	e191
30	196	157	266	171	---	359	972	272	214	258	250	e180
31	201	---	1,030	171	---	330	---	263	---	253	1,550	---
MEAN	167	170	231	283	408	449	610	596	336	212	216	369
MAX	204	192	1,030	1,280	1,070	1,250	2,690	1,820	626	715	1,550	1,170
MIN	158	157	154	171	162	254	234	263	212	157	125	180
IN.	0.48	0.48	0.67	0.82	1.07	1.30	1.71	1.73	0.94	0.61	0.63	1.03

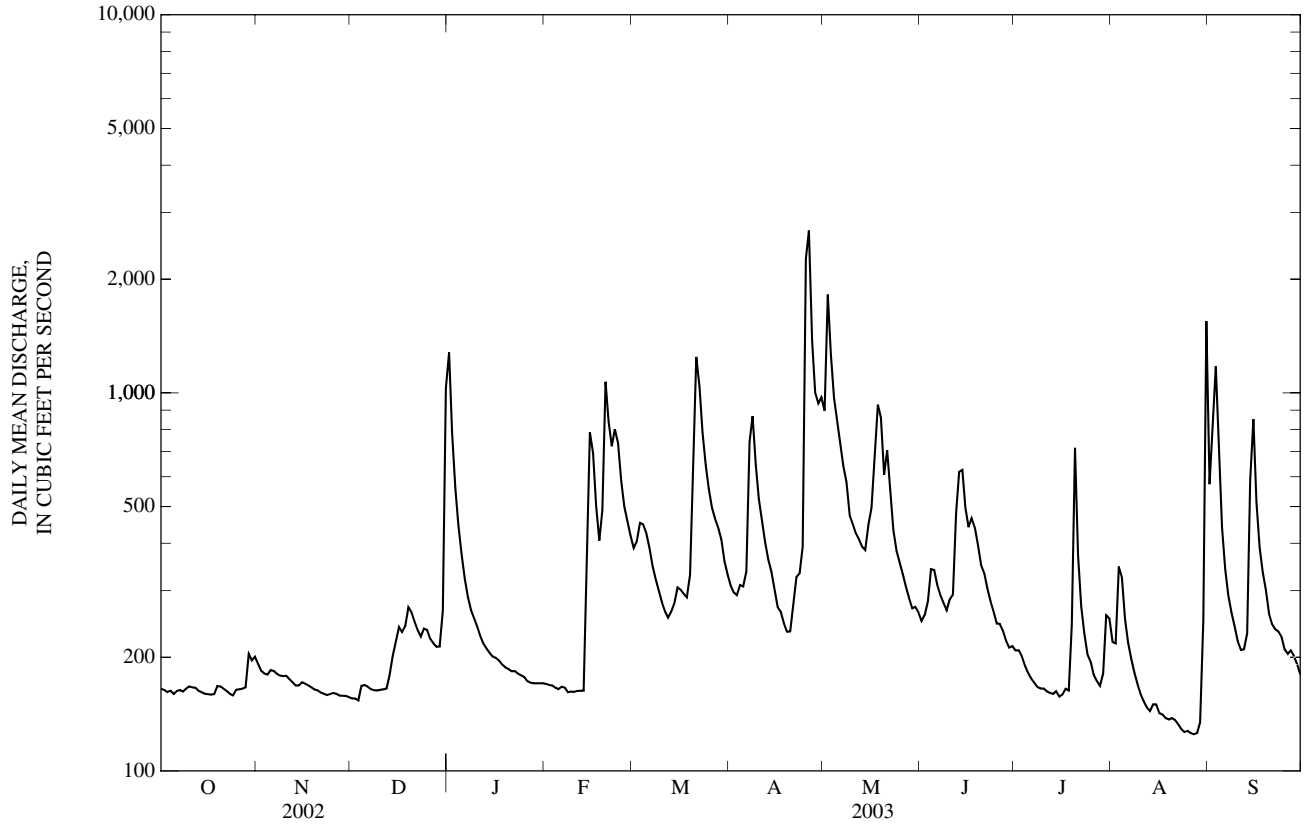
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2003, BY WATER YEAR (WY)

MEAN	225	408	446	467	561	716	840	748	459	259	207	209
MAX	1,092	2,057	2,462	2,065	1,906	1,944	2,920	2,541	2,745	1,682	984	1,439
(WY)	(1985)	(1994)	(1983)	(1949)	(1985)	(1945)	(1927)	(2002)	(1928)	(1951)	(1927)	(1993)
MIN	76.5	98.1	96.9	89.8	120	139	200	129	109	84.8	82.6	73.1
(WY)	(1957)	(1955)	(1956)	(1956)	(1934)	(1956)	(2000)	(1936)	(1936)	(1934)	(1954)	(1956)

07066000 JACKS FORK AT EMINENCE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1922 - 2003	
ANNUAL MEAN	623		336		461	
HIGHEST ANNUAL MEAN					1,072	1985
LOWEST ANNUAL MEAN					154	1954
HIGHEST DAILY MEAN	17,700	May 8	2,690	Apr 26	31,800	Nov 15, 1993
LOWEST DAILY MEAN	123	Jan 22	125	Aug 27	67	Sep 16, 1956
ANNUAL SEVEN-DAY MINIMUM	125	Jan 16	128	Aug 22	70	Sep 16, 1956
MAXIMUM PEAK FLOW	---		5,260	Apr 25	58,500	Nov 15, 1993
MAXIMUM PEAK STAGE	---		7.68	Apr 25	17.82	Nov 15, 1993
INSTANTANEOUS LOW FLOW	---		124	Aug 24-29	64	Aug 28, 1936
ANNUAL RUNOFF (INCHES)	21.26		11.47		15.73	
10 PERCENT EXCEEDS	1,200		693		885	
50 PERCENT EXCEEDS	263		234		245	
90 PERCENT EXCEEDS	160		160		124	

e Estimated



07066000 JACKS FORK AT EMINENCE, MO—Continued

(Jacks Fork Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1998 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
OCT												
08...	1105	Environmental	161	9.8	99	7.9	331	14.6	E.09	<0.04	0.35	<0.008
08...	1106	Replicate	--	--	--	--	--	--	E.06	<0.04	0.34	E.005
08...	1510	Environmental	161	11.6	120	7.9	334	15.9	--	--	--	--
09...	0930	Environmental	164	8.5	87	7.8	330	15.3	--	--	--	--
09...	1435	Environmental	164	10.8	112	8.1	333	15.8	<0.10	<0.04	0.35	<0.008
JUN												
03...	0915	Environmental	270	8.8	92	7.6	282	15.8	0.10	<0.04	0.36	<0.008
09...	1630	Environmental	263	11.3	131	8.3	289	21.4	0.12	E.02	0.34	E.005
28...	1115	Environmental	185	9.7	107	8.0	323	19.3	E.05	<0.04	0.34	<0.008
JUL												
26...	1215	Environmental	169	9.2	104	8.3	312	20.5	E.08	<0.04	0.27	<0.008
AUG												
06...	1200	Environmental	226	--e	--	8.2	315	22.3	E.07n	<0.04	0.25	<0.008
SEP												
23...	1045	Environmental	201	8.9	94	7.8	320	17.0	E.06n	<0.04	0.31	<0.008

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC 0.7µMF col/100 mL (31625)	Fecal streptococci KF MF, col/100 mL (31673)
OCT					
08...	<0.02	0.005	5k	8k	32k
08...	<0.02	0.005	--	--	--
08...	--	--	2k	2k	10k
09...	--	--	46	58	44
09...	<0.02	E.004	20k	23k	33k
JUN					
03...	--r	E.003	25k	42	52
09...	E.01	0.019	<1b	2k	3k
28...	<0.02	0.004	3k	18k	9k
JUL					
26...	<0.02	0.005	4k	13k	18k
AUG					
06...	<0.02	0.005	10k	33k	--e
SEP					
23...	<0.02	E.004n	21k	62	18k

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range
n -- Below the LDL and above the LT-MDL

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail
r -- Sample ruined in preparation

370905091204001 JACKS FORK ABOVE 2ND UNNAMED HOLLOW (SOUTH) BELOW EMINENCE, MO
(Jacks Fork Water-Quality Monitoring Network)

LOCATION.--Lat 37°09'05", long 91°20'40", in SW ¼ NW ¼ SW ¼ sec.25, T.29 N., R.4 W., Shannon County, Hydrologic Unit 11010008, at Jacks Fork Campground and 0.9 mi downstream of Eminence.

DRAINAGE AREA.--406 mi^2.

PERIOD OF RECORD.--May 1998 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
OCT												
08...	0850	Environmental	161	8.7	87	7.8	333	14.3	E.07	<0.04	0.39	<0.008
08...	1345	Environmental	161	10.9	112	7.4	320	15.5	--	--	--	--
09...	0820	Environmental	164	8.1	195	7.5	323	15.3	--	--	--	--
09...	1200	Environmental	164	9.5	97	7.4	331	15.6	E.07	<0.04	0.41	<0.008
JUN												
03...	1100	Environmental	270	8.8	92	7.9	284	16.0	0.11	<0.04	0.36	<0.008
10...	1800	Environmental	263	10.4	119	7.9	296	20.6	0.12	<0.04	0.38	0.009
28...	1030	Environmental	185	9.3	103	7.6	322	19.0	E.05	<0.04	0.37	<0.008
JUL												
26...	0945	Environmental	169	8.1	89	7.8	322	19.6	E.06	<0.04	0.30	<0.008
AUG												
06...	0930	Environmental	226	7.3	86	7.8	326	22.1	E.09n	<0.04	0.27	<0.008
SEP												
23...	0830	Environmental	201	7.8	82	7.4	312	16.9	E.08n	<0.04	0.39	<0.008
23...	0831	Replicate	--	7.7	81	7.5	312	16.9	E.06n	<0.04	0.31	<0.008

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/100 mL (31625)	Fecal streptococci KF MF, col/100 mL (31673)
OCT					
08...	<0.02	0.007	78	100	40
08...	--	--	7k	23k	30k
09...	--	--	88	88	48
09...	E.01	0.009	28k	44	66
JUN					
03...	--r	0.007	18k	46	23k
10...	<0.02	0.014	300k	304	>240k
28...	<0.02	0.022	6k	20k	7k
JUL					
26...	<0.02	0.009	1k	54	27
AUG					
06...	<0.02	0.011	100	780	120
SEP					
23...	<0.02	0.006	41	47	29
23...	<0.02	0.005	--	--	--

Remark codes used in this table:
> -- Greater than
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
r -- Sample ruined in preparation

371014091201301 JACKS FORK ABOVE LICK LOG HOLLOW BELOW EMINENCE, MO
(Jacks Fork Water-Quality Monitoring Network)

LOCATION.--Lat 37°10'14", long 91°20'13", in SE ¼ SE ¼ NW ¼ sec.24, T.29 N., R.4 W., Shannon County, Hydrologic Unit 11010008, 2.4 mi downstream from Eminence.

DRAINAGE AREA.--409 mi^2.

PERIOD OF RECORD.--May 1998 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
OCT												
08...	0940	Environmental	168	8.9	89	7.9	334	14.5	E.10	<0.04	0.38	<0.008
08...	1410	Environmental	168	10.8	111	7.9	321	15.8	--	--	--	--
09...	0850	Environmental	171	8.3	85	7.7	324	15.5	--	--	--	--
09...	1230	Environmental	171	9.8	101	7.7	332	15.8	E.09	<0.04	0.39	<0.008
JUN												
03...	1315	Environmental	308	10.0	105	7.8	284	16.3	0.11	<0.04	0.35	<0.008
10...	1515	Environmental	296	9.8	111	8.1	294	19.9	0.13	E.02	0.39	E.007
28...	0815	Environmental	220	8.1	89	7.9	330	18.7	--	--	--	--
28...	0915	Environmental	220	8.4	93	8.0	331	18.7	--	--	--	--
28...	1015	Environmental	220	8.7	97	8.0	331	19.3	--	--	--	--
28...	1016	Replicate	--	8.7	97	8.1	331	19.2	--	--	--	--
28...	1115	Environmental	220	9.4	106	8.1	331	20.1	--	--	--	--
28...	1215	Environmental	220	9.4	107	8.2	330	20.8	--	--	--	--
28...	1315	Environmental	220	9.9	114	8.0	328	21.4	--	--	--	--
28...	1400	Environmental	220	10.6	124	8.1	327	22.0	--	--	--	--
28...	1401	Replicate	--	10.6	124	8.2	327	22.0	--	--	--	--
28...	1415	Environmental	220	10.1	117	8.3	322	21.9	E.06	<0.04	0.35	<0.008
28...	1500	Environmental	220	10.3	122	8.2	323	22.6	--	--	--	--
28...	1600	Environmental	220	10.7	128	8.1	321	22.9	--	--	--	--
28...	1700	Environmental	220	10.5	126	8.2	326	23.1	--	--	--	--
JUL												
26...	0820	Environmental	170	7.9	89	7.7	320	19.9	--	--	--	--
26...	0900	Environmental	170	8.9	100	7.7	320	19.9	--	--	--	--
26...	1000	Environmental	170	9.6	108	7.9	320	20.4	--	--	--	--
26...	1100	Environmental	170	10.4	119	7.9	316	21.0	--	--	--	--
26...	1200	Environmental	170	10.3	119	7.9	316	21.5	--	--	--	--
26...	1300	Environmental	170	10.4	121	7.9	316	21.7	--	--	--	--
26...	1400	Environmental	170	10.1	119	7.8	312	22.6	--	--	--	--
26...	1445	Environmental	170	10.5	125	8.4	314	23.0	0.10	<0.04	0.26	<0.008
26...	1500	Environmental	170	11.0	131	8.1	313	23.2	--	--	--	--
26...	1600	Environmental	170	10.9	131	8.1	312	23.4	--	--	--	--
26...	1700	Environmental	170	12.2	147	8.1	313	23.8	--	--	--	--
AUG												
05...	0830	Environmental	253	7.3	86	7.5	325	22.4	--	--	--	--
05...	0930	Environmental	253	7.8	92	7.9	325	22.5	--	--	--	--
05...	1030	Environmental	253	8.6	102	8.0	324	23.0	--	--	--	--
05...	1130	Environmental	253	8.7	105	8.0	325	23.4	--	--	--	--
05...	1230	Environmental	253	9.0	110	8.1	324	24.0	--	--	--	--
05...	1330	Environmental	253	9.2	112	7.8	324	24.2	--	--	--	--
05...	1430	Environmental	253	9.1	112	8.0	323	24.2	--	--	--	--
05...	1530	Environmental	253	9.1	111	8.0	323	24.0	--	--	--	--
05...	1630	Environmental	253	9.0	110	8.0	319	24.0	--	--	--	--
05...	1730	Environmental	253	9.1	111	8.0	320	24.3	--	--	--	--
06...	1500	Environmental	253	8.1	100	8.3	316	24.6	0.12	E.04n	0.25	<0.008
SEP												
23...	1315	Environmental	208	9.7	107	7.9	313	19.1	E.09n	<0.04	0.31	<0.008

371014091201301 JACKS FORK ABOVE LICK LOG HOLLOW BELOW EMINENCE, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)
OCT					
08...	<0.02	0.005	120	137k	88
08...	--	--	160k	380	173
09...	--	--	86	90	48
09...	<0.02	0.007	420	560	510
JUN					
03...	--r	0.007	15k	28k	31k
10...	<0.02	0.022	>800k	>600k	1,920k
28...	--	--	33	84	28
28...	--	--	15k	40	12k
28...	--	--	18k	43	18k
28...	--	--	13k	35	17k
28...	--	--	8k	45	14k
28...	--	--	7k	24	14k
28...	--	--	5k	28	6k
28...	--	--	45	81k	9k
28...	--	--	10k	25	15k
28...	<0.02	0.006	26	32	4k
28...	--	--	4k	20	11k
28...	--	--	2k	21	8k
28...	--	--	2k	15k	15k
JUL					
26...	--	--	23	50	54
26...	--	--	14k	42	34
26...	--	--	9k	38	31
26...	--	--	2k	15k	12k
26...	--	--	2k	24	14k
26...	--	--	6k	15k	22
26...	--	--	<1	21k	7k
26...	<0.02	0.009	6k	26	13k
26...	--	--	4k	14k	17k
26...	--	--	3k	29	16k
26...	--	--	7k	34	22
AUG					
06...	--	--	80k	108	100
06...	--	--	210	80	293
06...	--	--	430k	100	410
06...	--	--	220	720	240
06...	--	--	160	160	176
06...	--	--	170	184	108
06...	--	--	210	196	112
06...	0.02	0.012	84	350k	--e
06...	--	--	110	206	71
06...	--	--	590	1,200	346
06...	--	--	480	675	243
SEP					
23...	<0.02	0.005	6k	24	<1

Remark codes used in this table:
> -- Greater than
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail
r -- Sample ruined in preparation

07066110 JACKS FORK ABOVE TWO RIVERS, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 37°10'22", long 91°18'00", in SW 1/4 NE 1/4 NW 1/4 sec.20, T.29 N., R.3 W., Shannon County, Hydrologic Unit 11010008, at the Shawnee Campground, 4.5 mi downstream from the Eminence Wastewater Treatment Plant.

DRAINAGE AREA.--425 mi^2.

PERIOD OF RECORD.--April 1973 to current year.

REMARKS.--Ozark National Scenic Riverways station since April 1973 and an Ambient Water-Quality Monitoring Network station since November 1993.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
19...	1500	Environmental	266	12.6	119	8.4	340	12.1	190	39.0	23.3	0.87
JAN												
06...	1100	Environmental	496	11.5	97	7.7	312	7.7	--	--	--	--
MAR												
11...	1530	Environmental	398	13.1	121	8.2	289	10.7	--	--	--	--
MAY												
19...	1200	Environmental	1,170	9.8	105	8.0	271	17.5	150	32.1	18.1	1.02
JUL												
07...	1120	Environmental	271	8.7	106	7.6	318	23.4	--	--	--	--
SEP												
05...	0930	Environmental	761	7.8	85	7.5	306	19.4	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
19...	1.55	179	180	210	5	2.52	<0.2	2.7	189	<10	<0.10	<0.04	0.28
JAN													
06...	--	166	166	203	<1	--	--	--	--	<10	<0.10	<0.04	0.50
MAR													
11...	--	148	148	181	<1	--	--	--	--	<10	E.06	<0.04	0.41
MAY													
19...	1.34	146	146	178	<1	2.41	<0.2	3.5	160	<10	E.08	<0.04	0.29
JUL													
07...	--	168	170	208	<1	--	--	--	--	<10	E.08n	<0.04	0.33
SEP													
05...	--	143	143	174	<1	--	--	--	--	<10	0.18	<0.04	0.35

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/100 mL (31625)	Fecal streptococci KF MF, col/100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
19...	<0.008	<0.02	<0.04	<0.04	<1b	1k	9k	<2	6	E.2	<0.04	<0.2	8
JAN													
06...	<0.008	<0.02	<0.04	<0.04	1k	23	30	--	--	--	--	--	--
MAR													
11...	0.009	<0.02	E.03	<0.04	<1b	1k	1k	--	--	--	--	--	--
MAY													
19...	E.004	<0.09	<0.04	<0.04	51	<1b	66	2	52	E.2	<0.04	<0.2	<6
JUL													
07...	<0.008	<0.02	<0.04	<0.04	16k	30	12k	--	--	--	--	--	--
SEP													
05...	<0.008	<0.02	<0.04	<0.04	40	20	100	--	--	--	--	--	--

07066110 JACKS FORK ABOVE TWO RIVERS, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
19...	E6	<0.08	<1	E1.8b	<0.02	<0.5	M	E1
JAN								
06...	--	--	--	--	--	--	--	--
MAR								
11...	--	--	--	--	--	--	--	--
MAY								
19...	<10	E.04	<1	3.0	<0.02	<0.5	M	E1
JUL								
07...	--	--	--	--	--	--	--	--
SEP								
05...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

371026091183301 JACKS FORK ABOVE POWELL SPRING ABOVE TWO RIVERS, MO
(Jacks Fork Water-Quality Monitoring Network)

LOCATION.--Lat 37°10'26", long 91°18'33", in SW ¼ NE ¼ NE ¼ sec.19, T.29 N., R.3 W., Shannon County, Hydrologic Unit 11010008, 3.1 mi upstream from Two Rivers.

DRAINAGE AREA.--412 mi^2

PERIOD OF RECORD.--May 1998 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
OCT												
08...	1015	Environmental	168	9.2	92	7.6	337	14.8	E.06	<0.04	0.34	<0.008
08...	1030	Blank	--	--	--	--	--	--	E.05	<0.04	<0.06	<0.008
08...	1440	Environmental	168	11.6	119	8.1	322	15.9	--	--	--	--
09...	0910	Environmental	171	8.4	86	7.8	327	15.6	--	--	--	--
09...	1310	Environmental	171	10.0	103	7.8	335	15.9	0.11	<0.04	0.45	<0.008
JUN												
03...	1430	Environmental	308	10.5	110	8.0	286	16.4	0.11	<0.04	0.34	<0.008
10...	1630	Environmental	296	10.3	118	8.2	295	20.3	0.11	<0.04	0.32	<0.008
28...	1515	Environmental	220	10.7	128	8.4	322	23.4	E.06	<0.04	0.29	E.004
28...	1516	Replicate	--	--	--	--	--	--	E.07	<0.04	0.30	E.004
JUL												
26...	1530	Environmental	170	11.0	133	8.6	315	23.8	0.11	<0.04	0.23	<0.008
AUG												
06...	1545	Blank	--	--	--	--	--	--	<0.10	<0.04	<0.06	<0.008
06...	1600	Environmental	253	8.3	104	8.3	318	25.4	0.12	<0.04	0.23	<0.008
SEP												
23...	1440	Blank	--	--	--	--	--	--	<0.10	<0.04	<0.06	<0.008
23...	1445	Environmental	208	10.1	113	8.3	314	19.9	E.06n	<0.04	0.28	<0.008

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/100 mL (31625)	Fecal streptococci KF MF, col/100 mL (31673)
OCT					
08...	<0.02	E.004	72	76	27k
08...	<0.02	<0.004	--	--	--
08...	--	--	52	106	64
09...	--	--	160	147	46
09...	E.01	0.006	52	112	66
JUN					
03...	--r	0.004	7k	17k	21k
10...	<0.02	E.003	>320k	>240k	>400k
28...	<0.02	0.007	2k	3k	3k
28...	<0.02	0.006	--	--	--
JUL					
26...	<0.02	0.008	3k	7k	6k
AUG					
06...	<0.02	<0.004	--	--	--
06...	<0.02	0.013	12k	143k	--e
SEP					
23...	<0.02	<0.004	--	--	--
23...	<0.02	0.004	2k	14k	4k

Remark codes used in this table:
> -- Greater than
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail
r -- Sample ruined in preparation

371019091180101 SHAWNEE CREEK ABOVE TWO RIVERS, MO
(Jacks Fork Water-Quality Monitoring Network)

LOCATION.--Lat 37°10'19", long 91°18'01", in SW ¼ NE ¼ NW ¼ sec.20, T.29 N., R.3 W., Shannon County, Hydrologic Unit 11010008, at Shawnee Creek Campground and 2.4 mi upstream from Two Rivers.

DRAINAGE AREA.--20.0 mi^2.

PERIOD OF RECORD.--May 1998 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
OCT												
08...	1125	Environmental	5.5	8.1	83	8.2	507	15.7	<0.10	<0.04	0.16	<0.008
08...	1540	Environmental	5.5	9.2	96	8.1	516	16.7	--	--	--	--
09...	0945	Environmental	5.5	7.7	80	8.1	521	16.1	--	--	--	--
09...	1330	Environmental	5.5	8.7	92	8.0	519	16.6	<0.10	<0.04	0.15	<0.008
JUN												
04...	1200	Environmental	8.4	9.7	102	8.0	454	16.5	0.13	<0.04	0.26	<0.008
11...	1030	Environmental	13	7.6	85	7.9	424	19.1	0.20	<0.04	0.32	<0.008
28...	1215	Environmental	6.1	9.1	105	7.7	503	21.5	E.06	<0.04	0.26	<0.008
JUL												
26...	1115	Environmental	3.0	7.5	87	7.9	524	22.0	E.07	<0.04	0.24	<0.008
AUG												
06...	1130	Environmental	3.6	7.2	88	7.9	517	23.7	<0.10	<0.04	0.27	<0.008
SEP												
23...	1000	Environmental	3.6	7.1	76	7.5	514	18.0	E.08n	<0.04	0.18	<0.008

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/100 mL (31625)	Fecal streptococci KF MF, col/100 mL (31673)
OCT					
08...	<0.02	0.009	76k	112k	140
08...	--	--	140	140	200
09...	--	--	36k	48k	92k
09...	<0.02	0.007	68k	40k	36k
JUN					
04...	--r	0.004	6k	34k	26k
11...	<0.02	0.012	680	420k	700
28...	<0.02	0.007	92	108	54
JUL					
26...	<0.02	0.008	17k	58	182
AUG					
06...	<0.02	0.010	980	5,860k	303
SEP					
23...	<0.02	0.007	35k	44	76

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
r -- Sample ruined in preparation

371020091174101 JACKS FORK ABOVE LITTLE SHAWNEE CREEK ABOVE TWO RIVERS, MO
(Jacks Fork Water-Quality Monitoring Network)

LOCATION.--Lat 37°10'20", long 91°17'41", in SW ¼ NW ¼ NE ¼ sec.20, T.29 N., R.3 W., Shannon County, Hydrologic Unit 11010008, just below Shawnee Creek Campground and 2.2 mi upstream from Two Rivers.

DRAINAGE AREA.--433 mi^2.

PERIOD OF RECORD.--May 1998 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
OCT												
08...	1110	Environmental	168	8.6	87	8.1	340	15.1	<0.10	<0.04	0.33	<0.008
08...	1530	Environmental	168	11.4	118	8.2	343	16.1	--	--	--	--
09...	0935	Environmental	168	8.4	86	8.1	338	15.8	--	--	--	--
09...	1320	Environmental	168	9.9	103	8.0	343	16.0	0.14	<0.04	0.33	<0.008
JUN												
04...	1245	Environmental	344	10.6	112	8.3	292	16.9	0.12	<0.04	0.29	<0.008
11...	1100	Environmental	310	8.4	94	7.9	317	19.0	0.12	<0.04	0.35	<0.008
28...	1245	Environmental	209	10.6	122	8.0	331	21.3	E.07	<0.04	0.29	E.004
28...	1300	Blank	--	--	--	--	--	--	<0.10	<0.04	<0.06	<0.008
JUL												
26...	1230	Environmental	185	9.4	110	8.1	329	22.4	E.08n	<0.04	0.24	<0.008
26...	1330	Blank	--	--	--	--	--	--	<0.10	<0.04	<0.06	<0.008
AUG												
06...	1330	Environmental	229	9.0	110	8.0	332	24.2	0.10	<0.04	0.23	<0.008
06...	1331	Replicate	--	--	--	--	--	--	E.08n	<0.04	0.23	<0.008
SEP												
23...	1110	Environmental	210	8.0	86	7.5	319	18.0	0.10	<0.04	0.28	<0.008

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/100 mL (31625)	Fecal streptococci KF MF, col/100 mL (31673)
OCT					
08...	<0.02	0.005	77k	88	43k
08...	--	--	51k	108	43k
09...	--	--	83k	96	34k
09...	<0.02	0.005	63k	84	46k
JUN					
04...	--r	0.007	5k	10k	4k
11...	<0.02	0.005	>320k	>240k	340
28...	<0.02	0.006	4k	10k	9k
28...	<0.02	<0.004	--	--	--
JUL					
26...	<0.02	0.006	1k	20	12k
26...	<0.02	E.002n	--	--	--
AUG					
06...	<0.02	0.009	27k	132	23k
06...	<0.02	0.008	--	--	--
SEP					
23...	<0.02	0.004	16k	27	14k

Remark codes used in this table:
> -- Greater than
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
r -- Sample ruined in preparation

371054091173501 JACKS FORK BELOW 3RD UNNAMED HOLLOW (NORTH) ABOVE TWO RIVERS, MO
(Jacks Fork Water-Quality Monitoring Network)

LOCATION.--Lat 37°10'54", long 91°17'35", in NE ¼ NW ¼ SE ¼ sec.17, T.29 N., R.3 W., Shannon County, Hydrologic Unit 11010008, 1.4 mi upstream from Two Rivers.

DRAINAGE AREA.--444 mi^2.

PERIOD OF RECORD.--May 1998 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)
OCT												
08...	1000	Environmental	167	8.2	83	8.3	347	14.9	<0.10	<0.04	0.33	<0.008
08...	1450	Environmental	167	10.7	110	8.1	349	16.0	--	--	--	--
09...	0845	Environmental	167	8.1	83	8.1	348	15.8	--	--	--	--
09...	1145	Environmental	167	8.8	91	8.1	350	15.9	E.05	<0.04	0.33	<0.008
09...	1146	Replicate	--	--	--	--	--	--	E.05	<0.04	0.33	<0.008
JUN												
04...	1015	Environmental	344	9.5	97	7.9	297	15.4	E.09	<0.04	0.32	<0.008
04...	1030	Replicate	--	--	--	--	--	--	E.07	<0.04	0.31	<0.008
28...	1515	Environmental	209	11.2	133	7.9	332	22.7	<0.10	<0.04	0.28	<0.008
JUL												
26...	1445	Environmental	185	9.9	118	8.1	332	23.5	E.08	<0.04	0.22	<0.008
26...	1446	Replicate	--	--	--	--	--	--	0.11	<0.04	0.22	<0.008
AUG												
06...	1600	Environmental	229	9.0	111	8.0	335	24.9	E.08n	<0.04	0.26	<0.008
SEP												
23...	1300	Environmental	210	9.1	100	7.4	331	18.9	E.09n	<0.04	0.27	<0.008

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/100 mL (31625)	Fecal streptococci KF MF, col/100 mL (31673)
OCT					
08...	<0.02	0.004	42k	60	44
08...	--	--	40	52	38k
09...	--	--	94	84	74
09...	<0.02	0.005	94	90	42
09...	<0.02	0.005	--	--	--
JUN					
04...	--r	E.003	13k	29k	14k
04...	--r	E.002	--	--	--
28...	<0.02	0.006	3k	5k	6k
JUL					
26...	<0.02	0.007	<1	10k	6k
26...	<0.02	0.007	--	--	--
AUG					
06...	<0.02	0.009	40k	104	27k
SEP					
23...	<0.02	0.005	4k	22	10k

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
r -- Sample ruined in preparation

07067000 CURRENT RIVER AT VAN BUREN, MO

LOCATION.--Lat 36°59'29", long 91°00'53", in NE ¼ NW ¼ 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 National Geodetic Vertical Datum of 1929. Prior to Sept. 1, 1926, nonrecording gage at site 100 ft downstream at datum 3.00 ft higher; 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.

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1904, reached a stage of 29.0 ft, present datum, from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

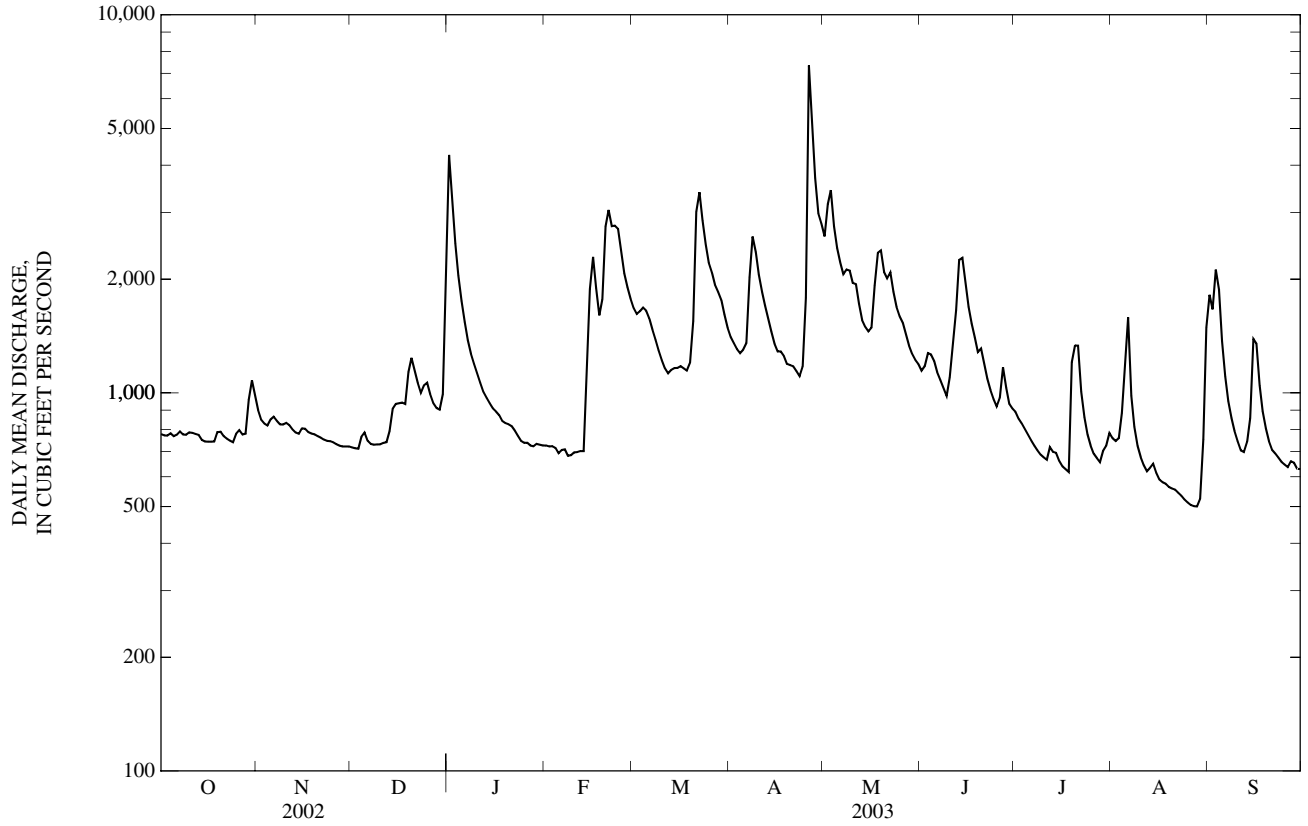
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	778	900	717	4,260	726	1,670	1,410	2,590	1,150	891	758	1,820
2	772	849	714	3,240	722	1,620	1,350	3,150	1,180	854	746	1,660
3	771	829	712	2,480	723	1,640	1,310	3,440	1,270	830	759	2,120
4	782	820	765	2,040	715	1,680	1,270	2,760	1,260	802	885	1,870
5	768	850	785	1,750	693	1,650	1,300	2,420	1,210	776	1,230	1,370
6	775	865	747	1,540	706	1,570	1,350	2,210	1,130	749	1,580	1,100
7	791	843	733	1,380	709	1,470	2,020	2,060	1,080	725	983	950
8	776	825	729	1,270	682	1,380	2,590	2,120	1,030	705	813	858
9	775	825	731	1,190	685	1,290	2,360	2,110	981	686	724	793
10	786	833	731	1,130	696	1,220	2,050	1,950	1,100	675	676	744
11	784	821	737	1,060	698	1,160	1,850	1,940	1,330	665	644	704
12	778	800	741	1,000	702	1,130	1,700	1,720	1,650	719	620	697
13	774	785	793	969	702	1,150	1,570	1,560	2,250	698	633	742
14	751	779	908	939	1,080	1,160	1,450	1,500	2,280	694	650	857
15	743	805	935	910	1,880	1,160	1,350	1,450	1,980	660	615	1,390
16	743	804	938	893	2,290	1,180	1,290	1,490	1,690	638	590	1,350
17	743	787	942	873	1,890	1,160	1,290	1,920	1,530	628	580	1,050
18	744	780	934	843	1,600	1,140	1,250	2,350	1,400	617	575	893
19	787	777	1,130	832	1,770	1,200	1,190	2,380	1,280	1,200	564	805
20	789	769	1,240	826	2,760	1,550	1,180	2,090	1,310	1,330	558	743
21	769	761	1,140	817	3,050	3,010	1,180	2,010	1,190	1,330	555	707
22	757	752	1,060	795	2,760	3,390	1,140	2,080	1,090	1,010	544	692
23	747	746	1,000	770	2,770	2,860	1,110	1,850	1,020	862	534	674
24	740	745	1,050	746	2,710	2,470	1,170	1,690	964	777	523	657
25	780	740	1,060	738	2,360	2,210	1,780	1,590	920	725	513	646
26	797	732	992	738	2,070	2,080	7,340	1,530	969	690	505	636
27	776	725	939	726	1,900	1,930	5,130	1,430	1,170	672	501	659
28	780	721	911	722	1,780	1,850	3,700	1,330	1,030	656	501	653
29	959	722	903	733	---	1,760	2,980	1,270	936	704	524	630
30	1,080	722	992	729	---	1,610	2,810	1,220	909	725	753	629
31	990	---	2,220	725	---	1,490	---	1,190	---	783	1,490	---
MEAN	793	790	933	1,215	1,494	1,672	1,982	1,948	1,276	790	714	970
MAX	1,080	900	2,220	4,260	3,050	3,390	7,340	3,440	2,280	1,330	1,580	2,120
MIN	740	721	712	722	682	1,130	1,110	1,190	909	617	501	629
IN.	0.55	0.53	0.65	0.84	0.93	1.16	1.33	1.35	0.85	0.55	0.49	0.65

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

MEAN	1,088	1,699	1,897	1,985	2,257	2,827	3,399	3,110	2,108	1,319	1,088	1,029
MAX	4,087	7,171	10,740	7,357	6,764	7,148	11,730	11,150	9,761	6,465	3,581	3,860
(WY)	(1985)	(1994)	(1983)	(1950)	(1985)	(1945)	(1927)	(2002)	(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)

07067000 CURRENT RIVER AT VAN BUREN, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	2,696		1,212		1,980	
HIGHEST ANNUAL MEAN					4,811	1985
LOWEST ANNUAL MEAN					799	1954
HIGHEST DAILY MEAN	53,100	May 9	7,340	Apr 26	72,000	Nov 15, 1993
LOWEST DAILY MEAN	712	Dec 3	501	Aug 27,28	476	Oct 8, 1956
ANNUAL SEVEN-DAY MINIMUM	719	Nov 27	514	Aug 23	479	Oct 6, 1956
MAXIMUM PEAK FLOW	---		8,800	Apr 26	125,000	Aug 21, 1915
MAXIMUM PEAK STAGE	---		7.09	Apr 26	27.39	Nov 15, 1993
INSTANTANEOUS LOW FLOW	---		499	Aug 26-29	473	Oct 7, 1956
ANNUAL RUNOFF (INCHES)	21.96		9.87		16.14	
10 PERCENT EXCEEDS	5,360		2,100		3,720	
50 PERCENT EXCEEDS	1,220		936		1,250	
90 PERCENT EXCEEDS	774		680		692	



07067500 BIG SPRING NEAR VAN BUREN, MO

LOCATION.--Lat 36°57'05", long 90°59'36", in SW 1/4 NE 1/4 sec.6, T.26 N., R.1 E., Carter County, Hydrologic Unit 11010008, on bridge 600 ft downstream from spring outlet, 0.4 mi upstream from Current River, and 3.5 mi southeast of Van Buren.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to September 1996, Feb. 8, 2000 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.--Water-stage recorder. Gage height record furnished by the National Park Service. Datum of gage is 429.08 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 19, 1971, nonrecording gage; prior to Oct. 1, 1934, at datum 1.0 ft higher. Water-stage recorder Feb. 19, 1971 to March 15, 1978, at present datum; March 1978 to September 1996, nonrecording gage.

REMARKS.--Water-discharge records fair except for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	361	344	338	e600	325	384	379	390	386	341	320	381
2	359	347	339	e520	324	381	375	e454	383	340	318	412
3	357	346	339	466	324	379	372	e480	385	340	318	434
4	355	350	339	424	322	380	370	471	383	337	317	422
5	355	350	337	402	320	377	368	459	377	336	323	399
6	355	350	335	388	320	372	371	452	372	335	329	386
7	352	349	335	380	318	365	413	452	370	333	319	375
8	352	348	334	374	317	361	448	458	366	332	315	367
9	352	349	334	370	317	357	440	457	362	331	314	358
10	352	348	336	366	316	355	421	447	361	331	314	350
11	354	348	336	361	315	353	409	478	365	330	313	342
12	350	346	335	359	313	351	400	459	371	328	311	342
13	350	348	337	357	314	351	391	443	389	328	310	342
14	350	350	338	355	345	351	385	436	392	326	310	342
15	348	344	338	354	380	353	381	431	380	325	308	346
16	344	343	337	351	395	353	379	427	370	325	307	343
17	343	341	337	347	373	355	378	494	364	322	308	336
18	346	340	339	344	358	356	376	524	361	322	307	335
19	344	338	340	342	373	362	373	521	360	326	305	333
20	345	338	343	341	449	377	372	496	358	328	307	333
21	344	337	340	338	e460	460	371	481	355	331	306	331
22	342	337	337	336	e460	505	370	475	353	327	305	332
23	341	337	335	334	e445	461	369	457	350	324	304	329
24	343	337	338	333	e430	430	376	443	348	324	304	329
25	346	336	337	332	e420	414	401	433	346	325	302	328
26	343	337	332	331	416	408	e560	424	345	323	301	329
27	345	335	331	329	403	403	e540	413	347	322	300	329
28	346	335	329	330	392	400	e450	404	346	322	298	329
29	345	338	329	328	---	393	396	398	343	321	299	329
30	340	338	333	328	---	386	388	394	343	322	304	328
31	337	---	449	327	---	382	---	389	---	321	347	---
MEAN	348	343	340	369	366	384	401	450	364	328	311	352
MAX	361	350	449	600	460	505	560	524	392	341	347	434
MIN	337	335	329	327	313	351	368	389	343	321	298	328

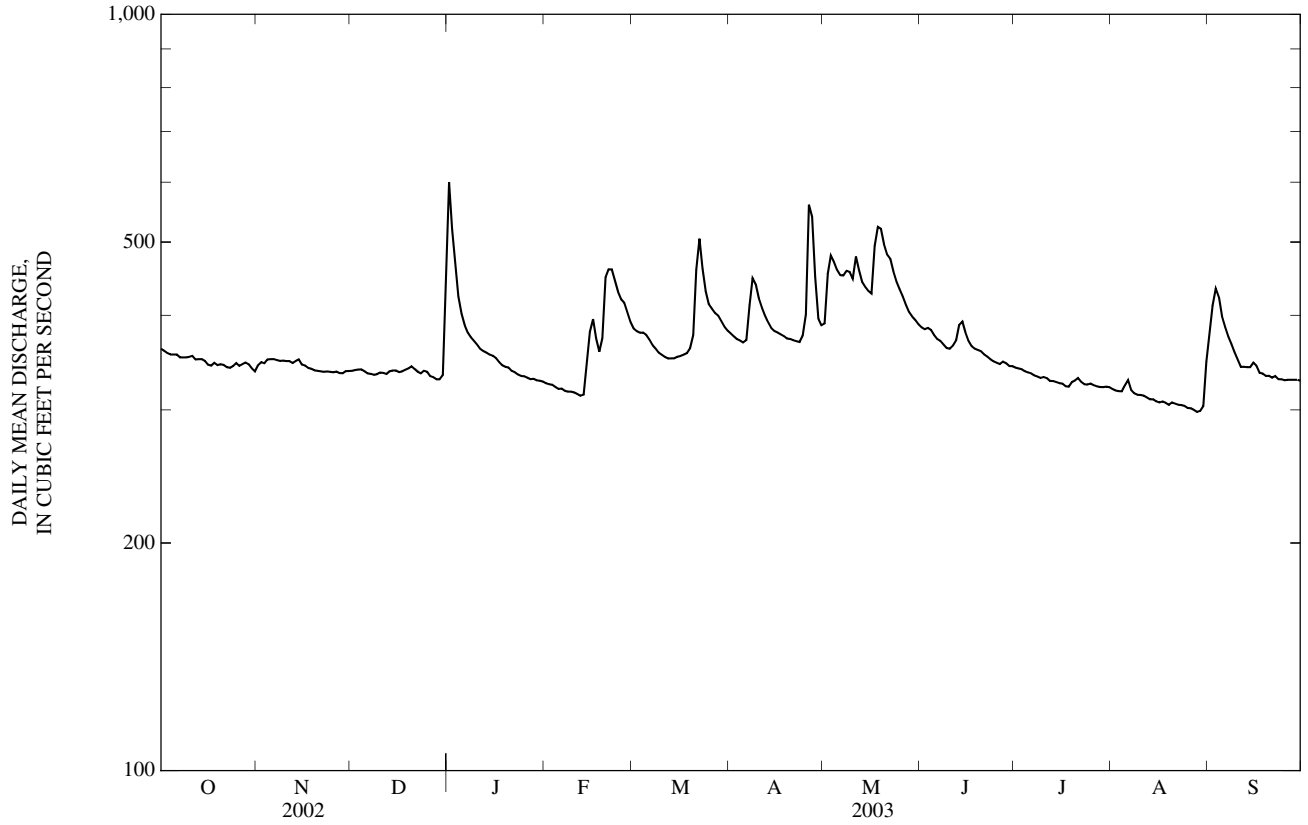
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	344	387	413	439	462	519	574	561	484	416	377	353
MAX	599	769	1,070	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)

07067500 BIG SPRING NEAR VAN BUREN, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	506		363		445	
HIGHEST ANNUAL MEAN					648	1950
LOWEST ANNUAL MEAN					289	1936
HIGHEST DAILY MEAN	1,100	May 9	600	Jan 1	e2,000	Dec 3, 1982
LOWEST DAILY MEAN	313	Jan 15	298	Aug 28	236	Oct 6, 1956
ANNUAL SEVEN-DAY MINIMUM	324	Jan 15	301	Aug 23	238	Oct 1, 1956
10 PERCENT EXCEEDS	800		438		689	
50 PERCENT EXCEEDS	442		347		394	
90 PERCENT EXCEEDS	337		320		290	

e Estimated



07067500 BIG SPRING NEAR VAN BUREN, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1973 to current year.

REMARKS.--Ozark National Scenic Riverways station from April 1975 to 1996, Ambient Water-Quality Monitoring Network station since November 1993.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
DEC												
02...	1215	Environmental	339	8.2	82	7.3	346	14.5	--	--	--	--
MAR												
11...	1200	Blank	--	--	--	--	--	--	--	E.01	<0.008	<0.10
11...	1215	Blank	--	--	--	--	--	--	--	<0.01	<0.008	<0.10
11...	1230	Environmental	353	8.8	87	7.5	294	14.4	160	33.8	18.9	0.70
11...	1231	Replicate	--	8.8	87	7.5	294	14.3	160	33.1	19.4	0.65
MAY												
19...	1430	Environmental	521	9.3	93	7.1	277	14.4	--	--	--	--
AUG												
20...	0915	Blank	--	--	--	--	--	--	--	E.01n	<0.008	<0.16
20...	0930	Environmental	307	9.6	96	7.1	344	14.7	190	39.9	22.3	0.75

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
DEC													
02...	--	187	188	229	<1	--	--	--	--	<10	<0.10	<0.04	0.39
MAR													
11...	E.07	--	--	--	--	<0.20	<0.17	<0.2	<10	<10	<0.10	<0.04	<0.06
11...	E.08	--	--	--	--	<0.20	<0.17	<0.2	<10	<10	<0.10	<0.04	<0.06
11...	1.70	150	152	185	<1	3.19	<0.17	2.4	154	<10	<0.10	<0.04	0.50
11...	1.71	--	--	--	--	3.03	<0.17	2.4	164	<10	<0.10	<0.04	0.50
MAY													
19...	--	150	150	184	<1	--	--	--	--	<10	E.09	<0.04	0.37
AUG													
20...	<0.10	--	--	--	--	<0.20	<0.20	<0.2	<10	<10	<0.10	<0.04	<0.06
20...	1.59	176	178	217	<1	2.31	<0.20	1.8	176	<10	E.09n	<0.04	0.39

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/100 mL (31625)	Fecal streptococci KF MF, col/100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
DEC													
02...	<0.008	E.01	E.02	<0.04	1k	2k	1k	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
11...	<0.008	<0.02	E.02	<0.04	--	--	--	E1	<2	<0.3	<0.04	<0.2	<6
11...	<0.008	<0.02	E.02	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<6
11...	<0.008	<0.02	E.03	<0.04	<1b	3k	11k	M	77	E.2	<0.04	<0.2	<6
11...	<0.008	<0.02	E.02	<0.04	<1b	<1b	3k	E1	60	E.2	E.02	<0.2	<6
MAY													
19...	<0.008	<0.02	<0.04	E.03	20	46	2k	--	--	--	--	--	--
AUG													
20...	<0.008	<0.18d	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.04	<0.2
20...	<0.008	<0.18d	<0.04	<0.04	7k	3k	37	Mn	26	E.2n	<0.04	<0.04	0.4

07067500 BIG SPRING NEAR VAN BUREN, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
DEC								
02...	--	--	--	--	--	--	--	--
MAR								
11...	<10	0.18	<1	<2.0	<0.02	<0.5	<1	3
11...	<10	E.07	<1	<2.0	<0.02	<0.5	<1	<2
11...	<10	0.09	<1	<2.0	<0.02	E.3	M	<2
11...	<10	E.08	<1	<2.0	<0.02	<0.5	1	E2
MAY								
19...		--	--	--	--	--	--	--
AUG								
20...	<8	<0.08	<0.06	<0.4	<0.02	<0.5	<1	<2
20...	<8	<0.08	M	E.2n	<0.02	<0.5	1	E2n

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

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 National Geodetic Vertical Datum of 1929. Prior to July 3, 1936, nonrecording gages at several sites 0.5 mi downstream at various datums. July 1936 to Sept. 30, 1971, datum was 1.00 ft higher.

REMARKS.--Water-discharge 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,540	1,580	1,300	5,610	1,340	2,640	2,130	3,380	2,000	1,620	1,450	2,360
2	1,540	1,520	1,300	5,310	1,330	2,530	2,070	3,320	2,000	1,590	1,460	3,200
3	1,530	1,490	1,290	4,030	1,340	2,480	2,010	4,320	2,050	1,550	1,460	2,700
4	1,540	1,460	1,340	3,320	1,330	2,490	1,980	3,890	2,050	1,530	1,470	2,910
5	1,530	1,500	1,350	2,850	1,320	2,490	1,960	3,650	2,010	1,510	1,550	2,370
6	1,530	1,490	1,340	2,530	1,330	2,430	2,000	3,520	1,950	1,480	2,090	1,990
7	1,540	1,480	1,320	2,300	1,330	2,330	2,290	3,300	1,880	1,460	1,930	1,780
8	1,540	1,460	1,310	2,150	1,310	2,210	2,940	3,100	1,840	1,440	1,590	1,660
9	1,530	1,450	1,320	2,020	1,310	2,110	3,200	3,130	1,790	1,420	1,470	1,580
10	1,540	1,450	1,320	1,930	1,310	2,020	2,910	2,970	1,760	1,410	1,400	1,520
11	1,520	1,440	1,330	1,840	1,310	1,940	2,660	3,300	2,040	1,400	1,360	1,480
12	1,520	1,420	1,330	1,760	1,320	1,890	2,480	3,160	2,100	1,410	1,340	1,460
13	1,500	1,400	1,390	1,700	1,320	1,870	2,330	2,810	2,560	1,410	1,330	1,510
14	1,490	1,380	1,440	1,650	1,600	1,870	2,200	2,620	2,930	1,410	1,360	1,550
15	1,470	1,400	1,510	1,610	2,200	1,860	2,090	2,520	2,840	1,390	1,340	1,590
16	1,460	1,390	1,520	1,580	2,850	1,860	2,010	2,470	2,540	1,370	1,310	2,110
17	1,460	1,380	1,530	1,550	2,960	1,860	1,980	3,280	2,300	1,360	1,300	1,860
18	1,450	1,370	1,630	1,520	2,550	1,850	1,950	4,040	2,180	1,350	1,290	1,670
19	1,480	1,360	2,050	1,490	2,530	1,900	1,900	3,950	2,050	1,550	1,290	1,550
20	1,490	1,350	2,040	1,480	3,180	2,010	1,860	3,620	1,970	1,780	1,280	1,480
21	1,470	1,340	1,960	1,460	4,060	2,700	1,830	3,250	1,970	1,980	1,270	1,440
22	1,450	1,330	1,800	1,440	4,080	3,950	1,800	3,200	1,850	1,800	1,260	1,410
23	1,440	1,330	1,710	1,410	4,200	3,820	1,760	3,040	1,770	1,610	1,260	1,380
24	1,420	1,320	1,710	1,390	4,050	3,370	1,810	2,790	1,710	1,500	1,240	1,360
25	1,480	1,320	1,730	1,370	3,690	3,060	1,940	2,640	1,670	1,440	1,230	1,340
26	1,470	1,310	1,700	1,360	3,270	2,870	4,840	2,540	1,670	1,400	1,220	1,330
27	1,450	1,310	1,630	1,360	2,990	2,720	7,360	2,420	1,730	1,370	1,210	1,320
28	1,440	1,310	1,580	1,350	2,800	2,610	5,080	2,290	1,800	1,360	1,210	1,320
29	1,540	1,310	1,540	1,350	---	2,510	4,000	2,180	1,680	1,540	1,210	1,310
30	1,630	1,300	e1,920	1,340	---	2,370	3,460	2,110	1,640	1,430	1,410	1,290
31	1,670	---	e5,500	1,340	---	2,230	---	2,050	---	1,430	1,530	---
MEAN	1,505	1,398	1,669	2,045	2,293	2,415	2,628	3,060	2,011	1,494	1,391	1,728
MAX	1,670	1,580	5,500	5,610	4,200	3,950	7,360	4,320	2,930	1,980	2,090	3,200
MIN	1,420	1,300	1,290	1,340	1,310	1,850	1,760	2,050	1,640	1,350	1,210	1,290
IN.	0.85	0.77	0.94	1.16	1.17	1.37	1.44	1.73	1.10	0.85	0.79	0.95

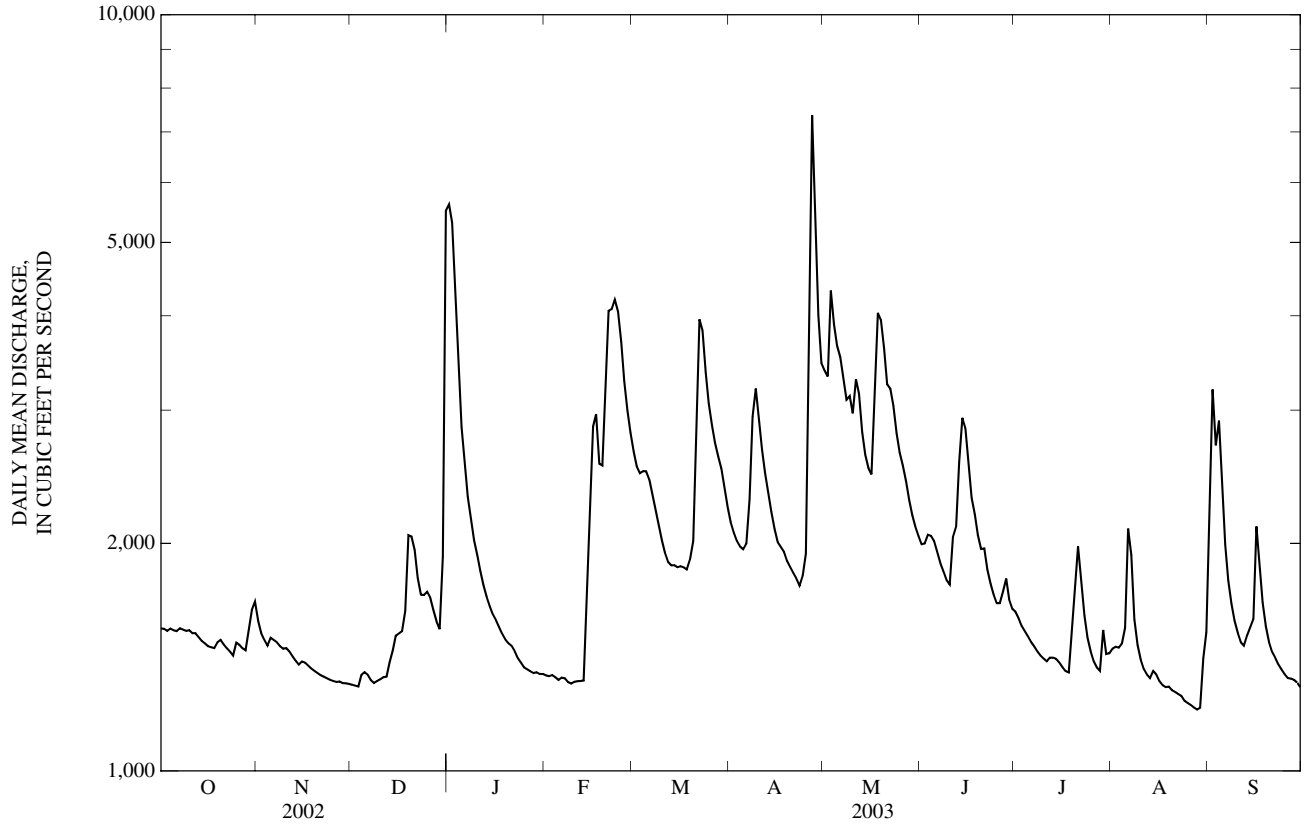
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2003, BY WATER YEAR (WY)

MEAN	1,636	2,366	2,675	2,844	3,117	3,855	4,583	4,205	2,958	1,975	1,677	1,579
MAX	4,596	8,514	16,210	9,054	7,971	9,260	16,140	14,160	12,610	7,676	5,001	4,547
(WY)	(1985)	(1994)	(1983)	(1949)	(1985)	(1935)	(1927)	(2002)	(1928)	(1951)	(1927)	(1993)
MIN	872	927	950	917	1,122	1,218	1,476	1,183	1,075	959	933	903
(WY)	(1957)	(1955)	(1956)	(1956)	(1934)	(1941)	(1956)	(1936)	(1936)	(1934)	(2001)	(1954)

07068000 CURRENT RIVER AT DONIPHAN, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1921 - 2003	
ANNUAL MEAN	3,736		1,967		2,785	
HIGHEST ANNUAL MEAN					5,856	1985
LOWEST ANNUAL MEAN					1,326	1954
HIGHEST DAILY MEAN	54,100	May 10	7,360	Apr 27	90,000	Mar 12, 1935
LOWEST DAILY MEAN	1,070	Jan 22	1,210	Aug 27-29	852	Oct 8, 1956
ANNUAL SEVEN-DAY MINIMUM	1,090	Jan 16	1,230	Aug 23	852	Oct 8, 1956
MAXIMUM PEAK FLOW	---		9,040	Apr 27	122,000	Dec 3, 1982
MAXIMUM PEAK STAGE	---		5.03	Apr 27	25.49	Dec 3, 1982
INSTANTANEOUS LOW FLOW	---		1,200	Aug 28,29	852	Oct 8, 1956
ANNUAL RUNOFF (INCHES)	24.89		13.11		18.56	
10 PERCENT EXCEEDS	7,060		3,170		4,960	
50 PERCENT EXCEEDS	1,960		1,610		1,920	
90 PERCENT EXCEEDS	1,340		1,320		1,170	

e Estimated



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.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
15...	1250	Environmental	1,470	10.6	107	8.1	330	15.0	--	--	--	--
NOV												
04...	1230	Environmental	1,460	14.2	132	7.9	329	11.7	180	36.9	22.2	0.69
DEC												
02...	1435	Environmental	1,300	12.2	108	8.3	333	8.9	--	--	--	--
JAN												
21...	1240	Environmental	1,460	14.0	117	7.7	311	7.5	120	24.1	13.7	0.44
FEB												
25...	1230	Environmental	3,670	9.3	77	7.9	268	7.2	--	--	--	--
MAR												
10...	1315	Environmental	2,010	10.1	92	7.9	286	11.3	--	--	--	--
APR												
14...	1300	Environmental	2,190	7.6	81	8.0	284	17.7	--	--	--	--
MAY												
12...	1245	Environmental	3,140	7.8	77	7.6	275	14.2	150	30.6	17.3	0.83
JUN												
03...	1425	Environmental	2,040	8.8	95	7.8	261	18.0	--	--	--	--
JUL												
24...	1145	Environmental	1,500	10.2	124	7.9	327	24.6	170	34.5	19.7	0.95
24...	1200	Replicate	--	10.4	126	7.8	324	24.7	170	34.3	19.6	0.99
AUG												
19...	1500	Environmental	1,280	8.1	104	7.5	334	27.5	--	--	--	--
SEP												
10...	1245	Environmental	1,520	7.2	85	7.8	283	23.3	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
15...	--	159	160	195	<1	--	--	--	--	<10	0.06	<0.04	0.21
NOV													
04...	1.75	178	179	219	<1	1.67	<0.20	2.8	175	<10	<0.10	<0.04	0.11
DEC													
02...	--	182	182	217	3	--	--	--	--	<10	E.06	<0.04	0.15
JAN													
21...	1.31	159	158	192	<1	2.24	<0.17	3.4	167	<10	E.06	<0.04	0.32
FEB													
25...	--	142	142	173	<1	--	--	--	--	<10	E.10	<0.04	0.32
MAR													
10...	--	147	147	179	<1	--	--	--	--	<10	E.09	<0.04	0.29
APR													
14...	--	151	151	184	<1	--	--	--	--	<10	E.06	<0.04	0.23
MAY													
12...	1.49	140	140	171	<1	2.39	<0.17	3.6	154	<10	0.13	<0.04	0.24
JUN													
03...	--	145	146	179	<1	--	--	--	--	<10	<0.10	<0.04	0.22
JUL													
24...	1.89	166	168	205	<1	2.77	<0.20	2.6	177	<10	0.18	E.04	0.16
24...	2.07	--	--	--	--	3.03	<0.20	2.6	168	<10	0.31	<0.04	0.16
AUG													
19...	--	176	177	216	<1	--	--	--	--	<10	E.10n	<0.04	<0.60d
SEP													
10...	--	168	173	211	<1	--	--	--	--	<10	E.06n	<0.04	0.13

07068000 CURRENT RIVER AT DONIPHAN, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
15...	E.004	0.02	0.04	<0.04	1k	1k	4k	--	--	--	--	--	--
NOV													
04...	<0.008	<0.02	<0.04	<0.04	1k	3k	5k	<2	12	E.2	<0.04	<0.2	<6
DEC													
02...	<0.008	<0.02	<0.04	<0.04	<1b	1k	<1b	--	--	--	--	--	--
JAN													
21...	<0.008	<0.02	<0.04	<0.04	<1b	1k	1k	E1	18	<0.3	<0.04	<0.2	<6
FEB													
25...	<0.008	<0.02	<0.04	E.03	<2b	2k	8k	--	--	--	--	--	--
MAR													
10...	<0.008	<0.02	<0.04	<0.04	1k	<1b	2k	--	--	--	--	--	--
APR													
14...	<0.008	<0.02	<0.04	<0.04	6k	4k	6k	--	--	--	--	--	--
MAY													
12...	<0.008	<0.02	<0.04	<0.04	37	44	55	E1	67	E.2	<0.04	<0.2	<6
JUN													
03...	<0.008	<0.02	<0.04	<0.04	12k	22	11k	--	--	--	--	--	--
JUL													
24...	<0.008	<0.02	<0.04	<0.04	1k	8k	11k	3	37	0.3	E.03n	<0.2	<7
24...	<0.008	<0.02	<0.04	<0.04	1k	6k	20	6	43	0.3	E.03n	<0.2	<7
AUG													
19...	<0.008	<0.18d	<0.04	<0.04	1k	6k	13k	--	--	--	--	--	--
SEP													
10...	<0.008	<0.02	<0.04	<0.04	1k	1k	5k	--	--	--	--	--	--

07068000 CURRENT RIVER AT DONIPHAN, MO—Continued

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT								
15...	--	--	--	--	--	--	--	--
NOV								
04...	E10	<0.08	<1	E2.2b	<0.02	<0.5	M	E1
DEC								
02...	--	--	--	--	--	--	--	--
JAN								
21...	<10	E.06	<1	2.2	<0.02	<0.5	M	E1
FEB								
25...	--	--	--	--	--	--	--	--
MAR								
10...	--	--	--	--	--	--	--	--
APR								
14...	--	--	--	--	--	--	--	--
MAY								
12...	<10	<0.08	<1	4.8	<0.02	<0.5	M	E1
JUN								
03...	--	--	--	--	--	--	--	--
JUL								
24...	E7n	1.44	4	3.8	<0.02	<0.5	3	5
24...	E5n	2.97	6	4.6	<0.02	<0.5	7	9
AUG								
19...	--	--	--	--	--	--	--	--
SEP								
10...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 36°37'54", long 90°34'31", in NE ¼ SW ¼ NE ¼ sec.24, T.23 N., R.4 W., Butler County, Hydrologic Unit 11010008, approximately 5.0 mi below Beaver Dam Creek and 3.1 mi southeast of Fairdealing on Ball Mill Bridge.

DRAINAGE AREA.--194 mi^2.

PERIOD OF RECORD.--August 1980 to September 1986, November 1999 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: May 1981 to September 1986.
SUSPENDED-SEDIMENT DISCHARGE: July 1980 to September 1986.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Minimum 30.0 °C several days in July 1980; minimum 0.0 °C on many days.
SUSPENDED-SEDIMENT CONCENTRATION: Maximum daily mean, 643 mg/L, Aug. 16, 1982; minimum daily mean, 1 mg/L on many days.
SUSPENDED-SEDIMENT LOAD: Maximum daily, 11,100 tons, Dec. 2, 1982; minimum daily, 0.12 tons, Dec. 19, 1982.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
04...	1420	Environmental	59	11.7	105	7.3	285	10.0	150	29.1	18.1	1.12
JAN												
21...	1430	Environmental	132	12.0	93	7.3	216	4.5	--	--	--	--
MAR												
10...	1530	Environmental	163	10.9	95	7.5	167	9.0	--	--	--	--
MAY												
12...	1530	Environmental	587	7.5	81	6.7	81	18.7	38	7.96	4.31	1.29
JUL												
24...	0900	Environmental	42	4.8	58	7.5	292	25.0	--	--	--	--
SEP												
10...	1620	Environmental	1,050	6.5	76	6.9	178	22.3	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
04...	1.70	147	148	181	<1	2.23	<0.20	3.3	159	<10	0.11	<0.04	<0.06
JAN													
21...	--	100	100	122	<1	--	--	--	--	<10	E.07	<0.04	0.21
MAR													
10...	--	81	80	98	<1	--	--	--	--	<10	E.10	<0.04	E.04
MAY													
12...	1.32	35	34	42	<1	1.89	<0.17	3.3	61	24	0.46	E.03	0.09
JUL													
24...	--	144	145	177	<1	--	--	--	--	18	0.49	E.02	0.07
SEP													
10...	--	83	84	103	<1	--	--	--	--	15	0.27	<0.04	0.10

07068510 LITTLE BLACK RIVER BELOW FAIRDEALING, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
04...	<0.008	<0.02	<0.04	<0.04	34	50	55	M	42	0.4	<0.04	<0.2	<6
JAN													
21...	<0.008	<0.02	<0.04	<0.04	3k	17k	13k	--	--	--	--	--	--
MAR													
10...	0.010	<0.02	<0.04	<0.04	11k	13k	10k	--	--	--	--	--	--
MAY													
12...	E.006	<0.02	<0.04	0.05	450k	515k	870k	14	311	0.5	<0.04	<0.2	<6
JUL													
24...	E.004	E.01	E.02	0.07	64	116	160	--	--	--	--	--	--
SEP													
10...	0.010	<0.02	E.03n	0.04	110	92	244	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
04...	45	<0.08	<1	32.0	<0.02	<0.5	2	<2
JAN								
21...	--	--	--	--	--	--	--	--
MAR								
10...	--	--	--	--	--	--	--	--
MAY								
12...	89	0.11	M	30.6	<0.02	<0.5	M	2
JUL								
24...	--	--	--	--	--	--	--	--
SEP								
10...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August to December 1904, October 1921 to current year. August to December 1904, gage height and discharge measurements only. October to December 1921 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 564.00 ft above National Geodetic Vertical Datum of 1929. Aug. 10 to Dec. 31, 1904, nonrecording gage at site 250 ft downstream at different datum; Nov. 17, 1921, to June 25, 1934, nonrecording gage at site 250 ft downstream at datum 0.74 ft lower than present datum.

REMARKS.--Water-discharge records fair except for estimated daily discharges, which are poor. Occasional runoff from drainage area of 2.97 mi^2 included in record.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	298	256	230	e340	208	329	306	330	308	263	271	e298
2	297	253	230	e335	209	329	301	357	307	261	e276	e330
3	296	254	227	e325	210	329	297	378	322	260	e284	e352
4	295	257	226	e315	206	329	294	e428	317	257	e276	347
5	292	257	226	e306	203	326	290	e405	312	256	e269	e342
6	289	256	225	e294	200	317	290	380	306	253	e258	e338
7	288	254	222	e284	200	308	330	368	302	249	e248	e325
8	285	256	222	274	200	303	338	355	297	248	e240	e313
9	283	255	222	e268	200	296	334	346	293	245	e233	297
10	283	255	222	e262	200	289	331	339	e291	244	e227	e282
11	281	251	222	e256	198	284	327	365	297	241	e225	274
12	279	248	222	e252	197	279	322	349	e314	239	222	271
13	278	245	225	e248	196	277	315	339	e324	239	e219	269
14	275	247	226	e244	236	271	308	336	e334	239	e217	278
15	275	246	229	e242	294	270	303	332	e335	237	e217	287
16	274	244	228	239	287	269	301	329	328	235	e215	283
17	274	244	227	235	277	267	299	362	e318	231	e215	278
18	271	242	226	234	269	266	293	382	e309	230	213	274
19	270	239	231	230	285	273	288	380	e304	279	e211	269
20	270	239	235	230	336	321	284	370	e300	347	e211	262
21	268	239	234	229	343	366	283	363	e297	334	e209	258
22	266	238	229	225	350	370	279	352	e294	313	e208	254
23	265	235	226	222	364	366	276	349	e289	295	e213	249
24	263	235	226	219	359	359	284	345	283	279	e211	244
25	263	235	e223	217	348	351	316	339	280	269	e208	241
26	262	234	e221	216	343	344	332	333	276	261	e207	239
27	261	231	e218	213	339	339	331	329	274	256	e204	236
28	261	230	e218	213	332	336	326	324	270	252	e204	232
29	262	233	e216	212	---	326	321	319	267	259	e204	226
30	261	232	e231	208	---	316	323	315	266	278	e220	222
31	258	---	e330	209	---	309	---	314	---	273	e248	---
MEAN	276	245	229	251	264	313	307	352	300	262	228	279
MAX	298	257	330	340	364	370	338	428	335	347	284	352
MIN	258	230	216	208	196	266	276	314	266	230	204	222

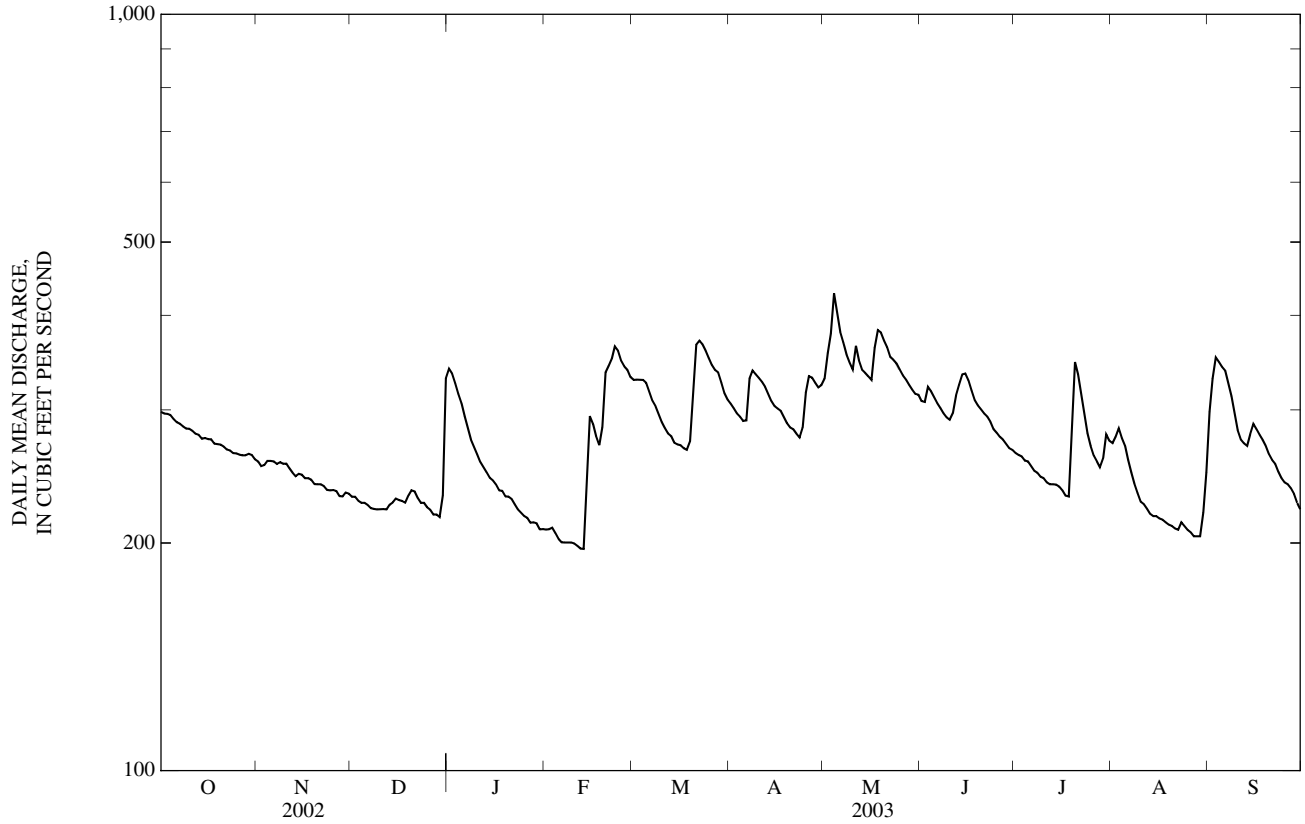
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2003, BY WATER YEAR (WY)

MEAN	259	283	305	326	346	395	443	442	400	335	295	269
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)

07071000 GREER SPRING AT GREER, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1922 - 2003	
ANNUAL MEAN	387		276		341	
HIGHEST ANNUAL MEAN					566	1928
LOWEST ANNUAL MEAN					174	1956
HIGHEST DAILY MEAN	799	Apr 14	428	May 4	1,010	Dec 3, 1982
LOWEST DAILY MEAN	130	Jan 22	196	Feb 13	104	Nov 16, 1956
ANNUAL SEVEN-DAY MINIMUM	134	Jan 17	199	Feb 7	105	Nov 13, 1956
MAXIMUM PEAK FLOW	---		Unknown	May 4	1,770	Dec 3, 1982
MAXIMUM PEAK STAGE	---		Unknown	May 4	2.97	Dec 3, 1982
INSTANTANEOUS LOW FLOW	---		193	Feb 13	104	Nov 16, 1956
10 PERCENT EXCEEDS	587		339		545	
50 PERCENT EXCEEDS	366		271		321	
90 PERCENT EXCEEDS	222		217		169	

e Estimated



07071000 GREER SPRING AT GREER, MO—Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
DEC												
10...	1230	Environmental	222	7.6	76	7.5	359	14.4	190	39.8	22.6	1.09
MAR												
24...	1230	Environmental	361	8.8	88	7.2	322	14.3	170	35.9	20.1	1.06
24...	1231	Replicate	--	8.8	88	7.2	322	14.3	170	35.0	19.9	1.10
MAY												
27...	1300	Environmental	329	8.3	82	7.3	304	14.3	160	33.4	18.7	1.31
AUG												
13...	1115	Environmental	219	8.3	83	7.2	322	14.5	170	35.7	19.8	1.55

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
DEC													
10...	1.45	183	183	223	<1	1.75	<0.20	2.3	201	<10	<0.10	<0.04	0.62
MAR													
24...	1.88	151	151	185	<1	3.00	<0.17	2.5	172	<10	<0.10	<0.04	0.98
24...	1.90	--	--	--	--	3.11	<0.17	2.7	179	<10	<0.10	<0.04	0.97
MAY													
27...	1.88	147	147	179	<1	3.45	<0.20	2.7	171	<10	E.05	<0.04	0.73
AUG													
13...	1.64	166	167	204	<1	3.17	<0.20	2.1	190	<10	E.05n	<0.04	0.73

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
DEC													
10...	<0.008	E.01	<0.04	<0.04	<1b	2k	<1b	<2	15	0.4	E.02	<0.2	<6
MAR													
24...	<0.008	E.01	<0.04	<0.04	2k	<1b	2k	2	49	0.4	<0.04	<0.2	<6
24...	<0.008	<0.02	<0.04	<0.04	1k	<1b	2k	2	49	0.3	<0.04	<0.2	<6
MAY													
27...	<0.008	<0.02	E.03	<0.04	2k	15k	45	M	98	0.3	<0.04	<0.2	<7
AUG													
13...	0.026	<0.18d	<0.04	<0.04	23	19k	80	Mn	37	0.4	<0.04	<0.04	<6

07071000 GREER SPRING AT GREER, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)	2,6-Di- ethyl- aniline water fltrd 0.7u GF µg/L (82660)	CIAT, water, fltrd, µg/L (04040)	Aceto- chlor, water, fltrd, µg/L (49260)	Ala- chlor, water, fltrd, µg/L (46342)	alpha- HCH, water, fltrd, µg/L (34253)
DEC													
10...	<10	<0.08	<1	<2.0	<0.02	<0.5	M	<2	--c	--c	--c	--c	--c
MAR													
24...	<10	<0.08	<1	<2.0	<0.02	E.3	1	E2	<0.006	<0.006	<0.006	<0.004	<0.005
24...	<10	<0.08	<1	<2.0	<0.02	<0.5	1	E1	--	--	--	--	--
MAY													
27...	<8	<0.08	<1	<0.4	<0.02	<0.5	1	E2	<0.006	<0.006	<0.006	<0.004	<0.005
AUG													
13...	<8	<0.08	M	0.6	<0.02	<0.5	Mn	<2	<0.006	<0.006	<0.006	<0.004	<0.005

Date	Atra- zine, water, fltrd, µg/L (39632)	Azin- phos- methyl, water, fltrd 0.7µ GF µg/L (82686)	Ben- flur- alin, water, fltrd 0.7µ GF µg/L (82673)	Butyl- ate, water, fltrd, µg/L (04028)	Car- baryl, water, fltrd 0.7µ GF µg/L (82680)	Carbo- furan, water, fltrd 0.7µGF µg/L (82674)	Chlor- pyrifos water, fltrd, µg/L (38933)	cis- Per- methrin water fltrd 0.7µ GF µg/L (82687)	Cyana- zine, water, fltrd, µg/L (04041)	DCPA, water fltrd 0.7u GF µg/L (82682)	Diazi- non, water, fltrd, µg/L (39572)	Diel- drin, water, fltrd, µg/L (39381)	Disul- foton, water, fltrd 0.7µ GF µg/L (82677)
DEC													
10...	--c	--c	--c	--c	--c	--c	--c	--c	--c	--c	--c	--c	--c
MAR													
24...	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
27...	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02
AUG													
13...	<0.007	<0.050	<0.010	<0.002	<0.041	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.005	<0.02

Date	EPTC, water, fltrd 0.7µ GF µg/L (82668)	Ethal- flur- alin, water, fltrd 0.7µ GF µg/L (82663)	Etho- prop, water, fltrd 0.7µ GF µg/L (82672)	Fonofos water, fltrd, µg/L (04095)	Lindane water, fltrd, µg/L (39341)	Linuron water fltrd 0.7µ GF µg/L (82666)	Mala- thion, water, fltrd, µg/L (39532)	Methyl para- thion, water, fltrd 0.7µ GF µg/L (82667)	Metola- chlor, water, fltrd, µg/L (39415)	Metri- buzin, water, fltrd, µg/L (82630)	Moli- nate, water, fltrd 0.7µ GF µg/L (82671)	Naprop- amide, water, fltrd 0.7µ GF µg/L (82684)	p,p-' DDE, water, fltrd, µg/L (34653)
DEC													
10...	--c	--c	--c	--c	--c	--c	--c	--c	--c	--c	--c	--c	--c
MAR													
24...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
27...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003
AUG													
13...	<0.002	<0.009	<0.005	<0.003	<0.004	<0.035	<0.027	<0.006	<0.013	<0.006	<0.002	<0.007	<0.003

07071000 GREER SPRING AT GREER, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Parathion, water, fltrd, µg/L (39542)	Pebulate, water, fltrd 0.7µ GF µg/L (82669)	Pendimethalin, water, fltrd 0.7µ GF µg/L (82683)	Phorate water fltrd 0.7µ GF µg/L (82664)	Prometon, water, fltrd, µg/L (04037)	Pronamide, water, fltrd 0.7µ GF µg/L (82676)	Propachlor, water, fltrd, µg/L (04024)	Propanil, water, fltrd 0.7µ GF µg/L (82679)	Propargite, water, fltrd 0.7µ GF µg/L (82685)	Simazine, water, fltrd, µg/L (04035)	Tebuthiuron water fltrd 0.7µ GF µg/L (82670)	Terbacil, water, fltrd 0.7µ GF µg/L (82665)	Terbufos, water, fltrd 0.7µ GF µg/L (82675)
DEC													
10...	--c	--c	--c	--c	--c	--c	--c	--c	--c	--c	--c	--c	--c
MAR													
24...	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
27...	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02
AUG													
13...	<0.010	<0.004	<0.022	<0.011	<0.01	<0.004	<0.010	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02

Date	Thiobencarb water fltrd 0.7µ GF µg/L (82681)	Triallate, water, fltrd 0.7µ GF µg/L (82678)	Trifluralin, water, fltrd 0.7µ GF µg/L (82661)
DEC			
10...	--c	--c	--c
MAR			
24...	<0.005	<0.002	<0.009
24...	--	--	--
MAY			
27...	<0.005	<0.002	<0.009
AUG			
13...	<0.005	<0.002	<0.009

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
c -- Sample lost in lab

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.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 827: 1927-28, 1935. WSP 927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 410.84 ft above National Geodetic Vertical Datum of 1929. Prior to June 26, 1934, nonrecording gage at site 100 ft upstream at datum 0.06 ft higher; June 26, 1934, to Oct. 19, 1939, nonrecording gage at present site and datum.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	430	402	360	894	356	688	551	592	564	422	389	411
2	430	402	363	763	355	683	544	706	577	412	403	452
3	433	404	360	682	357	677	533	708	596	405	398	522
4	440	403	378	631	350	670	534	694	581	399	394	491
5	433	419	364	594	343	662	524	717	556	395	384	457
6	436	411	357	558	350	642	523	865	541	389	378	437
7	434	405	355	530	343	620	560	927	531	384	368	421
8	436	402	355	512	337	605	581	817	519	379	358	409
9	439	406	352	499	340	587	574	748	507	375	350	398
10	440	408	355	479	340	568	563	704	508	374	344	387
11	436	401	357	459	337	556	557	1,200	532	370	340	379
12	432	393	354	445	335	549	549	1,040	537	367	336	373
13	426	390	372	435	335	544	538	862	543	363	332	383
14	421	390	378	427	425	529	523	804	559	358	333	378
15	421	394	378	418	588	522	507	759	548	356	325	383
16	419	389	376	415	584	518	504	742	531	351	322	380
17	419	387	378	406	549	514	499	1,030	514	348	322	374
18	417	386	379	400	526	510	486	1,160	503	345	331	369
19	431	383	384	398	568	536	475	1,050	494	392	321	363
20	423	380	385	394	719	591	475	938	487	468	320	357
21	416	379	384	390	742	688	463	853	474	476	315	353
22	412	376	379	383	769	714	450	799	464	448	313	350
23	409	375	374	374	876	700	442	759	456	425	318	343
24	406	375	384	369	851	678	472	727	448	407	311	338
25	428	369	381	369	784	664	527	704	440	393	306	332
26	414	367	374	367	754	644	557	679	446	381	305	329
27	405	364	368	362	736	625	541	650	430	374	e304	327
28	408	363	365	363	712	624	525	626	423	367	e303	319
29	437	364	366	366	---	547	511	608	416	406	302	315
30	422	364	385	359	---	525	506	596	426	408	319	311
31	409	---	789	360	---	559	---	584	---	402	382	---
MEAN	425	388	384	465	524	604	520	795	505	392	340	381
MAX	440	419	789	894	876	714	581	1,200	596	476	403	522
MIN	405	363	352	359	335	510	442	584	416	345	302	311
IN.	0.62	0.55	0.56	0.68	0.69	0.88	0.73	1.16	0.71	0.57	0.49	0.54

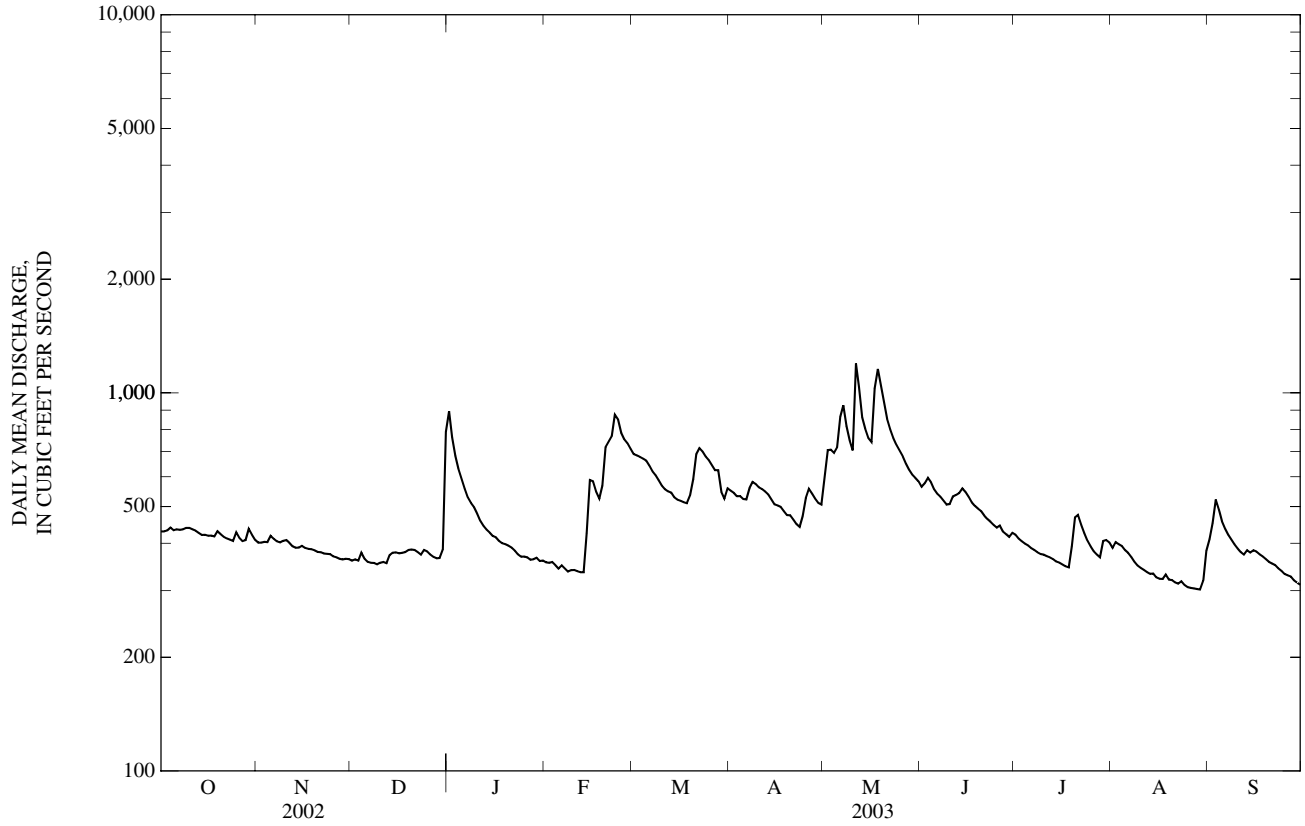
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2003, BY WATER YEAR (WY)

MEAN	422	590	704	781	831	1,065	1,302	1,167	878	604	485	433
MAX	1,291	2,082	4,048	3,007	2,223	3,556	5,037	3,346	3,107	1,559	1,354	1,183
(WY)	(1985)	(1994)	(1983)	(1985)	(1949)	(1945)	(1927)	(2002)	(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)

07071500 ELEVEN POINT RIVER NEAR BARDLEY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1922 - 2003	
ANNUAL MEAN	1,041		477		771	
HIGHEST ANNUAL MEAN					1,782	1985
LOWEST ANNUAL MEAN					303	2001
HIGHEST DAILY MEAN	15,500	May 9	1,200	May 11	26,800	Apr 14, 1927
LOWEST DAILY MEAN	244	Jan 22	302	Aug 29	155	Jan 26, 1956
ANNUAL SEVEN-DAY MINIMUM	253	Jan 17	307	Aug 23	157	Jan 21, 1956
MAXIMUM PEAK FLOW	---		1,400	May 11	49,800	Dec 3, 1982
MAXIMUM PEAK STAGE	---		3.81	May 11	21.64	Dec 3, 1982
INSTANTANEOUS LOW FLOW	---		302	Aug 29,30	152	Jan 27, 1956
ANNUAL RUNOFF (INCHES)	17.82		8.16		13.21	
10 PERCENT EXCEEDS	1,960		702		1,420	
50 PERCENT EXCEEDS	594		419		550	
90 PERCENT EXCEEDS	364		344		264	

e Estimated



07071500 ELEVEN POINT RIVER NEAR BARDLEY, MO—Continued
(Ambient Water-Quality Monitoring Network)

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
13...	1145	Environmental	382	11.0	102	8.0	355	11.6	200	41.2	23.1	1.13
13...	1146	Blank	--	--	--	--	--	--	--	0.02	<0.008	<0.10
JAN												
21...	1225	Environmental	368	11.4	102	8.3	348	10.1	--	--	--	--
MAR												
24...	1530	Environmental	606	11.5	121	8.0	322	16.6	--	--	--	--
MAY												
27...	1600	Environmental	647	10.3	111	7.9	306	18.2	160	33.8	18.8	1.25
JUL												
15...	1230	Environmental	358	10.0	113	7.6	349	22.0	--	--	--	--
SEP												
10...	0930	Environmental	389	8.6	94	7.5	339	18.0	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
13...	1.43	204	204	249	<1	2.33	<0.2	2.2	198	<10	<0.10	<0.04	0.53
13...	<0.09	--	--	--	--	<0.20	<0.2	<0.2	<10	<10	<0.10	<0.04	<0.06
JAN													
21...	--	201	201	245	<1	--	--	--	--	<10	E.05	<0.04	0.61
MAR													
24...	--	149	152	185	<1	--	--	--	--	<10	<0.10	<0.04	0.60
MAY													
27...	1.64	153	155	182	<1	2.93	<0.2	2.7	166	<10	E.08	<0.04	0.45
JUL													
15...	--	180	180	220	<1	--	--	--	--	<10	E.10	<0.04	0.47
SEP													
10...	--	169	172	210	<1	--	--	--	--	<10	E.07n	<0.04	0.43

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
13...	<0.008	<0.02	<0.04	<0.04	2k	1k	5k	E1	10	0.4	<0.04	<0.2	<6
13...	<0.008	<0.02	<0.04	<0.04	--	--	--	E1	2	<0.3	<0.04	<0.2	<6
JAN													
21...	<0.008	<0.02	<0.04	<0.04	3k	5k	<1b	--	--	--	--	--	--
MAR													
24...	<0.008	<0.02	<0.04	<0.04	<1b	1k	3k	--	--	--	--	--	--
MAY													
27...	<0.008	<0.02	E.03	E.02	2k	14k	7k	E1	67	0.3	<0.04	<0.2	<7
JUL													
15...	<0.008	<0.02	<0.04	<0.04	2k	5k	27	--	--	--	--	--	--
SEP													
10...	<0.008	<0.02	<0.04	<0.04	20	21	42	--	--	--	--	--	--

07071500 ELEVEN POINT RIVER NEAR BARDLEY, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
13...	E7	<0.08	<1	3.9	<0.02	<0.5	M	<2
13...	<10	E.07	<1	<2.0	<0.02	<0.5	M	<2
JAN								
21...	--	--	--	--	--	--	--	--
MAR								
24...	--	--	--	--	--	--	--	--
MAY								
27...	E4	<0.08	<1	4.6	<0.02	<0.5	1	<2
JUL								
15...	--	--	--	--	--	--	--	--
SEP								
10...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07185765 SPRING RIVER AT CARTHAGE, MO

LOCATION.--Lat 31°11'11", long 94°19'56", in SW ¼ NW ¼ SW ¼ sec.33, T.29 N., R.31 W., Jasper County, Hydrologic Unit 11070207, on left downstream wingwall of St. Francis Street bridge 0.8 mi northwest of junction with Highway 96 in Carthage.

DRAINAGE AREA.--425 mi^2.

PERIOD OF REOCRD.--October 1966 to Sept. 30, 1980, May 23, 2001 to current year. Occasional discharge measurements 1951-1954. Intermittent gage readings since Oct. 31, 1945, collected by Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is unknown. Jan. 26, 1967 to September 1980, gage located approximately 0.75 mi upstream, at datum of 923.68 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 26, 1967, nonrecording gage at site 0.87 mi upstream of current site, at former datum.

REMARKS.--No estimated daily discharges. Records good. U.S.G.S. satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 18, 1943, reached a stage of 22.0 ft by highwater mark 1 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	74	49	99	45	204	360	243	199	145	58	137
2	63	71	49	110	45	230	336	254	222	137	57	114
3	62	70	50	104	44	248	315	250	227	126	58	103
4	60	68	57	98	43	249	296	233	209	117	66	95
5	59	70	58	93	43	243	275	240	193	112	66	87
6	63	67	55	88	43	230	362	255	191	105	62	81
7	59	65	54	83	42	216	945	287	183	105	55	75
8	61	64	53	80	41	206	608	256	173	99	51	70
9	61	62	51	77	42	192	488	238	165	95	49	67
10	59	60	51	74	42	182	443	228	156	103	51	64
11	58	60	51	71	42	176	412	243	184	100	52	67
12	59	59	53	69	41	175	386	253	222	104	51	66
13	60	58	60	66	44	185	362	299	243	154	50	66
14	58	60	58	64	59	197	342	468	320	153	50	64
15	58	61	60	62	72	195	321	463	262	120	51	63
16	58	60	60	62	103	190	311	430	239	107	48	60
17	61	58	59	60	116	184	301	473	227	98	47	58
18	60	57	58	56	121	179	285	494	219	91	44	55
19	59	57	77	58	144	200	272	448	208	88	44	54
20	59	56	81	56	257	493	261	418	202	85	41	53
21	59	56	73	55	270	659	246	375	191	82	39	60
22	58	55	68	54	257	528	236	348	182	86	41	56
23	56	55	67	54	248	454	234	325	173	78	39	53
24	56	53	71	61	236	416	272	307	168	74	38	53
25	67	52	68	50	214	384	303	295	176	70	38	50
26	69	51	63	50	204	356	266	280	183	69	45	51
27	69	51	61	47	197	326	243	261	170	67	58	52
28	70	51	59	48	196	369	229	246	160	61	66	49
29	76	51	61	47	---	540	219	234	152	62	87	48
30	84	51	65	47	---	437	210	222	220	62	89	51
31	81	---	79	47	---	388	---	211	---	60	109	---
MEAN	62.8	59.4	60.6	67.4	116	298	338	309	201	97.3	54.8	67.4
MAX	84	74	81	110	270	659	945	494	320	154	109	137
MIN	56	51	49	47	41	175	210	211	152	60	38	48
IN.	0.17	0.16	0.16	0.18	0.28	0.81	0.89	0.84	0.53	0.26	0.15	0.18

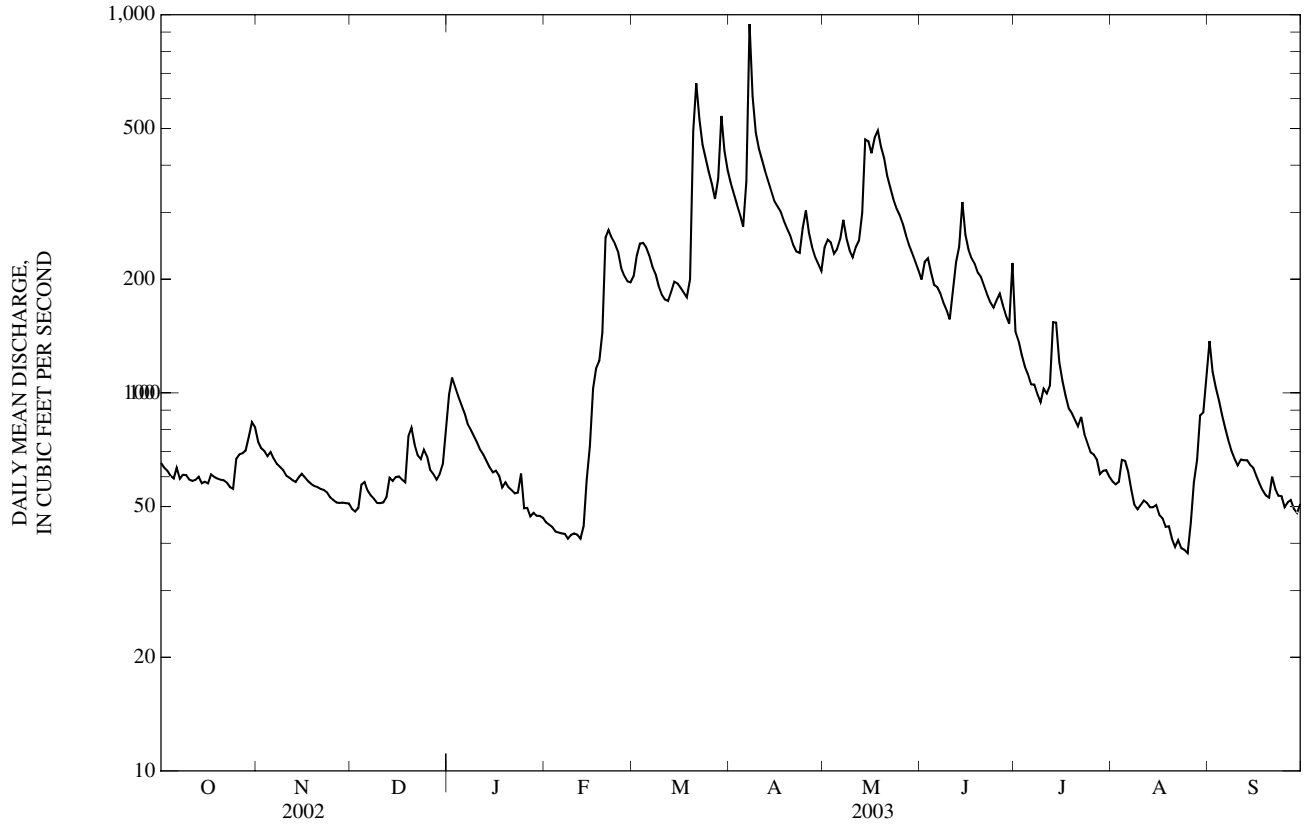
STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF RECORD BY WATER YEAR (WY)

MEAN	223	451	363	307	412	658	527	575	417	253	127	201
MAX	561	1,785	1,475	908	1,567	1,854	1,701	2,123	1,343	1,038	296	625
(WY)	(1974)	(1973)	(1974)	(1973)	(1975)	(1973)	(1973)	(2002)	(1974)	(1976)	(1979)	(1971)
MIN	62.8	59.4	57.7	50.0	104	108	138	174	70.8	49.3	53.4	46.3
(WY)	(2003)	(2003)	(1977)	(1977)	(1977)	(1972)	(1977)	(1971)	(1972)	(1972)	(1972)	(1980)

07185765 SPRING RIVER AT CARTHAGE, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		FOR PERIOD OF RECORD	
ANNUAL MEAN	416		144		379	
HIGHEST ANNUAL MEAN					836	1973
LOWEST ANNUAL MEAN					144	2003
HIGHEST DAILY MEAN	11,200	May 8	945	Apr 7	11,800	Nov 25, 1973
LOWEST DAILY MEAN	49	Dec 1,2	38	Aug 24,25	33	Oct 11, 1980
ANNUAL SEVEN-DAY MINIMUM	50	Nov 27	40	Aug 19	34	Oct 8, 1980
MAXIMUM PEAK FLOW	---		1,070	Apr 7	24,800	Nov 1, 2001
MAXIMUM PEAK STAGE	---		4.86	Apr 7	17.15[a]	Nov 1, 1972
INSTANTANEOUS LOW FLOW	---		36	Aug 24	33	Sep 6, 2001
ANNUAL RUNOFF (INCHES)	13.30		4.61		12.12	
10 PERCENT EXCEEDS	816		313		728	
50 PERCENT EXCEEDS	205		75		204	
90 PERCENT EXCEEDS	59		50		69	

[a] Former datum.



07186000 SPRING RIVER NEAR WACO, MO

LOCATION.--Lat 37°14'44", long 94°33'58", on line between SE ½ sec.7 and NE ½ 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 National Geodetic Vertical Datum of 1929. Prior to Feb. 23, 1935, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	71	55	76	50	205	482	302	287	261	51	1,240
2	63	67	55	96	50	214	416	314	520	178	50	1,730
3	62	65	55	105	48	251	365	328	459	164	47	736
4	59	64	67	101	47	281	328	333	379	148	47	294
5	56	67	66	95	46	272	299	385	273	135	56	177
6	56	66	63	89	47	254	614	579	249	127	55	132
7	58	64	61	86	45	238	2,640	885	230	120	51	109
8	55	63	59	83	45	224	1,940	762	214	113	45	99
9	57	63	57	80	45	207	971	481	198	106	42	94
10	57	61	59	76	46	194	706	374	183	107	38	91
11	55	60	60	73	47	186	603	331	183	104	39	90
12	55	60	60	71	47	185	537	324	205	121	41	93
13	54	61	69	69	46	213	486	398	231	125	39	92
14	53	63	71	68	65	259	442	901	330	172	38	85
15	54	66	67	67	73	292	406	821	332	146	38	82
16	54	64	66	66	76	262	379	1,050	283	120	37	80
17	54	64	75	65	100	248	365	2,790	266	108	33	77
18	56	64	80	65	116	227	346	2,020	259	106	27	73
19	56	63	72	61	160	243	327	1,100	245	97	26	70
20	54	63	82	62	213	522	354	1,260	235	91	28	67
21	53	62	83	60	326	1,440	360	1,220	220	85	27	66
22	55	63	73	56	348	1,160	344	878	207	85	26	82
23	54	61	72	53	291	751	301	647	193	81	23	71
24	53	59	80	55	263	590	638	541	187	71	20	68
25	60	58	75	57	238	508	1,500	495	190	68	17	66
26	64	59	70	51	219	455	1,030	460	290	67	19	64
27	64	59	64	50	210	416	588	426	202	62	21	68
28	65	58	61	54	205	433	428	386	184	59	27	63
29	73	57	63	51	---	700	355	359	179	56	128	63
30	73	55	67	50	---	786	310	333	203	54	221	88
31	75	---	67	50	---	601	---	308	---	52	462	---
MEAN	58.7	62.3	66.9	69.1	125	413	629	703	254	109	58.7	207
MAX	75	71	83	105	348	1,440	2,640	2,790	520	261	462	1,730
MIN	53	55	55	50	45	185	299	302	179	52	17	63
IN.	0.06	0.06	0.07	0.07	0.11	0.41	0.60	0.70	0.24	0.11	0.06	0.20

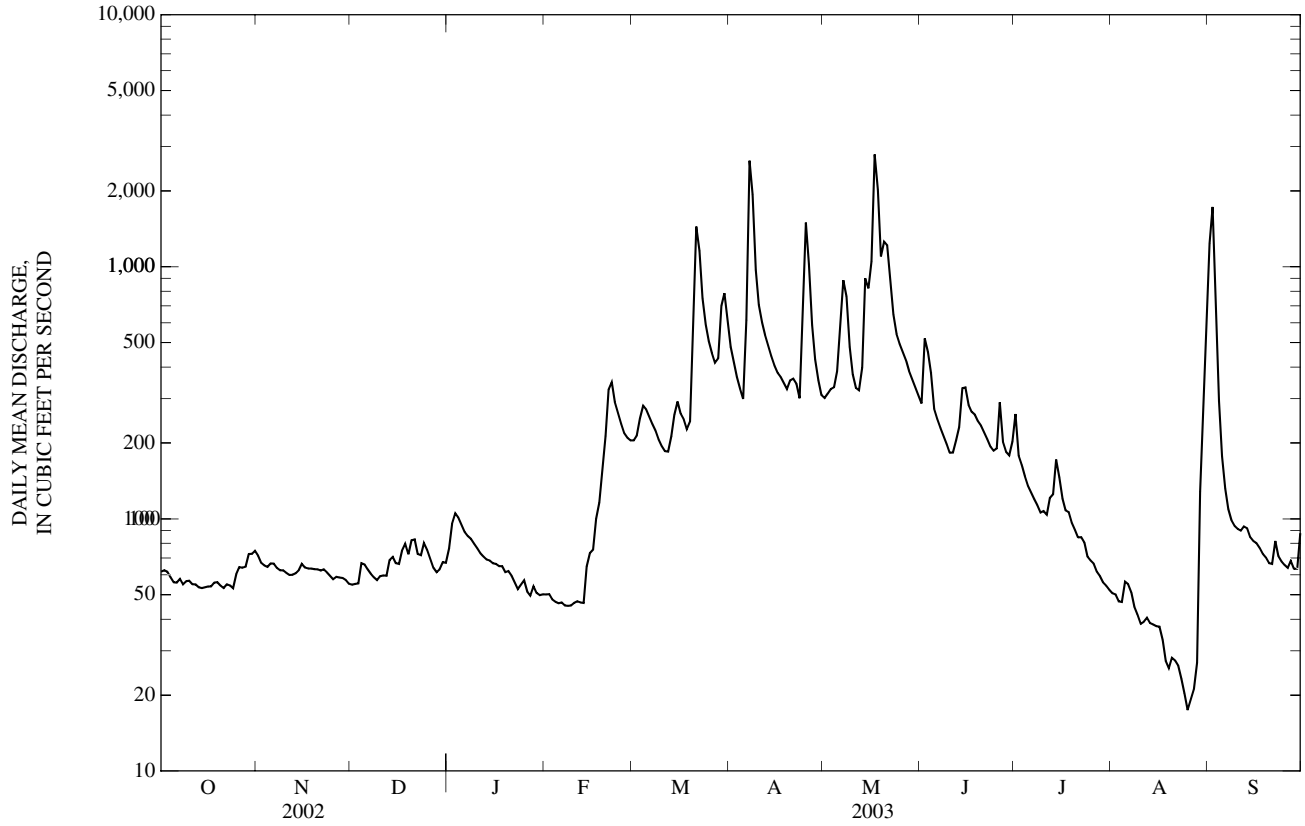
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2003, BY WATER YEAR (WY)

MEAN	659	935	704	704	934	1,205	1,454	1,599	1,386	701	424	550
MAX	6,997	6,726	4,704	3,222	6,372	5,809	7,542	11,640	5,521	4,323	7,812	10,260
(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)

07186000 SPRING RIVER NEAR WACO, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1924 - 2003	
ANNUAL MEAN	978		230		931	
HIGHEST ANNUAL MEAN					3,093	1993
LOWEST ANNUAL MEAN					61.4	1954
HIGHEST DAILY MEAN	32,900	May 9	2,790	May 17	108,000	Sep 25, 1993
LOWEST DAILY MEAN	53	Oct 14,21,24	17	Aug 25	4.5	Aug 28, 1954
ANNUAL SEVEN-DAY MINIMUM	54	Oct 11	22	Aug 21	5.0	Sep 2, 1954
MAXIMUM PEAK FLOW	---		2,980	Apr 7	151,000[a]	Sep 26, 1993
MAXIMUM PEAK STAGE	---		6.62	Apr 7	34.06	Sep 26, 1993
INSTANTANEOUS LOW FLOW	---		15	Aug 25	4.2	Jul 28, 1954
ANNUAL RUNOFF (INCHES)	11.41		2.68		10.87	
10 PERCENT EXCEEDS	1,550		521		1,800	
50 PERCENT EXCEEDS	266		82		296	
90 PERCENT EXCEEDS	60		50		66	

[a] From rating curve extended above 85,000 ft^3/s.



07186480 CENTER CREEK NEAR SMITHFIELD, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 37°09'20", long 94°36'10", in NW ¼ SE ¼ NE ¼ sec.14, T.28 N., R.34 W., Jasper County, Hydrologic Unit 11070207. Sampling site is located approximately 1.0 mi above the mouth of Center Creek, 1.0 mi south of Smithfield on county road.

DRAINAGE AREA.--303 mi^2.

PERIOD OF RECORD.--October 1968 to July 1975, July 1977 to June 1989, April 1993 to August 1995, November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
05...	1525	Blank	--	--	--	--	--	--	--	<0.01	<0.008	<0.10
05...	1555	Environmental	51	11.2	108	8.2	408	11.9	190	67.6	4.12	1.98
JAN												
21...	1345	Environmental	195	14.3	111	7.9	443	3.7	--	--	--	--
21...	1345	Blank	--	--	--	--	--	--	--	--	--	--
FEB												
11...	0830	Blank	--	--	--	--	--	--	--	--	--	--
11...	0855	Environmental	38	12.2	95	7.8	434	3.6	--	--	--	--
MAR												
25...	0830	Environmental	251	8.9	90	7.4	371	14.7	--	--	--	--
APR												
14...	1710	Blank	--	--	--	--	--	--	--	--	--	--
14...	1725	Environmental	207	13.4	152	7.7	367	20.0	--	--	--	--
MAY												
13...	0945	Blank	--	--	--	--	--	--	--	0.02	<0.008	<0.16
13...	1015	Environmental	248	7.8	84	7.2	318	17.8	140	52.6	2.87	3.37
JUN												
17...	0850	Environmental	166	7.5	87	7.5	334	21.5	--	--	--	--
17...	0851	Blank	--	--	--	--	--	--	--	--	--	--
JUL												
08...	1000	Blank	--	--	--	--	--	--	--	E.01n	<0.008	<0.16
08...	1045	Environmental	108	7.3	94	7.8	395	26.3	190	69.7	3.55	1.99
SEP												
10...	0845	Blank	--	--	--	--	--	--	--	--	--	--
10...	0900	Environmental	66	7.8	92	7.8	474	22.1	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
05...	<0.09	--	--	--	--	<0.20	<0.20	<0.2	<10	<10	<0.10	<0.04	<0.06
05...	9.25	150	150	183	<1	9.85	<0.20	29.3	244	<10	0.16	<0.04	2.88
JAN													
21...	--	143	144	175	<1	--	--	--	--	<10	0.19	<0.04	3.09
21...	--	--	--	--	--	--	--	--	--	<10	<0.10	<0.04	<0.06
FEB													
11...	--	--	--	--	--	--	--	--	--	<10	<0.10	<0.04	<0.06
11...	--	138	137	167	<1	--	--	--	--	<10	0.20	<0.04	2.50
MAR													
25...	--	121	120	147	<1	--	--	--	--	<10	1.4	<0.04	4.56
APR													
14...	--	--	--	--	--	--	--	--	--	<10	<0.10	<0.04	<0.06
14...	--	124	124	151	<1	--	--	--	--	11	0.38	<0.04	2.31
MAY													
13...	<0.09	--	--	--	--	<0.20	<0.17	<0.2	<10	<10	<0.10	<0.04	<0.06
13...	6.29	101	102	124	<1	11.8	<0.17	20.2	207	48	0.82	E.02	2.27
JUN													
17...	--	121	122	149	<1	--	--	--	--	24	0.36	<0.04	2.56
17...	--	--	--	--	--	--	--	--	--	<10	<0.10	<0.04	<0.06
JUL													
08...	<0.10	--	--	--	--	<0.20	<0.20	<0.2	<10	<10	<0.10	<0.04	<0.06
08...	7.33	134	132	162	<1	11.5	0.20	39.8	264	29	0.20	<0.04	2.26
SEP													
10...	--	--	--	--	--	--	--	--	--	<10	<0.10	<0.04	<0.06
10...	--	149	150	183	<1	--	--	--	--	10	0.22	<0.04	2.25

07186480 CENTER CREEK NEAR SMITHFIELD, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
05...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<6
05...	E.006	0.12	0.12	0.12	24	63	22	M	31	0.3	0.37	0.4	<6
JAN													
21...	0.034	0.11	0.12	0.16	1k	21	12k	--	--	--	--	--	--
21...	<0.008	<0.02	<0.04	E.02	--	--	--	--	--	--	--	--	--
FEB													
11...	<0.008	<0.02	<0.04	<0.04	--	--	--	--	--	--	--	--	--
11...	0.031	0.11	0.13	0.14	14k	340k	59	--	--	--	--	--	--
MAR													
25...	<0.008	0.48	0.52	0.51	120	270	93	--	--	--	--	--	--
APR													
14...	<0.008	<0.02	<0.04	<0.04	--	--	--	--	--	--	--	--	--
14...	0.011	0.04	0.05	0.05	4k	13k	16k	--	--	--	--	--	--
MAY													
13...	<0.008	<0.02	E.02	<0.04	--	--	--	<2	E1	<0.3	<0.04	<0.2	<6
13...	0.016	0.09	0.12	0.19	630	450	207k	2	452	0.5	0.08	2.7	<6
JUN													
17...	<0.008	0.08	0.10	0.14	100	135	87	--	--	--	--	--	--
17...	<0.008	<0.02	<0.04	<0.04	--	--	--	--	--	--	--	--	--
JUL													
08...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	E1n	<0.3	<0.04	<0.2	<7
08...	E.004	0.08	0.10	0.12	78	60k	58	2	213	0.5	0.19	1.6	<7
SEP													
10...	<0.008	<0.02	<0.04	<0.04	--	--	--	--	--	--	--	--	--
10...	E.004n	0.10	0.12	0.14	110k	160	105	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
05...	<10	<0.08	<1	<2.0	<0.02	<0.5	<1	<2
05...	E5	0.28	2	26.8	<0.02	<0.5	190	188
JAN								
21...	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--
FEB								
11...	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--
MAR								
25...	--	--	--	--	--	--	--	--
APR								
14...	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--
MAY								
13...	<10	<0.08	<1	<2.0	<0.02	<0.5	1	E2
13...	26	0.72	23	44.3	E.01	E.3	118	365
JUN								
17...	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--
JUL								
08...	<8	<0.08	<1	<0.4	<0.02	<0.5	<1	E1n
08...	<8	0.48	14	32.4	<0.02	E.3	159	306
SEP								
10...	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

07186600 TURKEY CREEK NEAR JOPLIN, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 37°07'15", long 94°34'55", in SE ¼ NE ¼ SE ¼ sec.25, T.28 N., R.34 W., Jasper County, Hydrologic Unit 11070207, 3.0 mi northwest of Joplin on County Highway P, 2.5 mi upstream from the mouth of Turkey Creek.

DRAINAGE AREA.--41.8 mi^2.

PERIOD OF RECORD.--August 1963 to September 1977, November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
06...	0905	Environmental	17	7.6	72	7.8	602	11.9	230	81.4	5.70	9.98
JAN												
21...	1500	Environmental	13	13.0	112	7.8	800	7.4	--	--	--	--
FEB												
11...	1005	Environmental	11	9.7	82	7.6	794	6.8	--	--	--	--
MAR												
24...	1710	Environmental	41	9.5	104	7.6	605	17.5	--	--	--	--
APR												
14...	1555	Environmental	32	10.1	116	7.8	607	20.5	--	--	--	--
MAY												
13...	0815	Environmental	25	7.4	80	7.7	542	17.3	220	79.5	4.89	6.14
JUN												
16...	1530	Environmental	26	9.5	120	7.6	634	25.5	--	--	--	--
JUL												
08...	0830	Environmental	27	5.7	70	7.3	578	24.4	250	89.3	5.49	5.05
SEP												
09...	1400	Environmental	23	8.5	105	7.7	684	24.5	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
06...	31.0	155	154	188	<1	37.6	0.20	75.3	372	<10	1.6	<0.04	5.56
JAN													
21...	--	156	156	190	<1	--	--	--	--	<10	1.3	<0.04	6.64
FEB													
11...	--	134	133	163	<1	--	--	--	--	<10	2.1	0.50	10.6
MAR													
24...	--	138	138	168	<1	--	--	--	--	20	0.31	<0.04	2.96
APR													
14...	--	133	134	164	<1	--	--	--	--	<10	2.1	<0.04	6.35d
MAY													
13...	21.0	132	132	161	<1	28.7	<0.17	69.6	346	<10	1.5	<0.04	5.29
JUN													
16...	--	129	129	157	<1	--	--	--	--	<10	3.7	<0.04	8.17
JUL													
08...	19.1	146	146	178	<1	26.9	0.20	83.4	390	<10	0.76	<0.04	4.64
SEP													
09...	--	164	164	200	<1	--	--	--	--	<10	1.2	<0.04	5.05d

07186600 TURKEY CREEK NEAR JOPLIN, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, uµg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
06...	E.004	1.08	1.13	1.14	640k	1,270k	83	3	12	0.8	2.06	3.8	<6
JAN													
21...	E.004	1.34	1.39	1.43	10k	74k	7k	--	--	--	--	--	--
FEB													
11...	0.037	1.51	1.64	1.55	20	235	48	--	--	--	--	--	--
MAR													
24...	0.012	0.04	0.04	0.08	140	61k	35	--	--	--	--	--	--
APR													
14...	E.006n	0.74	0.74	0.80	8k	66	13k	--	--	--	--	--	--
MAY													
13...	E.007	0.67	0.71	0.69	640k	665k	255	4	27	0.7	1.73	2.1	<6
JUN													
16...	0.008	0.87	0.96	0.95	360	410k	120	--	--	--	--	--	--
JUL													
08...	E.007	0.56	0.57	0.57	600k	540k	155	3	18	0.8	1.63	1.8	<7
SEP													
09...	E.004n	1.14d	1.22	1.24	--e	--e	72	--	--	--	--	--	--

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
06...	22	1.28	3	7.8	E.01	E.4	413	346
JAN								
21...	--	--	--	--	--	--	--	--
FEB								
11...	--	--	--	--	--	--	--	--
MAR								
24...	--	--	--	--	--	--	--	--
APR								
14...	--	--	--	--	--	--	--	--
MAY								
13...	20	1.06	4	19.9	<0.02	E.4	382	409
JUN								
16...	--	--	--	--	--	--	--	--
JUL								
08...	E7	1.22	4	10.6	<0.02	E.5	320	317
SEP								
09...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

07186690 SHOAL CREEK AT PIONEER, MO

LOCATION.--Lat 36°49'45", long 94°02'57" in NW ¼ NE ¼ NW ¼ sec.3, T.24 N., R.29 W., Barry County, Hydrologic Unit 11070207, on right bank on private property, 0.25 mi downstream from Highway 97 bridge.

DRAINAGE AREA.--68.3 mi^2.

PERIOD OF RECORD.--October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--Records poor. U.S.G.S. satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	22	e15	39	16	53	49	32	16	27	16	26
2	24	23	e15	34	16	55	47	31	19	e43	20	27
3	25	24	e14	29	16	56	46	29	17	e39	e17	24
4	22	23	e14	27	15	54	44	29	16	e34	e15	22
5	19	23	e20	24	16	51	42	29	15	e31	e28	19
6	20	21	e19	23	17	48	56	28	16	e28	e24	17
7	18	23	e18	22	16	45	52	28	15	e26	e21	16
8	18	25	e18	22	16	42	48	27	14	e24	e18	15
9	19	31	e17	20	17	39	45	27	15	e23	e16	14
10	21	29	e16	19	17	37	43	27	33	35	e15	13
11	21	25	15	19	17	36	42	26	63	24	e14	16
12	20	e23	17	18	17	36	40	25	52	73	e17	19
13	19	e22	23	18	18	57	39	27	26	54	e14	21
14	20	e23	21	17	37	51	37	26	24	44	e12	e17
15	21	e21	19	17	37	50	36	24	e22	e32	e11	e14
16	22	e20	18	18	35	47	37	31	e21	e27	e10	e12
17	22	e19	17	16	32	45	36	31	20	e24	e9.5	e11
18	23	e21	17	16	31	42	34	28	e19	e21	e8.9	e10
19	24	e19	16	16	58	52	34	26	e18	e19	e8.3	e9.0
20	23	e18	16	16	58	74	34	24	e17	e18	e7.8	8.3
21	22	e17	15	16	54	76	33	23	e16	e17	e7.6	9.0
22	22	e16	15	15	56	75	32	21	e15	27	e7.4	9.3
23	21	e18	17	15	55	72	32	21	e15	18	e7.2	8.7
24	24	e17	20	15	50	68	41	22	30	13	e7.2	8.4
25	29	e16	16	15	47	64	36	21	44	e11	e6.7	8.0
26	22	e15	15	15	46	59	34	20	56	e10	e6.6	8.7
27	30	e15	16	15	46	55	32	19	29	e10	11	9.3
28	31	e14	16	15	48	64	31	18	24	e15	16	8.8
29	33	e17	21	16	---	57	30	18	24	e14	15	8.7
30	25	e16	38	15	---	53	29	17	24	13	18	8.6
31	22	---	49	16	---	51	---	17	---	e12	20	---
MEAN	22.8	20.5	18.8	19.3	32.3	53.7	39.0	24.9	24.5	26.0	13.7	13.9
MAX	33	31	49	39	58	76	56	32	63	73	28	27
MIN	18	14	14	15	15	36	29	17	14	10	6.6	8.0
IN.	0.39	0.34	0.32	0.33	0.49	0.91	0.64	0.42	0.40	0.44	0.23	0.23

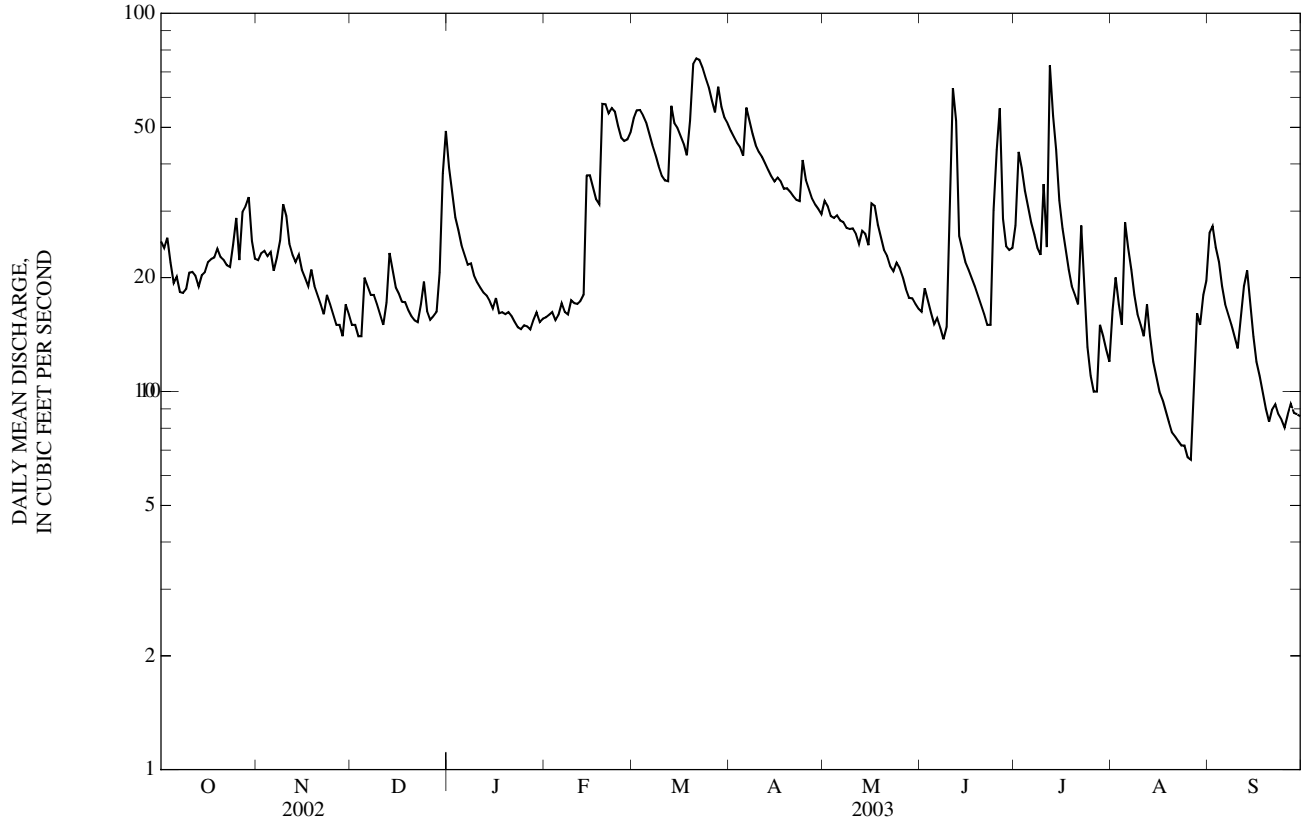
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

MEAN	23.0	26.0	42.4	27.7	46.1	58.6	52.3	189	77.4	46.7	29.4	22.3
MAX	23.3	31.4	65.9	36.1	59.9	63.5	65.5	352	130	67.4	45.1	30.6
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)
MIN	22.8	20.5	18.8	19.3	32.3	53.7	39.0	24.9	24.5	26.0	13.7	13.9
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)

07186690 SHOAL CREEK AT PIONEER, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2002 - 2003	
ANNUAL MEAN	76.4		25.8		53.5	
HIGHEST ANNUAL MEAN					81.3	2002
LOWEST ANNUAL MEAN					25.8	2003
HIGHEST DAILY MEAN	2,040	May 8	76	Mar 21	2,040	May 8, 2002
LOWEST DAILY MEAN	14	Nov 28,Dec 3,4	6.6	Aug 26	6.6	Aug 26, 2003
ANNUAL SEVEN-DAY MINIMUM	15	Nov 28	7.2	Aug 20	7.2	Aug 20, 2003
MAXIMUM PEAK FLOW	---		137	Jul 12	6,100[a]	May 8, 2002
MAXIMUM PEAK STAGE	---		2.35	Jul 12	10.14	May 8, 2002
INSTANTANEOUS LOW FLOW	---		6.6[b]	Aug 26	6.6	Aug 26, 2003
ANNUAL RUNOFF (INCHES)	15.18		5.12		10.65	
10 PERCENT EXCEEDS	140		48		94	
50 PERCENT EXCEEDS	43		21		32	
90 PERCENT EXCEEDS	19		14		15	

[a] Discharge determined by indirect measurement.
[b] May have been less during period of estimated record.
e Estimated



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 and crest-stage gage. Datum of gage is 886.87 ft above National Geodetic Vertical Datum of 1929. Apr. 21, 1924, to Nov. 6, 1941, records were collected at site about 3 mi downstream, datum unknown; Nov. 6, 1941 to July 21, 1966, water-stage recorder at site 1.8 mi upstream, at datum 15.5 ft higher.

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	131	94	187	87	233	394	277	215	290	108	188
2	99	125	92	183	86	247	376	300	260	264	107	196
3	101	124	93	169	85	259	359	296	258	236	108	209
4	101	120	109	157	84	267	344	285	234	219	105	167
5	100	120	111	151	81	268	327	321	218	204	104	146
6	100	116	106	143	82	256	370	306	215	190	101	134
7	103	113	99	134	84	244	465	315	205	175	99	126
8	100	109	101	128	83	235	462	297	193	167	94	119
9	100	109	102	126	84	222	430	281	181	161	91	116
10	103	111	102	122	86	209	402	304	174	181	88	114
11	103	110	101	118	85	202	379	355	1,500	170	88	115
12	102	106	102	114	82	199	362	316	1,040	195	91	130
13	102	104	119	109	84	537	343	312	799	211	86	125
14	98	107	126	109	120	506	323	335	618	226	87	119
15	97	110	124	106	165	440	306	345	514	198	85	110
16	97	109	116	108	185	401	304	427	449	178	84	102
17	99	105	111	105	178	370	300	531	408	167	81	98
18	101	104	127	101	171	345	281	511	377	158	76	95
19	104	102	129	99	220	394	272	475	351	152	74	98
20	101	100	117	100	265	529	262	443	328	145	73	93
21	99	100	111	98	287	592	248	403	304	136	71	97
22	97	100	106	95	285	583	237	367	281	170	70	101
23	97	99	106	92	279	545	236	341	262	157	70	104
24	98	99	116	92	266	503	288	331	249	146	67	95
25	132	98	114	91	245	465	295	323	246	136	64	87
26	133	96	108	93	233	431	277	296	355	128	62	85
27	124	94	102	88	231	401	261	274	302	122	65	86
28	127	95	102	89	228	434	247	259	266	115	66	85
29	175	96	113	91	---	457	238	248	242	112	100	81
30	169	96	141	92	---	430	229	236	343	110	162	82
31	148	---	167	89	---	411	---	224	---	109	157	---
MEAN	110	107	112	115	159	375	321	333	380	172	89.8	117
MAX	175	131	167	187	287	592	465	531	1,500	290	162	209
MIN	97	94	92	88	81	199	229	224	174	109	62	81
IN.	0.30	0.28	0.30	0.31	0.39	1.01	0.84	0.90	0.99	0.46	0.24	0.31

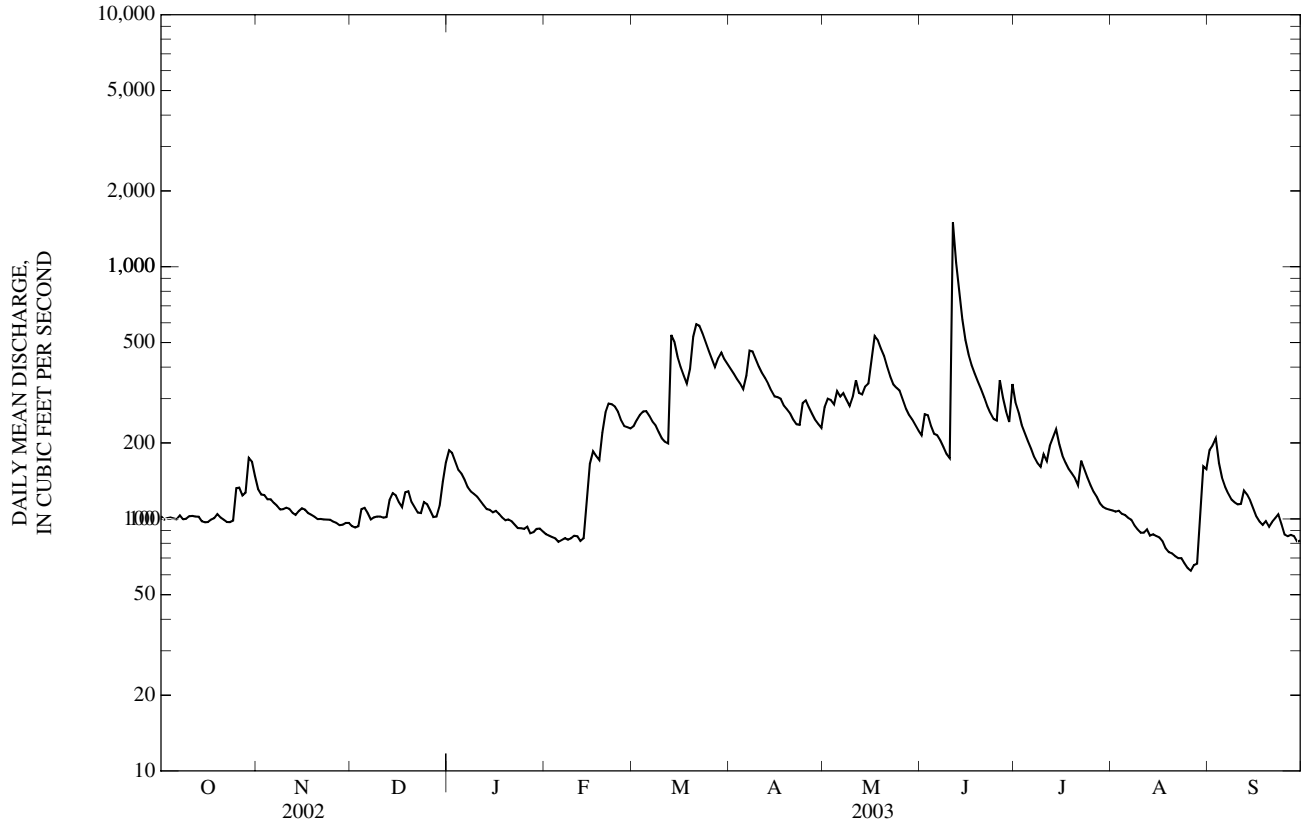
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2003, BY WATER YEAR (WY)

MEAN	288	397	353	324	389	559	645	715	575	347	213	248
MAX	1,709	2,034	1,993	1,145	1,233	1,961	3,281	4,691	2,470	2,049	2,337	1,872
(WY)	(1960)	(1986)	(1993)	(1973)	(1968)	(1973)	(1945)	(1943)	(1995)	(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)

07187000 SHOAL CREEK ABOVE JOPLIN, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1942 - 2003	
ANNUAL MEAN	415		199		421	
HIGHEST ANNUAL MEAN					1,221	1993
LOWEST ANNUAL MEAN					77.8	1954
HIGHEST DAILY MEAN	7,700	May 18	1,500	Jun 11	36,700	May 18, 1943
LOWEST DAILY MEAN	92	Dec 2	62	Aug 26	15	Sep 7, 1954
ANNUAL SEVEN-DAY MINIMUM	94	Nov 27	66	Aug 22	16	Sep 1, 1954
MAXIMUM PEAK FLOW	---		2,830	Jun 11	62,100	May 18, 1943
MAXIMUM PEAK STAGE	---		6.29	Jun 11	16.80[a]	May 18, 1943
INSTANTANEOUS LOW FLOW	---		58	Aug 26	12	Sep 7, 1954
ANNUAL RUNOFF (INCHES)	13.19		6.33		13.39	
10 PERCENT EXCEEDS	850		378		863	
50 PERCENT EXCEEDS	241		132		235	
90 PERCENT EXCEEDS	102		88		89	

[a] Former site and datum.



07188653 BIG SUGAR CREEK NEAR POWELL, MO

LOCATION.--Lat 36°36'57", long 94°10'57", in NW ¼ NW ¼ NE ¼ sec. 36, T.22 N., R.33 W., McDonald County, Hydrologic Unit 11070208, on left bank of county road, 1.0 mi west of Powell.

DRAINAGE AREA.--141 mi^2.

PERIOD OF RECORD.--May 25, 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--Records good 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	14	8.1	99	18	122	95	45	95	127	19	20
2	6.9	14	7.8	79	18	148	89	54	96	48	25	41
3	7.0	15	8.2	65	18	157	83	52	88	38	20	30
4	7.2	13	14	57	17	146	78	50	78	33	18	23
5	6.9	13	14	51	17	131	70	48	71	29	18	19
6	8.9	13	12	46	18	116	70	45	66	27	17	16
7	7.0	12	11	42	18	104	66	42	60	25	16	15
8	6.8	12	11	40	17	95	61	39	54	23	15	13
9	7.4	12	12	37	17	86	57	38	50	22	15	12
10	8.0	12	10	34	18	79	55	35	47	25	14	12
11	8.0	12	10	32	18	74	52	33	181	22	13	13
12	7.7	11	10	30	18	70	50	30	191	25	13	18
13	7.9	11	15	28	19	69	48	54	136	28	13	17
14	7.7	11	17	27	30	64	46	311	113	32	13	15
15	7.8	11	18	26	59	62	44	313	97	26	12	13
16	7.9	11	18	26	63	59	43	654	83	24	11	13
17	8.0	10	16	24	60	56	41	727	74	23	11	12
18	8.4	10	16	23	59	54	40	464	67	21	9.9	11
19	12	10	16	23	92	89	39	308	61	20	9.4	11
20	13	9.5	15	23	138	170	38	229	56	19	8.9	10
21	11	9.4	16	22	125	189	36	185	51	18	8.4	10
22	9.5	9.1	15	21	127	168	34	154	47	36	8.1	11
23	9.6	9.0	16	20	142	143	34	130	44	35	7.8	11
24	9.9	9.0	18	20	132	128	46	252	41	28	7.4	9.8
25	14	9.0	17	19	115	115	48	553	39	26	7.1	9.3
26	13	8.6	15	e19	108	102	46	332	43	25	7.4	8.9
27	13	8.4	15	e23	109	93	43	233	37	23	8.0	8.9
28	15	8.1	15	e22	109	100	41	183	34	21	9.6	8.5
29	20	8.1	19	21	---	111	39	152	33	20	13	8.4
30	18	8.3	53	19	---	105	38	127	32	19	15	8.5
31	15	---	130	19	---	99	---	110	---	18	13	---
MEAN	9.98	10.8	19.0	33.5	60.7	107	52.3	193	72.2	29.2	12.8	14.3
MAX	20	15	130	99	142	189	95	727	191	127	25	41
MIN	6.8	8.1	7.8	19	17	54	34	30	32	18	7.1	8.4
IN.	0.08	0.09	0.16	0.27	0.45	0.87	0.41	1.58	0.57	0.24	0.10	0.11

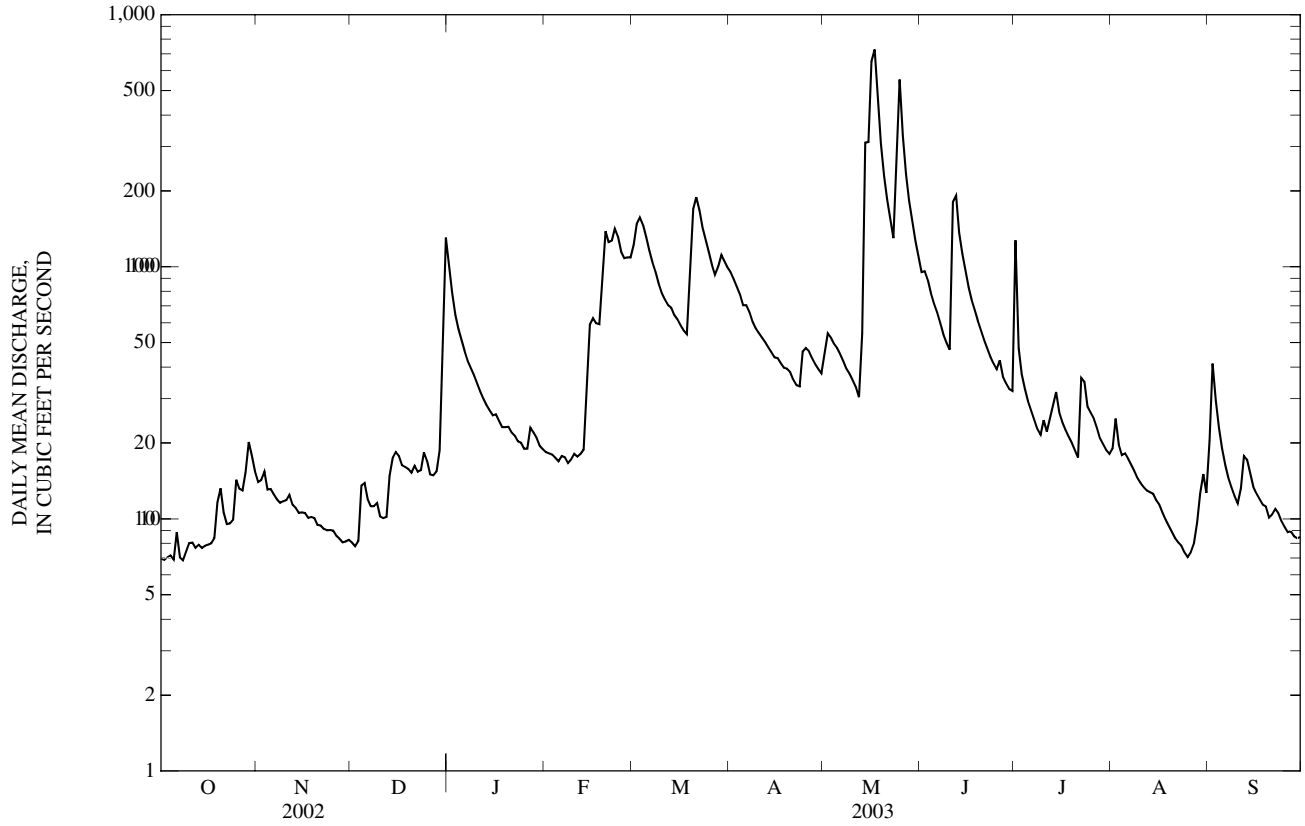
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

MEAN	23.6	39.9	98.4	72.8	207	139	98.9	260	216	62.8	21.1	11.2
MAX	47.3	55.5	222	105	401	200	207	546	558	138	40.5	14.3
(WY)	(2002)	(2002)	(2002)	(2001)	(2001)	(2002)	(2002)	(2002)	(2000)	(2000)	(2000)	(2003)
MIN	9.98	10.8	19.0	33.5	60.7	107	37.8	42.8	53.3	27.2	9.52	9.66
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2001)	(2001)	(2001)	(2001)	(2001)	(2000)

07188653 BIG SUGAR CREEK NEAR POWELL, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL MEAN	125		51.3		91.5	
HIGHEST ANNUAL MEAN					149	2002
LOWEST ANNUAL MEAN					51.3	2003
HIGHEST DAILY MEAN	5,420	May 17	727	May 17	6,020	Jun 17, 2000
LOWEST DAILY MEAN	6.8	Oct 8	6.8	Oct 8	5.1	Sep 20, 2000
ANNUAL SEVEN-DAY MINIMUM	7.1	Sep 29	7.2	Oct 2	5.6	Sep 16, 2000
MAXIMUM PEAK FLOW	---		1,180	May 16	15,500	Jun 17, 2000
MAXIMUM PEAK STAGE	---		6.29	May 16	18.95	Jun 17, 2000
INSTANTANEOUS LOW FLOW	---		6.6	Several Days	4.5	Sep 19, 2000
ANNUAL RUNOFF (INCHES)	12.04		4.94		8.82	
10 PERCENT EXCEEDS	261		123		183	
50 PERCENT EXCEEDS	53		23		43	
90 PERCENT EXCEEDS	9.0		8.9		9.7	

e Estimated



07188885 INDIAN CREEK NEAR LANAGAN, MO

LOCATION.--Lat 36°35'57", long 94°26'58", in NW ¼ NW ¼ NE ¼ sec. 36, T. 22 N., R.33 W., McDonald County, Hydrologic Unit 11070208, on downstream side of Highway EE bridge, 0.5 mi southeast of Lanagan.

DRAINAGE AREA.--239 mi^2.

PERIOD OF RECORD.--May 24, 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--Records good 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	47	25	75	35	109	182	119	88	70	31	50
2	38	44	25	71	35	125	178	162	95	60	34	60
3	38	43	26	65	34	139	173	145	96	54	36	54
4	37	42	35	59	34	142	162	125	88	49	33	47
5	37	40	35	55	33	135	150	113	82	46	37	43
6	38	38	30	51	34	125	193	104	78	44	33	39
7	37	36	28	48	35	114	341	103	75	41	31	36
8	37	35	28	46	34	104	298	93	71	40	29	35
9	38	33	28	45	34	93	250	87	66	39	28	34
10	39	34	28	43	36	85	216	82	63	44	27	33
11	40	33	27	41	35	79	190	78	85	44	28	34
12	40	33	26	40	35	76	170	72	93	49	31	38
13	39	32	36	39	35	76	152	137	98	54	28	39
14	37	31	40	38	46	102	138	425	94	49	28	37
15	37	32	37	38	66	97	125	297	96	44	28	35
16	37	32	34	39	72	99	123	542	89	41	27	33
17	38	32	31	38	71	97	116	731	84	39	26	32
18	39	31	31	37	68	92	107	517	80	38	25	31
19	40	30	29	38	90	105	101	391	75	37	25	31
20	39	30	28	38	133	141	96	310	73	36	24	30
21	38	30	27	37	149	221	90	245	69	35	23	34
22	38	29	26	36	144	237	86	201	66	50	e22	43
23	37	28	27	e37	136	223	84	171	63	57	e22	38
24	38	28	31	e38	127	204	130	160	61	48	e21	33
25	50	28	30	37	113	184	150	162	59	43	e21	31
26	50	27	28	36	105	165	140	146	71	39	20	28
27	49	26	27	35	103	147	127	132	65	37	24	28
28	60	26	28	35	102	165	116	120	60	35	23	26
29	72	26	32	36	---	193	106	111	56	33	37	26
30	64	26	52	36	---	193	97	102	52	32	45	26
31	54	---	74	35	---	187	---	95	---	32	42	---
MEAN	42.4	32.7	31.9	43.3	70.5	137	153	203	76.4	43.8	28.7	36.1
MAX	72	47	74	75	149	237	341	731	98	70	45	60
MIN	37	26	25	35	33	76	84	72	52	32	20	26
IN.	0.20	0.15	0.15	0.21	0.31	0.66	0.71	0.98	0.36	0.21	0.14	0.17

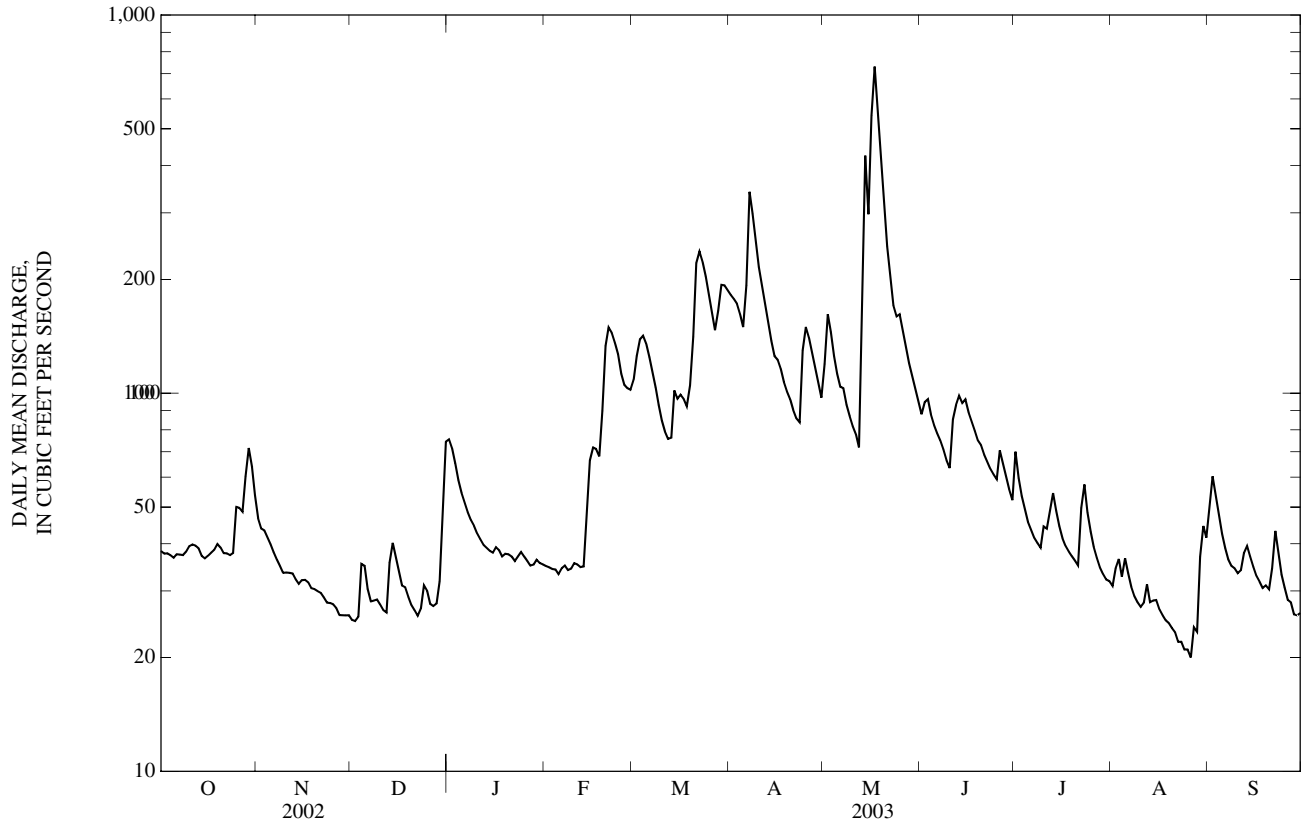
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

MEAN	47.4	53.1	84.2	91.1	316	208	149	481	282	115	47.1	39.7
MAX	52.5	73.1	165	150	679	259	195	1,174	519	215	64.0	47.2
(WY)	(2002)	(2001)	(2002)	(2001)	(2001)	(2001)	(2002)	(2002)	(2000)	(2000)	(2000)	(2002)
MIN	42.4	32.7	31.9	43.3	70.5	137	99.8	67.2	76.4	43.8	28.7	32.7
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2001)	(2001)	(2003)	(2003)	(2003)	(2001)

07188885 INDIAN CREEK NEAR LANAGAN, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL MEAN	214		74.9		149	
HIGHEST ANNUAL MEAN					228	2002
LOWEST ANNUAL MEAN					74.9	2003
HIGHEST DAILY MEAN	5,730	May 8	731	May 17	5,800	Feb 24, 2001
LOWEST DAILY MEAN	25	Dec 1	20	Aug 26	20	Aug 26, 2003
ANNUAL SEVEN-DAY MINIMUM	26	Nov 27	22	Aug 20	22	Aug 20, 2003
MAXIMUM PEAK FLOW	---		885	May 17	11,000	Feb 24, 2001
MAXIMUM PEAK STAGE	---		3.78	May 17	10.80	Feb 24, 2001
INSTANTANEOUS LOW FLOW	---		20[a]	Aug 26	20[a]	Aug 26, 2003
ANNUAL RUNOFF (INCHES)	12.16		4.26		8.45	
10 PERCENT EXCEEDS	399		150		274	
50 PERCENT EXCEEDS	85		42		69	
90 PERCENT EXCEEDS	32		28		33	

e Estimated
[a] May have been less during period of estimated record.



07188950 PATTERSON CREEK NEAR TIFF CITY, MO
(Ambient Water-Quality Monitoring Network)

LOCATION.--Lat 36°39'45", long 94°31'54", in SW ¼ SE ¼ SE ¼ sec.6, T.22 N., R.33 W., McDonald County, Hydrologic Unit 11070208, 6.0 mi east of Tiff City, approximately 2.7 mi south of State Highway 43 on County Road 7628.

DRAINAGE AREA.--9.73 mi^2.

PERIOD OF RECORD.--November 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV												
05...	1145	Environmental	2.0	9.0	89	7.8	330	13.1	140	53.7	1.50	1.82
05...	1146	Replicate	--	9.2	91	7.8	330	13.1	150	57.4	1.63	1.74
JAN												
22...	1040	Environmental	1.8	10.6	86	7.9	332	5.9	--	--	--	--
MAR												
24...	1455	Environmental	8.2	9.7	106	7.5	292	17.8	--	--	--	--
MAY												
12...	1435	Environmental	2.8	8.1	88	7.6	317	18.3	150	56.8	1.73	2.05
JUL												
07...	1520	Environmental	2.6	6.8	83	7.6	310	23.2	--	--	--	--
SEP												
09...	1030	Environmental	2.0	6.7	75	7.6	343	19.1	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
NOV													
05...	5.34	135	135	164	<1	8.02	<0.20	3.8	190	<10	E.10	<0.04	2.17
05...	6.03	--	--	--	--	8.40	<0.20	3.8	195	<10	E.09	<0.04	2.66
JAN													
22...	--	135	133	162	<1	--	--	--	--	<10	0.12	<0.04	3.77
MAR													
24...	--	109	108	132	<1	--	--	--	--	<10	0.11	<0.04	5.16
MAY													
12...	5.62	147	147	179	<1	8.87	<0.17	4.3	192	<10	0.13	<0.04	3.12
JUL													
07...	--	132	132	161	<1	--	--	--	--	<10	0.13	<0.04	2.99
SEP													
09...	--	146	145	177	<1	--	--	--	--	<10	0.13	<0.04	3.14

Date	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal streptococci KF MF, col/ 100 mL (31673)	Aluminum, water, fltrd, µg/L (01106)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
NOV													
05...	E.004	E.01	E.02	E.03	69k	77k	166	M	12	E.2	<0.04	<0.2	<6
05...	E.004	E.01	<0.04	<0.04	34k	88	191	E1	12	E.2	<0.04	<0.2	<6
JAN													
22...	<0.008	E.02	E.02	0.04	1k	25	14k	--	--	--	--	--	--
MAR													
24...	E.005	E.02	0.04	E.03	13k	23	120	--	--	--	--	--	--
MAY													
12...	0.009	E.01	E.03	E.02	22	30	82	<2	25	E.2	<0.04	<0.2	<6
JUL													
07...	0.012	<0.02	<0.04	<0.04	100	125	335	--	--	--	--	--	--
SEP													
09...	E.006n	E.02n	E.02n	E.03n	--e	--e	455	--	--	--	--	--	--

07188950 PATTERSON CREEK NEAR TIFF CITY, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
NOV								
05...	<10	<0.08	<1	5.0	<0.02	<0.5	M	E1
05...	<10	E.04	<1	5.0	<0.02	<0.5	1	E1
JAN								
22...	--	--	--	--	--	--	--	--
MAR								
24...	--	--	--	--	--	--	--	--
MAY								
12...	<10	<0.08	<1	4.5	<0.02	<0.5	3	E2
JUL								
07...	--	--	--	--	--	--	--	--
SEP								
09...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

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 National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Sept. 6, 1960 to Aug. 25, 1961, at site 100 ft downstream.

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

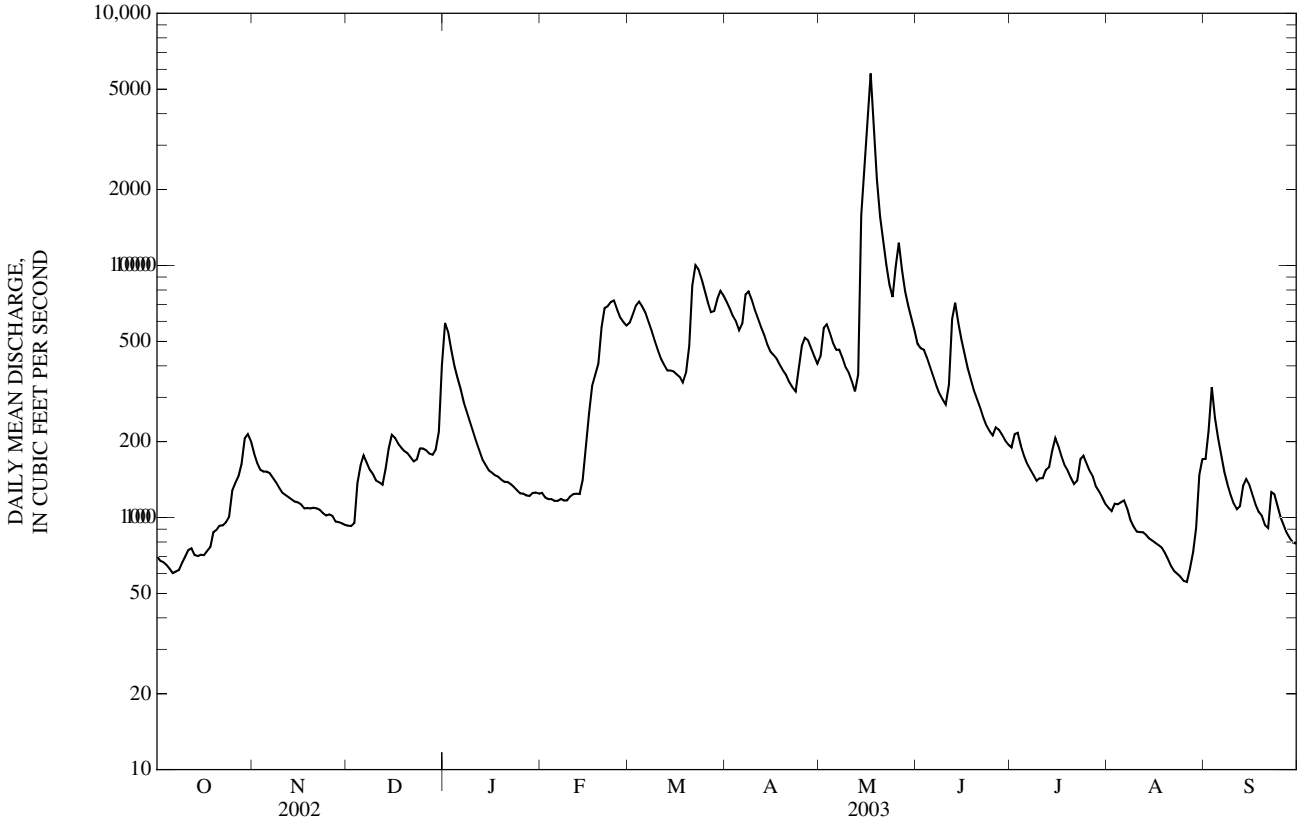
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	179	93	592	125	593	718	437	488	190	109	171
2	67	165	93	546	120	637	675	566	469	214	106	221
3	67	155	95	462	118	693	630	584	463	217	113	329
4	65	152	137	401	118	719	598	539	431	193	113	248
5	63	152	161	357	117	687	553	493	396	176	115	207
6	60	150	176	322	116	650	589	463	364	163	117	176
7	61	144	165	287	118	600	769	464	334	155	108	152
8	62	138	155	262	117	552	789	430	310	148	98	136
9	66	131	149	239	117	504	731	394	294	140	92	124
10	70	126	140	219	121	462	667	376	281	143	88	114
11	74	123	138	200	124	428	616	347	336	143	88	108
12	76	120	135	184	124	403	571	317	612	154	87	111
13	71	118	156	169	124	383	531	370	711	158	86	134
14	70	116	188	162	141	383	487	1,580	591	184	83	142
15	71	115	213	154	186	380	455	2,640	509	207	81	135
16	71	113	207	151	259	370	441	3,940	447	192	79	123
17	74	109	197	147	332	361	426	5,770	392	175	78	113
18	76	109	189	145	368	343	402	3,450	353	161	76	105
19	88	109	183	141	408	375	383	2,190	320	153	72	102
20	89	109	180	139	568	479	368	1,560	296	144	69	93
21	93	109	173	138	678	832	345	1,260	272	136	64	91
22	93	107	167	136	689	1,000	329	1,000	250	140	61	126
23	96	104	170	132	715	965	316	842	231	170	60	124
24	101	102	188	128	726	881	392	750	220	176	58	111
25	128	103	188	125	668	798	480	983	212	164	56	100
26	137	102	185	124	621	712	517	1,230	228	153	55	93
27	146	97	179	122	596	653	504	956	223	145	62	87
28	163	96	178	122	578	659	471	791	213	133	73	83
29	206	95	186	125	---	738	437	691	202	127	91	79
30	214	94	219	126	---	793	408	617	194	120	148	79
31	201	---	400	124	---	758	---	553	---	113	170	---
MEAN	96.4	121	174	216	325	606	520	1,180	355	161	88.9	134
MAX	214	179	400	592	726	1,000	789	5,770	711	217	170	329
MIN	60	94	93	122	116	343	316	317	194	113	55	79
IN.	0.13	0.16	0.23	0.29	0.39	0.80	0.67	1.56	0.45	0.21	0.12	0.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

MEAN	412	712	763	680	888	1,328	1,571	1,520	977	483	257	289
MAX	2,938	4,094	3,651	2,509	2,971	5,020	6,119	8,964	4,245	2,565	2,418	2,164
(WY)	(1942)	(1975)	(1993)	(1985)	(1951)	(1945)	(1945)	(1943)	(1995)	(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)

07189000 ELK RIVER NEAR TIFF CITY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
ANNUAL MEAN	773		332		822	
HIGHEST ANNUAL MEAN					1,881	1993
LOWEST ANNUAL MEAN					135	1954
HIGHEST DAILY MEAN	20,600	May 18	5,770	May 17	68,600	Apr 19, 1941
LOWEST DAILY MEAN	60	Oct 6	55	Aug 26	5.1	Sep 5, 1954
ANNUAL SEVEN-DAY MINIMUM	63	Oct 3	59	Aug 21	5.6	Sep 2, 1954
MAXIMUM PEAK FLOW	---		6,410	May 17	137,000	Apr 19, 1941
MAXIMUM PEAK STAGE	---		9.88	May 17	28.40	Apr 19, 1941
ANNUAL RUNOFF (INCHES)	12.04		5.17		12.81	
10 PERCENT EXCEEDS	1,600		682		1,720	
50 PERCENT EXCEEDS	355		175		340	
90 PERCENT EXCEEDS	95		85		88	



07189000 ELK RIVER NEAR TIFF CITY, MO—Continued
(Ambient Water-Quality Monitoring Network)

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.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as $CaCO_3$ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT												
16...	0955	Environmental	71	9.3	92	8.0	330	13.5	--	--	--	--
NOV												
05...	1025	Environmental	152	9.8	95	7.8	343	12.4	140	51.7	3.36	2.44
DEC												
09...	1415	Environmental	149	18.1	155	8.6	294	7.6	--	--	--	--
JAN												
22...	0915	Environmental	135	11.5	88	7.8	329	3.9	160	54.5	4.66	2.25
FEB												
10...	1425	Environmental	122	15.6	133	8.1	306	7.2	--	--	--	--
10...	1426	Replicate	--	15.6	129	8.1	306	7.2	--	--	--	--
MAR												
24...	1330	Environmental	883	15.4	159	8.5	286	15.3	--	--	--	--
APR												
14...	1340	Environmental	488	15.4	169	8.4	285	18.6	--	--	--	--
MAY												
12...	1300	Environmental	319	11.6	132	8.2	292	20.4	140	51.3	3.46	1.99
JUN												
16...	1320	Environmental	442	10.5	130	8.0	294	24.5	--	--	--	--
JUL												
07...	1400	Environmental	156	9.5	128	8.0	295	29.1	130	48.1	3.41	2.37
07...	1401	Blank	--	--	--	--	--	--	--	0.01	<0.008	<0.16
AUG												
20...	1620	Environmental	68	8.7	124	7.8	325	31.5	--	--	--	--
SEP												
09...	0930	Environmental	125	6.5	78	7.7	352	23.2	--	--	--	--

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
16...	--	133	132	161	<1	--	--	--	--	<10	0.10	<0.04	2.45
NOV													
05...	10.4	126	126	154	<1	11.7	<0.20	7.9	193	<10	E.09	<0.04	2.34
DEC													
09...	--	129	129	144	6	--	--	--	--	<10	E.09	<0.04	1.04
JAN													
22...	8.86	128	127	155	<1	11.6	<0.17	9.1	176	<10	0.12	<0.04	2.03
FEB													
10...	--	135	134	164	<1	--	--	--	--	<10	0.21	<0.04	1.92
10...	--	--	--	--	--	--	--	--	--	<10	0.11	<0.04	1.96
MAR													
24...	--	122	120	134	6	--	--	--	--	<10	E.07	<0.04	2.43
APR													
14...	--	118	119	143	1	--	--	--	--	<10	0.21	<0.04	1.79
MAY													
12...	6.73	127	128	157	<1	9.46	<0.17	7.4	182	<10	0.23	<0.04	1.00
JUN													
16...	--	126	126	154	<1	--	--	--	--	<10	0.16	<0.04	1.27
JUL													
07...	6.68	129	129	157	<1	9.35	<0.20	7.2	178	<10	0.19	<0.04	0.70
07...	E.06	--	--	--	--	<0.20	<0.20	<0.2	<10	<10	<0.10	<0.04	<0.06
AUG													
20...	--	131	132	161	<1	--	--	--	--	<10	0.18	<0.04	0.39
SEP													
09...	--	137	137	167	<1	--	--	--	--	<10	0.16	<0.04	0.95

07189000 ELK RIVER NEAR TIFF CITY, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
OCT													
16...	E.004	0.35	0.36	0.35	12k	21k	20	--	--	--	--	--	--
NOV													
05...	<0.008	0.35	0.32	0.35	16k	31	10k	<2	6	0.4	<0.04	<0.2	<6
DEC													
09...	<0.008	0.06	0.05	0.06	3k	5k	2k	--	--	--	--	--	--
JAN													
22...	<0.008	0.27	0.27	0.29	7k	27	7k	E1	4	0.3	<0.04	<0.2	<6
FEB													
10...	E.006	0.16	0.17	0.18	<1b	<1b	3k	--	--	--	--	--	--
10...	E.006	0.17	0.17	0.18	<1b	<1b	<1b	--	--	--	--	--	--
MAR													
24...	E.007	0.10	0.11	0.11	5k	8k	7k	--	--	--	--	--	--
APR													
14...	0.010	0.16	0.16	0.18	1k	5k	3k	--	--	--	--	--	--
MAY													
12...	0.014	0.13	0.16	0.16	5k	8k	7k	E2	E2	0.4	<0.04	<0.2	<6
JUN													
16...	E.006	0.07	0.08	0.10	25	21	20	--	--	--	--	--	--
JUL													
07...	E.007	0.15	0.17	0.18	7k	33	13k	3	15	0.5	<0.04	<0.2	<7
07...	<0.008	<0.02	<0.04	<0.04	--	--	--	<2	<2	<0.3	<0.04	<0.2	<7
AUG													
20...	E.005n	E.12nd	0.11	0.11	16k	18k	85	--	--	--	--	--	--
SEP													
09...	<0.008	0.07	0.08	0.09	--e	--e	84	--	--	--	--	--	--

07189000 ELK RIVER NEAR TIFF CITY, MO—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen- ium, water, fltrd, µg/L (01145)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
OCT								
16...	--	--	--	--	--	--	--	--
NOV								
05...	<10	0.10	<1	E1.1n	<0.02	<0.5	1	<2
DEC								
09...	--	--	--	--	--	--	--	--
JAN								
22...	E6	<0.08	M	E.9	<0.02	<0.5	4	3
FEB								
10...	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--
MAR								
24...	--	--	--	--	--	--	--	--
APR								
14...	--	--	--	--	--	--	--	--
MAY								
12...	<10	<0.08	<1	2.2	<0.02	<0.5	3	E2
JUN								
16...	--	--	--	--	--	--	--	--
JUL								
07...	<8	<0.08	<1	4.5	<0.02	<0.5	1	<2
07...	<8	<0.08	<1	<0.4	<0.02	<0.5	<1	2
AUG								
20...	--	--	--	--	--	--	--	--
SEP								
09...	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

07189100 BUFFALO CREEK AT TIFF CITY, MO

LOCATION.--Lat 36°40'15", long 94°36'14", in NW 1/4 NE 1/4 SE 1/4 sec. 4, T.22 N., R.34 W., McDonald County, Hydrologic Unit 11070208, on downstream side of Highway 76 bridge, 0.5 mi east of Tiff City.

DRAINAGE AREA.--60.8 mi^2.

PERIOD OF RECORD.--May 24, 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is unknown.

REMARKS.--No estimated daily discharges. Records fair except for discharges below 5 ft^3/s, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.44	13	1.5	49	4.1	38	76	37	25	19	3.1	33
2	0.35	10	1.5	45	4.1	47	66	34	27	17	4.0	47
3	0.30	8.6	1.7	38	4.2	61	58	33	25	16	3.8	49
4	0.28	6.7	3.8	32	3.9	63	51	32	24	14	3.5	39
5	0.25	6.2	3.3	26	3.9	59	44	30	23	13	3.6	30
6	0.20	5.0	3.0	21	4.2	51	77	27	22	12	2.8	23
7	0.21	4.3	3.2	17	4.0	43	202	24	20	10	1.5	18
8	0.22	4.0	3.0	15	3.8	39	185	23	18	9.0	2.2	14
9	0.23	3.8	3.0	13	4.3	34	147	21	17	8.1	2.0	11
10	0.23	3.7	3.1	11	4.4	30	119	19	16	9.4	1.5	8.4
11	0.19	3.4	3.1	9.7	4.3	26	98	17	845	8.1	1.2	7.4
12	0.23	3.1	3.1	8.7	3.9	24	81	16	517	9.2	1.4	7.0
13	0.19	2.9	5.0	7.9	4.1	23	68	21	290	7.8	1.5	6.6
14	0.15	2.8	6.3	7.3	9.0	33	58	39	171	7.5	2.0	5.6
15	0.18	2.6	7.7	7.0	13	34	51	44	118	7.1	1.9	4.8
16	0.16	2.5	8.6	7.0	25	30	47	416	90	6.3	1.6	4.2
17	0.14	2.3	9.2	6.0	37	28	42	602	72	5.6	0.95	3.8
18	0.17	2.3	11	5.5	37	27	38	305	60	5.1	0.95	4.1
19	0.22	2.1	12	5.5	45	33	35	187	50	4.6	1.0	4.3
20	0.28	2.0	13	5.3	94	120	32	135	44	4.1	0.93	3.3
21	0.25	2.0	13	5.2	102	201	29	97	39	3.6	0.66	3.1
22	0.29	1.9	12	4.9	85	159	26	74	34	5.4	0.41	3.3
23	0.31	1.8	11	4.6	70	128	25	57	31	4.6	0.26	2.9
24	0.34	1.9	11	4.3	57	108	31	52	28	4.5	0.24	2.8
25	1.3	1.8	9.0	4.2	47	90	35	52	25	4.6	0.22	2.5
26	1.2	1.7	8.0	4.2	40	73	41	49	32	4.5	0.20	2.2
27	2.3	1.7	7.4	4.1	37	61	42	44	32	4.0	0.21	1.9
28	5.3	1.6	7.1	4.2	36	69	40	39	29	3.4	0.23	1.8
29	14	1.6	8.4	4.4	---	93	37	35	26	3.0	8.8	1.7
30	12	1.6	19	4.4	---	101	33	32	22	2.7	22	2.0
31	13	---	36	4.3	---	89	---	28	---	2.4	23	---
MEAN	1.77	3.63	8.00	12.4	28.1	65.0	63.8	84.5	92.4	7.60	3.15	11.6
MAX	14	13	36	49	102	201	202	602	845	19	23	49
MIN	0.14	1.6	1.5	4.1	3.8	23	25	16	16	2.4	0.20	1.7
IN.	0.03	0.07	0.15	0.24	0.48	1.23	1.17	1.60	1.70	0.14	0.06	0.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

MEAN	9.49	15.8	27.8	53.0	128	67.6	57.2	187	137	22.4	4.39	4.38
MAX	23.3	26.1	66.8	98.2	256	70.2	81.4	466	254	49.0	8.27	11.6
(WY)	(2002)	(2002)	(2002)	(2001)	(2001)	(2002)	(2002)	(2002)	(2000)	(2000)	(2000)	(2003)
MIN	1.77	3.63	8.00	12.4	28.1	65.0	26.3	12.2	57.6	7.60	2.68	0.66
(WY)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)	(2001)	(2001)	(2002)	(2003)	(2002)	(2002)

07189100 BUFFALO CREEK AT TIFF CITY, MO—Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2000 - 2003	
ANNUAL MEAN	71.4		31.7		55.0	
HIGHEST ANNUAL MEAN					80.1	2002
LOWEST ANNUAL MEAN					31.7	2003
HIGHEST DAILY MEAN	1,730	May 13	845	Jun 11	2,390	Jun 21, 2000
LOWEST DAILY MEAN	0.11	Sep 18	0.14	Oct 17	0.11	Sep 18, 2002
ANNUAL SEVEN-DAY MINIMUM	0.17	Oct 13	0.17	Oct 13	0.17	Oct 13, 2002
MAXIMUM PEAK FLOW	---		1,690	Jun 11	5,500	Jun 3, 2001
MAXIMUM PEAK STAGE	---		6.43	Jun 11	10.23	Jun 3, 2001
INSTANTANEOUS LOW FLOW	---		0.11	Oct 16,17	0.09	Sep 17, 2002
ANNUAL RUNOFF (INCHES)	15.95		7.09		12.30	
10 PERCENT EXCEEDS	112		69		101	
50 PERCENT EXCEEDS	14		9.0		16	
90 PERCENT EXCEEDS	0.35		1.1		1.8	

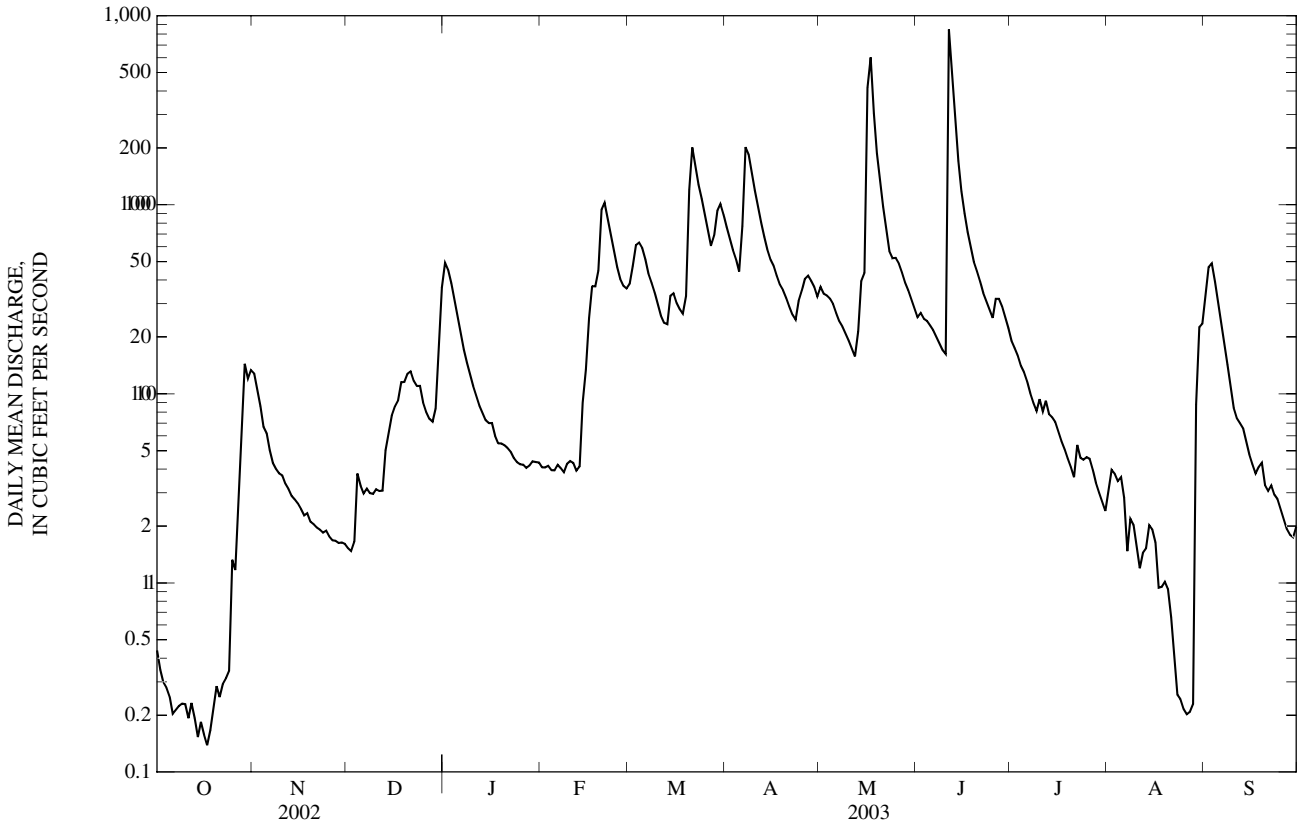


Figure 15. Location of partial-record stations.

DISCHARGE AT PARTIAL-RECORD STATIONS

The following table contains annual maximum discharges for crest-stage partial-record stations. A crest-stage gage is a device which will register the peak stage occurring at the station between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Maximum discharge at crest-stage partial-record stations

Station number and name	Location and basin characteristics	Period of record	Water year 2003 maximum			Period of record maximum		
			Probable date	Gage height (feet)	Discharge (ft^3/s)	Probable date	Gage height (feet)	Discharge (ft^3/s)
Fabius River Basin								
05497485 Brushy Creek near Queen City, Mo.	Lat 40°24'01", long 92°25'31", in NE 1/4 sec.35, T.65 N., R.14 W., Hydrologic Unit 07110002, Schuyler County, on downstream side of bridge on State Highway E, about 7 miles east of Queen City. Drainage area 5.35 mi^2, slope 23.1 ft/mi.	1997-2003	+	<6.66	+	05-14-2002	12.32	2,020[a]
05499200 Little Fabius River near Edina, Mo.	Lat 40°03'29", long 92°10'29", in SW 1/4 sec.30, T.61 N., R.11 W., Hydrologic Unit 07110003, Knox County, on downstream side of bridge on State Highway 15, about 7 miles south of Edina. Drainage area 23.8 mi^2, slope 7.02 ft/mi.	1997-2003	05-04-03	10.85	484	05-14-2002	18.17	4,660[a]
05499900 Troublesome Creek near Ewing, Mo.	Lat 39°59'52", long 91°50'37", in SE 1/4 sec.13, T.60 N., R.9 W., Hydrologic Unit 07110003, Lewis County, on downstream side of bridge on State Highway 156, about 7 miles south of Lewistown. Drainage area 92.3 mi^2, slope 4.57 ft/mi.	1997-2003	06-26-03	15.16	843	05-14-2002	19.98	+
Salt River Basin								
05506193 Mud Creek near Moberly, Mo.	Lat 39°34'34", long 92°20'59", at center sec.10, T.55 N., R.13 W., Hydrologic Unit 07110006, Randolph County, on downstream side of bridge on State Highway J, about 16 miles northeast of Moberly. Drainage area 24.0 mi^2, slope 11.6 ft/mi.	1997-2003	09-01-03	11.51	1,050	05-10-2002	15.07	6,500[a]

Maximum discharge at crest-stage partial-record stations--continued

Station number and name	Location and basin characteristics	Period of record	Water year 2003 maximum			Period of record maximum		
			Probable date	Gage height (feet)	Discharge (ft^3/s)	Probable date	Gage height (feet)	Discharge (ft^3/s)
Cuivre River Basin								
05514170 Irvine Branch near Bowling Green, Mo.	Lat 39°17'24", long 91°16'07", in SW 1/4 sec.8, T.52 N., R.3 W., Hydrologic Unit 07110008, Pike County, on downstream side of bridge on State Highway Y, about 6 miles southwest of Bowling Green. Drainage area 12.9 mi^2, slope 26.3 ft/mi.	1997-2003	06-26-03	18.66	6,180[a]	06-26-03	18.66	6,180[a]
			06-04-01	14.31	1,850[bd]			
			05-16-02	13.32	1,490[ad]			
Little Tarkio Creek Basin								
06815530 Little Tarkio Creek near Tarkio, Mo.	Lat 40°24'38", long 95°16'23", in SE 1/4 sec.27, T.65 N., R.39 W., Hydrologic Unit 10240005, Atchison County, on downstream side of bridge on State Highway N, 7 miles east of Tarkio. Drainage area 16.1 mi^2, slope 19.0 ft/mi.	1997-2003	+	<10.35	+	06-14-2001	19.5±[cd]	3,900[ad]
Platte River Basin								
06819025 Agee Creek near Savannah, Mo.	Lat 40°03'41", long 94°42'01", at center sec.26, T.61 N., R.34 W., Hydrologic Unit 10240012, Andrew County, on downstream side of bridge on State Highway 48, 14 miles northeast of Savannah. Drainage area 6.54 mi^2, slope 24.5 ft/mi.	1997-2003	+	<11.05	+	06-19-2001	18.85	+
Fishing River Basin								
06894250 New Hope Creek near Holt, Mo.	Lat 39°27'29", long 94°18'22", in SW 1/4 sec.30, T.54 N., R.30 W., Hydrologic Unit 10300101, Clinton County, on downstream side of bridge on State Highway PP, 2 miles east of Holt. Drainage area 6.79 mi^2, slope 28.6 ft/mi.	1997-2003	+	<6.69	+	10-05-1998	14.39	+
Tabo Creek Basin								
06895192 Tabo Creek near Higginsville, Mo.	Lat 39°04'40", long 93°46'12", in NW 1/4 sec.3, T.49 N., R.26 W., Hydrologic Unit 10300101, Lafayette County, on downstream side of bridge on State Highway FF, 2 miles west of Higginsville. Drainage area 24.0 mi^2, slope 11.4 ft/mi.	1997-2003	05-05-03	9.58	325	02-12-1999	19.80	+

Maximum discharge at crest-stage partial-record stations--continued

Station number and name	Location and basin characteristics	Period of record	Water year 2003 maximum			Period of record maximum		
			Probable date	Gage height (feet)	Discharge (ft^3/s)	Probable date	Gage height (feet)	Discharge (ft^3/s)
Grand River Basin								
06896370 Big Muddy Creek near Bethany, Mo.	Lat 40°25'38", long 94°10'31", in NW 1/4 sec.21, T.65 N., R.29 W., Hydrologic Unit 10280101, Harrison County, on downstream side of bridge on State Highway M, 18 miles northwest of Bethany. Drainage area 29.4 mi^2, slope 14.2 ft/mi.	1997-2003	+	<8.22	+	04-08-2001	16.39	+
06897507 Marrowbone Creek near Gallatin, Mo.	Lat 39°49'02", long 94°05'34", in SW 1/4 sec.19, T.58 N., R.28 W., Hydrologic Unit 10280101, Daviess County, on downstream side of bridge on State Highway J, 12 miles southwest of Gallatin. Drainage area 17.7 mi^2, slope 17.1 ft/mi.	1997-2003	+	<8.35	+	10-05-1998	17.43	+
06900690 Smokey Creek near Linneus, Mo.	Lat 39°52'51", long 93°19'39", in NE 1/4 sec.2, T.58 N., R.22 W., Hydrologic Unit 10280103, Linn County, on downstream side of bridge on State Highway B, about 7 miles west of Linneus. Drainage area 10.5 mi^2, slope 13.5 ft/mi.	1997-2003	+	<10.63	+	02-08-2001	15.43	+
06901100 Locust Creek at Reger, Mo.	Lat 40°08'31", long 93°11'07", in NE 1/4 SW 1/4 SE 1/4 sec.30, T.62 N., R.20 W., Hydrologic Unit 10280201, Sullivan County, on downstream side of State Highway 6 and 0.3 mile east of Reger. Datum of gage is 774.67 ft above sea level. Drainage area 232 mi^2.	1987-2003	05-11-03	3.75	391	07-07-1993	21.88	19,700
06903190 Rock Branch near Carrollton, Mo.	Lat 39°32'10", long 93°27'32", in SE 1/4 sec.34, T.55 N., R.23 W., Hydrologic Unit 10280103, Carroll County, on downstream side of bridge on State Highway WW, 12 miles north of Carrollton. Drainage area 4.45 mi^2, slope 30.6 ft/mi.	1997-2003	09-01-03	10.01	170	11-02-1998	14.53	+
Chariton River Basin								
06904600 Spring Creek near Milan, Mo.	Lat 40°20'34", long 92°57'18", in SE 1/4 sec.18, T.64 N., R.18 W., Hydrologic Unit 10280202, Sullivan County, on downstream side of bridge on State Highway 129, 16 miles northeast of Milan or about 5.5 miles north of Green City. Drainage area 13.7 mi^2, slope 17.8 ft/mi.	1997-2003	+	<7.38	+	06-06-2001	12.13	+

Maximum discharge at crest-stage partial-record stations--continued

Station number and name	Location and basin characteristics	Period of record	Water year 2003 maximum			Period of record maximum		
			Probable date	Gage height (feet)	Discharge (ft^3/s)	Probable date	Gage height (feet)	Discharge (ft^3/s)
Chariton River Basin--Continued								
06904950 Walnut Creek near Novinger, Mo.	Lat 40°06'24", long 92°45'23", in NW 1/4 sec.12, T.61 N., R.17 W., Hydrologic Unit 10280202, Adair County, on downstream side of bridge on State Highways 11 and 149, 11 miles south of Novinger. Drainage area 13.5 mi^2, slope 14.1 ft/mi.	1997-2003	+	<8.93	+	05-12-2002	22.14	14,000[a]
Lamine River Basin								
06906715 Lake Creek near Cole Camp, Mo.	Lat 38°30'37", long 93°08'25", in NW 1/4 sec.9, R.43 N., R.20 W., Hydrologic Unit 10300103, Benton County, on downstream side of bridge on State Highway JJ, 6 miles northeast of Cole Camp. Drainage area 12.2 mi^2, slope 35.3 ft/mi.	1997-2003	05-05-03	7.65	1,470	04-13-2001	15.08	+
06907710 Little Walnut Creek near Knob Noster, Mo.	Lat 38°50'40", long 93°32'50", in SW 1/4 sec.22, T.47 N., R.24 W., Hydrologic Unit 10300104, Johnson County, on downstream side of bridge on State Highway 23, 5 miles north of Knob Noster. Drainage area 8.20 mi^2, slope 23.3 ft/mi.	1997-2003	05-11-03	10.96	+	07-30-1998	15.66	+
06908495 Camp Creek near Marshall, Mo.	Lat 39°06'12", long 93°03'21", in NW 1/4 sec.24, T.50 N., R.20 W., Hydrologic Unit 10300104, Saline County, on downstream side of bridge on State Highway 41, 7 miles east of Marshall. Drainage area 10.8 mi^2, slope 16.9 ft/mi.	1997-2003	05-06-03	12.93	2,180[a]	06-08-2001 05-12-2002	14.24	+
Bonne Femme Creek Basin								
06909220 Ganaway Creek near Fayette, Mo.	Lat 39°15'54", long 92°39'51", in NW 1/4 sec.36, T.52 N., R.16 W., Hydrologic Unit 10300102, Howard County, on downstream side of culvert on State Highway U, 11 miles north of Fayette or 2.5 miles east of Armstrong. Drainage area 4.55 mi^2, slope 57.9 ft/mi.	1997-2003	05-19-03	15.17	1,530[a]	05-19-2003	15.17	1,530[a]
Moniteau Creek Basin								
06910265 Moniteau Creek near California, Mo.	Lat 38°43'57", long 92°38'17", in E 1/2 sec.23, T.46 N., R.16 W., Hydrologic Unit 10300102, Cooper County, on downstream side of bridge on State Highway O, 9 miles northwest of California. Drainage area 67.6 mi^2, slope 16.0 ft/mi.	1997-2003	05-05-03 07-30-98 06-08-01 08-22-02	12.87 15.60 14.49 11.01	+ +[d] +[d] 4,760[d]	07-30-1998	15.60	+

Maximum discharge at crest-stage partial-record stations--continued

Station number and name	Location and basin characteristics	Period of record	Water year 2003 maximum			Period of record maximum		
			Probable date	Gage height (feet)	Discharge (ft^3/s)	Probable date	Gage height (feet)	Discharge (ft^3/s)
Osage River Basin								
06918270 Clear Creek near Nevada, Mo.	Lat 37°41'20", long 94°13'35", in SW 1/4 sec.16, T.34 N., R.30 W., Hydrologic Unit 10290105, Vernon County, on downstream side of bridge on State Highway DD, 16 miles southeast of Nevada. Drainage area 23.2 mi^2, slope 13.5 ft/mi.	1997-2003	06-07-03	7.69	304	05-05-1999	16.29	+
			05-08-02	13.65	1,660[d]			
06919004 Bear Creek near Bolivar, Mo.	Lat 37°35'00", long 93°28'02", in NW 1/4 sec.21, T.33 N., R.23 W., Hydrologic Unit 10290106, Polk County, on downstream side of bridge on State Highway T, 3.5 miles southwest of Bolivar. Drainage area 7.45 mi^2, slope 26.0 ft/mi.	1997-2003	08-25-03	4.93	+	05-05-1999	8.35	1,850[b]
06921712 Clear Creek near Harrisonville, Mo.	Lat 38°37'35", long 94°11'27", in NW 1/4 sec.12, T.44 N., R.30 W., Hydrologic Unit 10290108, Cass County, on downstream side of bridge on State Highway Z, 9 miles east of Harrisonville. Drainage area 11.4 mi^2, slope 14.8 ft/mi.	1997-2003	06-07-03	9.28	+	05-09-2002	14.83	+
06925432 Barnett Hollow near Camdenton, Mo.	Lat 37°59'52", long 92°31'39", in SW 1/4 sec.25, T.38 N., R.15 W., Hydrologic Unit 10290109, Camden County, on downstream side of bridge on State Highway A, 14 miles east of Camdenton or 5 miles northeast of Montreal. Drainage area 6.98 mi^2, slope 55.5 ft/mi.	1997-2003	+	<3.70	+	04-19-2002	7.00	1,700[a]
Gasconade River Basin								
06927746 Selvage Hollow near Lebanon, Mo.	Lat 37°33'13", long 92°40'52", in NW 1/4 sec.27, T.33 N., R.16 W., Hydrologic Unit 10290201, Laclede County, on downstream side of culvert on State Highway C, 5.5 miles east of Phillipsburg or 9 miles south of Lebanon. Drainage area 9.72 mi^2 slope 40.2 ft/mi.	1997-2003	06-14-03	2.97	39	07-28-2001	5.49	1,430[b]
06928850 Hamilton Creek near Cabool, Mo.	Lat 37°11'47", long 92°05'43", in N 1/2 sec.13, T.29 N., R.11 W., Hydrologic Unit 10290202, Texas County, on downstream side of bridge on State Highway PP, 5 miles north of Cabool. Drainage area 9.29 mi^2, slope 42.9 ft/mi.	1997-2003	04-29-03	8.25	3,480	05-20-2002	9.42	4,600[a]

Maximum discharge at crest-stage partial-record stations--continued

Station number and name	Location and basin characteristics	Period of record	Water year 2003 maximum			Period of record maximum		
			Probable date	Gage height (feet)	Discharge (ft^3/s)	Probable date	Gage height (feet)	Discharge (ft^3/s)
Loutre River Basin								
06934680 Dry Fork near Hermann, Mo.	Lat 38°46'29", long 91°33'53", in SW 1/4 sec.2, T.46 N., R.6 W., Hydrologic Unit 10300200, Montgomery County, on downstream side of bridge on State Highway P, 11 miles northwest of Hermann or 20 miles south of Montgomery City. Drainage area 7.66 mi^2, slope 68.7 ft/mi.	1997-2003	09-05-03	7.48	+	12-18-2001	7.56	+
Boeuf Creek Basin								
06935175 Cedar Fork near Gerald, Mo.	Lat 38°27'44", long 91°18'29", in NW 1/4 sec.19, T.43 N., R.3 W., Hydrologic Unit 10300200, Franklin County, on downstream side of bridge on State Highway ZZ, 4.5 miles north of Gerald. Drainage area 8.53 mi^2, slope 34.3 ft/mi.	1997-2003	05-06-03	11.21	1,720[a]	05-07-2000	17.70	11,600[ad]
			02-26-01	9.34	886[d]			
			04-20-02	11.07	1,610[d]			
Meramec River Basin								
07015757 Upper Peavine Creek near Belle, Mo.	Lat 38°11'54", long 91°42'03", in SE 1/4 sec.16, T.40 N., R.7 W., Hydrologic Unit 07140103, Maries County, on downstream side of bridge on State Highway C, 7 miles south of Belle. Drainage area 6.79 mi^2, slope 32.0 ft/mi	1997-2003	06-11-03	9.39	757	06-22-1997	12.19	2,660[d]
			06-04-98	10.04	1,040[bd]			
			02-25-01	9.33	734[d]			
			05-09-02	9.21	688[d]			
07017733 Bates Creek at Potosi, Mo.	Lat 37°56'35", long 90°48'23", near sec.9, T.37 N., R.2 E., Hydrologic Unit 07140104, Washington County, on downstream side of bridge on State Highway 8, 0.5 mile west of Potosi. Drainage area 14.1 mi^2, slope 39.8 ft/mi.	1997-2003	05-04-03	5.96	430[a]	11-06-1997	8.64	2,050[b]
Headwater Diversion Channel Basin								
07020895 Castor River near Fredericktown, Mo.	Lat 37°34'40", long 90°09'50", in S 1/2 sec.4, T.33 N., R.8 E., Hydrologic Unit 07140107, Madison County, on downstream side of bridge on State Highway J, 7 miles east of Fredericktown. Drainage area 33.5 mi^2, slope 28.6 ft/mi.	1997-2003	04-25-03	8.16	1,370	04-03-1999	15.58	11,500[a]
			02-25-01	8.30	1,410[d]			
			05-20-02	12.30	3,100[d]			

Maximum discharge at crest-stage partial-record stations--continued

Station number and name	Location and basin characteristics	Period of record	Water year 2003 maximum			Period of record maximum		
			Probable date	Gage height (feet)	Discharge (ft^3/s)	Probable date	Gage height (feet)	Discharge (ft^3/s)
Headwater Diversion Channel Basin--Continued								
07020965 Bear Creek near Patterson, Mo.	Lat 37°13'30", long 90°19"31", in SW 1/4 sec.31, T.30 N., R.7 E., Hydrologic Unit 07140107, Wayne County, on downstream side of bridge on State Highway 34, 10.5 miles east of Patterson or 20 miles west of Marble Hill. Drainage area 13.1 mi^2, slope 33.5 ft/mi.	1997-2003	06-12-03	7.83	808	05-19-2002	13.46	8,890[a]
White River Basin								
07050545 North Carolina Creek near Marshfield, Mo.	Lat 37°14'53", long 93°00'30", in SE 1/4 sec.4, T.29 N., R.19 W., Hydrologic Unit 11010002, Webster County, on downstream side of culvert on State Highway B, 8 miles southwest of Marshfield. Drainage area 6.30 mi^2, slope 57.0 ft/mi.	1997-2003	06-13-03	2.81	57	05-20-2002	5.51	+
07052370 Dry Crane Creek near Crane, Mo.	Lat 36°56'18", long 93°26'05", in SE 1/4 sec.22, T.26 N., R.23 W., Hydrologic Unit 11010002, Stone County, on downstream side of bridge on State Highway A, 10 miles east of Crane. Drainage area 10.9 mi^2, slope 29.6 ft/mi.	1997-2003	+	<8.30	+	03-20-1998	8.79	+
07054047 Little Beaver Creek near Ava, Mo.	Lat 36°53'55", long 92°52'04", in SW 1/4 sec.36, T.26 N., R.18 W., Hydrologic Unit 11010003, Douglas County, on downstream side of bridge on State Highway T, 13 miles southwest of Ava. Drainage area 25.5 mi^2, slope 47.4 ft/mi.	1997-2003	+	<7.16	+	05-19-2002	10.72	3,380[b]
07061260 East Fork Black River near Ironton, Mo.	Lat 37°36'14", long 90°47'19", in SE 1/4 sec.35, T.34 N., R.2 E., Hydrologic Unit 11010007, Iron County, on downstream side of bridge on State Highway N, 10 miles west of Ironton at Iron/Reynolds County line. Drainage area 16.2 mi^2, slope 60.7 ft/mi.	1997-2003	06-12-03	8.57	1,130	05-19-2002	15.41	9,900[a]
07063470 Tenmile Creek near Poplar Bluff, Mo.	Lat 36°46'59", long 90°33'35", in SE 1/4 sec.30, T.25 N., R.5 E., Hydrologic Unit 11010007, Butler County, on downstream side of bridge on State Highway TT, 8 miles west of Poplar Bluff. Drainage area 59.0 mi^2, slope 17.0 ft/mi.	1997-2003	09-03-03 04-06-97 07-29-01	12.90 11.82 5.56	10,200[a] 8,130[bd] 1,500[d]	05-19-2002	13.81	11,700[b]

Maximum discharge at crest-stage partial-record stations--continued

Station number and name	Location and basin characteristics	Period of record	Water year 2003 maximum			Period of record maximum		
			Probable date	Gage height (feet)	Discharge (ft^3/s)	Probable date	Gage height (feet)	Discharge (ft^3/s)
White River Basin--Continued								
07071750 Louse Creek near Alton, Mo.	Lat 36°34'37", long 91°19'06", near center sec.8, T.22 N., R.3 W., Hydrologic Unit 11010011, Oregon County, on downstream side of bridge on State Highway E, 10 miles southeast of Alton. Drainage area 5.69 mi^2, slope 48.1 ft/mi.	1997-2003	07-01-03	6.18	400[a]	04-05-1997	7.20	738[d]
			01-30-02	5.74	291[d]			

+ Not determined.
[a] Discharge determined by indirect method.
[b] Rating extrapolated beyond indirect peak discharge.
[c] From floodmark.
[d] Revised.

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 analyses. The data are collected bi-annually rather than quarterly.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	ANC, wat unf fixed end pt, field, mg/L as $CaCO_3$ (00410)	ANC, wat unf incrm. titr., field, mg/L as $CaCO_3$ (00419)	Bicarbonate, wat unf incrm. titr., field, mg/L (00450)	Carbonate, wat unf incrm. titr., field, mg/L (00447)
07064400 MONTAUK SPRINGS AT MONTAUK												
OCT												
09...	1100	Environmental	61	7.1	70	7.7	315	13.7	160	160	195	<1
MAY												
07...	1145	Environmental	111	8.2	82	6.9	262	13.6	125	126	154	<1
07064440 CURRENT RIVER BELOW MONTAUK STATE PARK												
OCT												
09...	0945	Environmental	71	9.8	97	8.0	315	13.6	152	151	185	<1
MAY												
07...	1350	Environmental	151	12.3	131	7.7	263	16.5	122	122	149	<1
07...	1351	Blank	--	--	--	--	--	--	--	--	--	--
07064530 WELCH SPRING NEAR AKERS												
OCT												
08...	0855	Environmental	110	9.2	91	7.6	335	13.7	174	173	211	<1
MAY												
07...	0930	Environmental	1,760	8.2	82	6.9	245	13.5	123	124	151	<1
07064555 PULLTITE SPRING NEAR ROUND SPRING												
OCT												
08...	1100	Environmental	33	8.2	83	7.8	304	13.9	146	147	179	<1
MAY												
06...	1330	Environmental	113	9.7	97	7.0	221	13.4	105	106	129	<1
07065000 ROUND SPRING AT ROUND SPRING												
OCT												
08...	1245	Environmental	31	7.8	79	7.7	335	14.4	179	179	218	<1
MAY												
05...	1110	Environmental	53	10.3	104	7.1	223	13.8	111	112	137	<1
07065500 ALLEY SPRING AT ALLEY												
OCT												
08...	1420	Environmental	98	9.0	90	7.7	309	14.0	159	158	193	<1
08...	1421	Replicate	--	--	--	--	--	--	--	--	--	--
MAY												
06...	1640	Environmental	175	10.3	103	6.7	191	13.8	89	90	110	<1
07066510 CURRENT RIVER ABOVE POWDER MILL												
OCT												
07...	1600	Environmental	1,000	10.0	105	8.5	352	17.0	181	180	215	4
MAY												
05...	1345	Environmental	2,500	10.3	114	7.8	274	18.3	134	134	164	<1
07066550 BLUE SPRING NEAR EMINENCE												
OCT												
07...	1440	Environmental	96	8.8	86	7.8	326	13.9	157	157	191	<1
MAY												
05...	1530	Environmental	181	10.4	102	7.4	207	13.0	87	87	106	<1
07067800 CURRENT RIVER BELOW HAWES CAMPGROUND												
OCT												
07...	1130	Environmental	1,220	9.0	92	8.2	353	16.3	178	177	216	<1
MAY												
06...	0920	Environmental	2,450	8.7	93	7.3	282	17.7	143	143	174	<1
06...	0921	Replicate	--	8.7	94	7.3	282	17.7	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

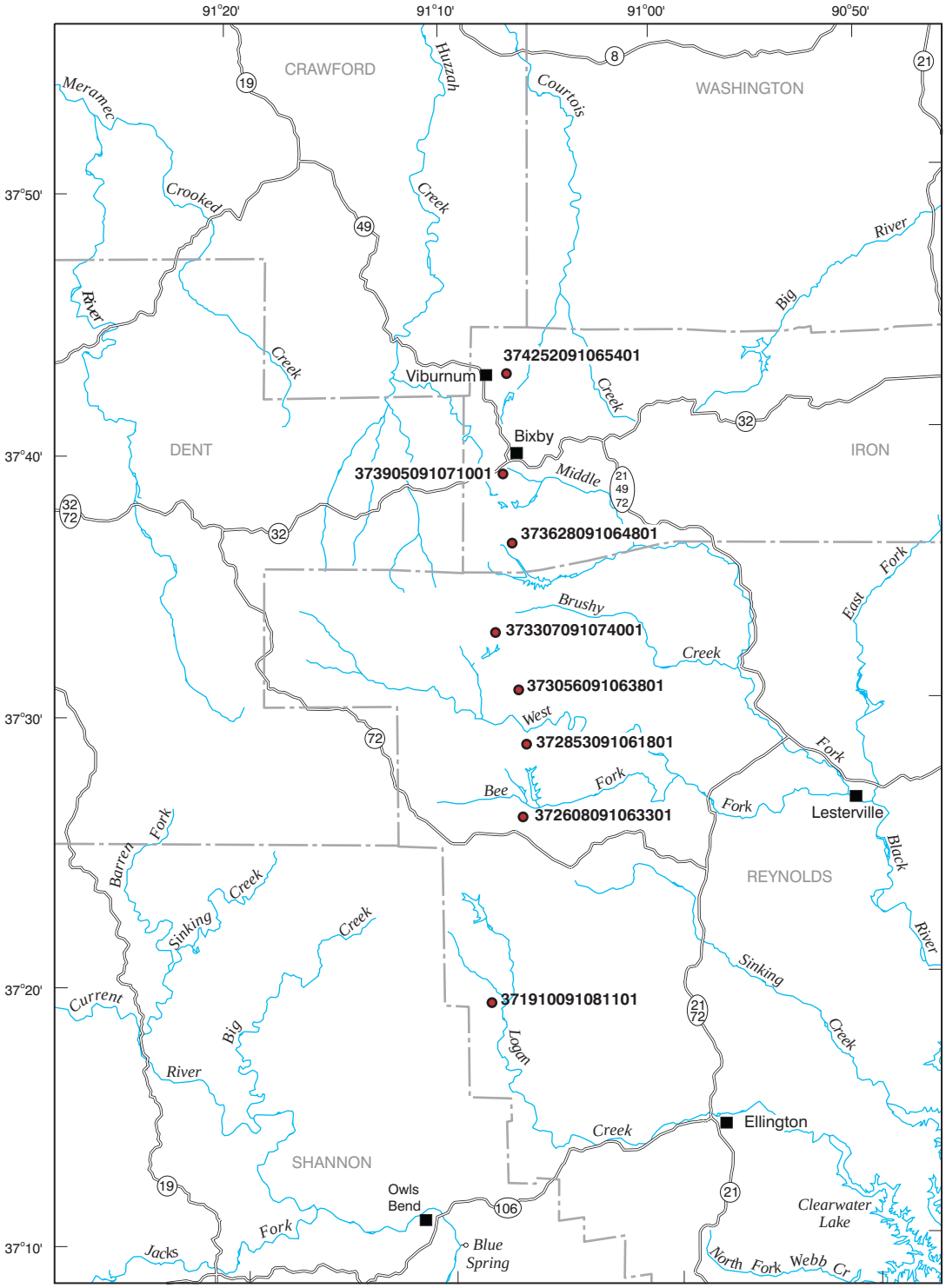
Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli-form, M-FC 0.7µ MF col/ 100 mL (31625)	Fecal strep-tococci KF MF, col/ 100 mL (31673)
07064400 MONTAUK SPRINGS AT MONTAUK										
OCT										
09...	<0.10	<0.04	0.81	E.005	<0.02	<0.04	<0.04	1k	1k	15k
MAY										
07...	E.06	<0.04	0.57	<0.008	<0.02	<0.04	<0.04	4k	6k	7k
07064440 CURRENT RIVER BELOW MONTAUK STATE PARK										
OCT										
09...	E.09	<0.04	0.76	0.011	<0.02	<0.04	E.02	3k	21	20
MAY										
07...	0.15	E.03	0.49	<0.008	<0.02	<0.04	<0.04	9k	29	41
07...	E.07	<0.04	<0.06	<0.008	<0.02	<0.04	<0.04	--	--	--
07064530 WELCH SPRING NEAR AKERS										
OCT										
08...	<0.10	<0.04	0.69	<0.008	<0.02	<0.04	<0.04	2k	3k	8k
MAY										
07...	<0.10	<0.04	0.58	<0.008	<0.02	E.02	<0.04	25	64	80
07064555 PULLTITE SPRING NEAR ROUND SPRING										
OCT										
08...	E.06	<0.04	0.55	0.009	<0.02	E.02	<0.04	<1b	4k	8k
MAY										
06...	E.06	<0.04	0.47	<0.008	<0.02	<0.04	<0.04	21k	25	54
07065000 ROUND SPRING AT ROUND SPRING										
OCT										
08...	<0.10	<0.04	0.28	0.010	<0.02	<0.04	<0.04	<1b	<1b	9k
MAY										
05...	E.08	<0.04	0.37	<0.008	<0.02	<0.04	<0.04	100	110	200
07065500 ALLEY SPRING AT ALLEY										
OCT										
08...	<0.10	<0.04	0.67	E.006	<0.02	E.02	E.02	1k	2k	1k
08...	<0.10	<0.04	0.69	<0.008	<0.02	<0.04	E.02	--	--	--
MAY										
06...	E.10	<0.04	0.60	<0.008	<0.02	E.03	<0.04	30	49	104
07066510 CURRENT RIVER ABOVE POWDER MILL										
OCT										
07...	E.07	<0.04	0.30	<0.008	<0.02	<0.04	E.02	<1b	9k	2k
MAY										
05...	E.10	<0.04	0.33	<0.008	<0.02	E.02	<0.04	6k	15k	19k
07066550 BLUE SPRING NEAR EMINENCE										
OCT										
07...	<0.10	<0.04	0.42	<0.008	E.01	<0.04	E.02	1k	5k	2k
MAY										
05...	<0.10	<0.04	0.37	<0.008	<0.02	<0.04	<0.04	3k	7k	12k
07067800 CURRENT RIVER BELOW HAWES CAMPGROUND										
OCT										
07...	E.07	<0.04	0.29	<0.008	<0.02	<0.04	<0.04	<1b	23	6k
MAY										
06...	0.14	<0.04	0.30	<0.008	<0.02	<0.04	<0.04	59	100	87
06...	E.08	<0.04	0.30	<0.008	<0.02	<0.04	<0.04	51	79k	93

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Cadmium water, unfltrd µg/L (01027)	Lead, water, unfltrd recover -able, µg/L (01051)	Silver, water, unfltrd recover -able, µg/L (01077)	Zinc, water, unfltrd recover -able, µg/L (01092)
07064400 MONTAUK SPRINGS AT MONTAUK				
OCT				
09...	<0.2	<1	<0.3	E10n
MAY				
07...	<0.2	<1	<0.3	E20
07064440 CURRENT RIVER BELOW MONTAUK STATE PARK				
OCT				
09...	<0.2	<1	<0.3	<20
MAY				
07...	<0.2	<1	<0.3	30
07...	<0.2	<1	<0.3	<20
07064530 WELCH SPRING NEAR AKERS				
OCT				
08...	<0.2	<1	<0.3	<20
MAY				
07...	<0.2	M	<0.3	30
07064555 PULLTITE SPRING NEAR ROUND SPRING				
OCT				
08...	<0.2	<1	<0.3	<20
MAY				
06...	<0.2	M	<0.3	<20
07065000 ROUND SPRING AT ROUND SPRING				
OCT				
08...	<0.2	<1	<0.3	<20
MAY				
05...	<0.2	<1	<0.3	<20
07065500 ALLEY SPRING AT ALLEY				
OCT				
08...	<0.2	<1	<0.3	<20
08...	<0.2	<1	<0.3	<20
MAY				
06...	<0.2	<1	<0.3	<20
07066510 CURRENT RIVER ABOVE POWDER MILL				
OCT				
07...	<0.2	<1	<0.3	<20
MAY				
05...	<0.2	<1	<0.3	<20
07066550 BLUE SPRING NEAR EMINENCE				
OCT				
07...	<0.2	<1	<0.3	<20
MAY				
05...	<0.2	<1	<0.3	E20
07067800 CURRENT RIVER BELOW HAWES CAMPGROUND				
OCT				
07...	E.1	<1	<0.3	<20
MAY				
06...	<0.2	<1	<0.3	<20
06...	<0.2	<1	<0.3	<20

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
b -- Value was extrapolated below
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL



Base from U.S. Geological Survey digital data, 1:100,000, 1983 and 1986
Universal Transverse Mercator projection
Zone 15

0 1 2 3 4 5 MILES
0 1 2 3 4 5 KILOMETERS

EXPLANATION

373056091063801 ● GROUND-WATER MONITORING WELL AND NUMBER

Figure 16. Location of ground-water monitoring wells.

IRON COUNTY

WELL IDENTIFICATION.--374252091065401; T35N R02W 26DBB; Viburnum Trend Well 1.

LOCATION.--Lat 37o42°52", long 91o06°54", NW ¼ NW ¼ SE ¼ sec.26, T.35 N., R.02 W., approximately 1 mile east of State Route Y in Viburnum.

FORMATIONS OPEN TO WELL.--Unconfined Ozark aquifer, Eminence Dolomite/Potosi Dolomite of Cambrian Age.

CONSTRUCTION DATA.--Drilled December 10, 2001, total depth of well, 110 feet, 80 feet of 6-inch steel casing, open hole.

INSTRUMENTATION.--Pressure transducer and data logger installed February 22, 2002. Water level recorded hourly.

DATUM.--Land surface altitude is 1,140 feet above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point is top of steel casing 2.4 feet above land surface.

REMARKS.--None.

PERIOD OF RECORD.--February 23, 2002 to current year.

EXTREMES FOR 2002 WATER YEAR.--Maximum depth 66.94 ft, Sept. 19; minimum 52.77 ft, May 19.

EXTREMES FOR CURRENT YEAR.--Maximum depth 72.10 ft, Dec. 14; minimum 56.26 ft, May 10.

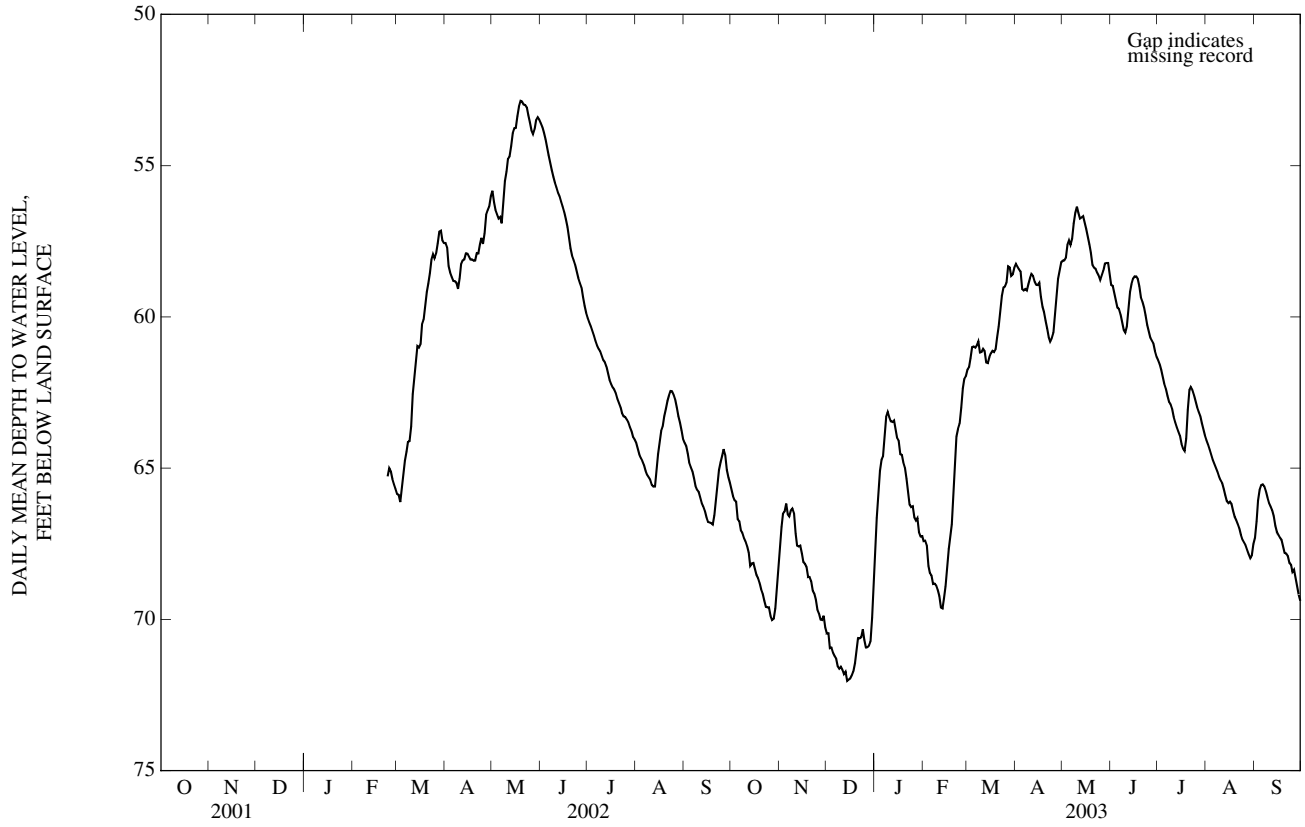
DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	65.85	57.56	55.83	53.60	60.04	64.15	64.16
2	---	---	---	---	---	65.88	57.71	56.21	53.72	60.18	64.34	64.26
3	---	---	---	---	---	66.12	58.32	56.46	53.91	60.31	64.54	64.52
4	---	---	---	---	---	65.64	58.53	56.61	54.13	60.47	64.67	64.82
5	---	---	---	---	---	65.17	58.68	56.75	54.41	60.62	64.76	64.96
6	---	---	---	---	---	64.75	58.81	56.70	54.65	60.79	64.89	65.10
7	---	---	---	---	---	64.46	58.82	56.90	54.89	60.94	65.08	65.34
8	---	---	---	---	---	64.14	58.87	56.15	55.15	61.06	65.22	65.58
9	---	---	---	---	---	64.10	59.07	55.52	55.37	61.14	65.29	65.71
10	---	---	---	---	---	63.62	58.73	55.19	55.55	61.28	65.38	65.78
11	---	---	---	---	---	62.55	58.26	54.78	55.72	61.43	65.55	65.98
12	---	---	---	---	---	61.99	58.13	54.69	55.89	61.50	65.61	66.16
13	---	---	---	---	---	61.45	58.10	54.36	56.01	61.64	65.61	66.27
14	---	---	---	---	---	60.97	57.90	53.93	56.20	61.87	65.10	66.41
15	---	---	---	---	---	61.01	57.91	53.76	56.35	62.08	64.54	66.62
16	---	---	---	---	---	60.90	58.00	53.75	56.53	62.22	64.15	66.78
17	---	---	---	---	---	60.25	58.10	53.37	56.77	62.33	63.77	66.80
18	---	---	---	---	---	60.09	58.10	53.05	57.03	62.41	63.63	66.82
19	---	---	---	---	---	59.63	58.14	52.86	57.37	62.52	63.28	66.86
20	---	---	---	---	---	59.17	58.14	52.88	57.73	62.70	63.04	66.56
21	---	---	---	---	---	58.91	57.89	52.98	57.98	62.85	62.78	66.02
22	---	---	---	---	---	58.56	57.90	53.00	58.13	62.98	62.60	65.51
23	---	---	---	---	65.27	58.10	57.60	53.08	58.28	63.18	62.45	65.06
24	---	---	---	---	65.00	57.93	57.39	53.32	58.49	63.29	62.46	64.80
25	---	---	---	---	65.10	58.06	57.59	53.56	58.72	63.31	62.58	64.58
26	---	---	---	---	65.36	57.91	57.23	53.83	58.88	63.40	62.73	64.38
27	---	---	---	---	65.54	57.57	56.62	53.96	59.03	63.49	62.98	64.56
28	---	---	---	---	65.68	57.18	56.47	53.79	59.34	63.63	63.28	65.06
29	---	---	---	---	---	57.15	56.35	53.49	59.63	63.76	63.49	65.31
30	---	---	---	---	---	57.47	56.02	53.40	59.87	63.97	63.76	65.48
31	---	---	---	---	---	57.56	---	53.48	---	64.05	64.02	---
MEAN	---	---	---	---	---	61.10	57.90	54.44	56.64	62.11	64.06	65.54
MAX	---	---	---	---	---	66.12	59.07	56.90	59.87	64.05	65.61	66.86
MIN	---	---	---	---	---	57.15	56.02	52.86	53.60	60.04	62.45	64.16

IRON COUNTY—Continued

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65.71	67.55	70.46	67.53	67.41	61.74	58.25	58.14	58.94	61.42	64.08	67.30
2	65.93	66.94	70.45	66.64	67.40	61.66	58.34	58.13	58.98	61.55	64.22	66.76
3	66.07	66.50	70.95	65.93	67.55	61.37	58.43	58.04	59.21	61.75	64.39	66.07
4	66.10	66.44	70.93	65.09	68.23	61.00	58.50	57.61	59.48	62.00	64.54	65.71
5	66.69	66.17	71.10	64.72	68.46	60.98	59.08	57.46	59.69	62.21	64.72	65.56
6	66.75	66.53	71.21	64.61	68.55	61.02	59.13	57.61	59.74	62.37	64.85	65.54
7	67.06	66.59	71.29	63.97	68.83	60.95	59.08	57.41	59.92	62.61	64.99	65.60
8	67.13	66.40	71.55	63.30	68.81	60.82	59.13	56.91	60.17	62.81	65.12	65.75
9	67.30	66.34	71.63	63.14	68.88	61.18	58.91	56.56	60.44	62.89	65.27	65.97
10	67.42	66.49	71.56	63.32	69.02	61.16	58.71	56.35	60.52	63.03	65.40	66.15
11	67.58	67.16	71.66	63.45	69.23	61.06	58.58	56.56	60.31	63.31	65.49	66.27
12	67.79	67.56	71.80	63.48	69.60	61.13	58.65	56.75	59.69	63.49	65.69	66.38
13	68.23	67.59	71.73	63.42	69.63	61.51	58.83	56.71	59.18	63.65	65.89	66.58
14	68.15	67.56	72.03	63.72	69.32	61.53	58.94	56.67	58.92	63.78	66.09	66.90
15	68.13	67.81	71.98	64.00	68.90	61.33	58.95	56.87	58.74	63.92	66.16	67.11
16	68.35	68.10	71.96	64.09	68.31	61.20	58.87	57.09	58.66	64.20	66.11	67.20
17	68.53	68.16	71.85	64.54	67.68	61.12	59.34	57.35	58.66	64.36	66.18	67.30
18	68.63	68.26	71.71	64.56	67.28	61.16	59.67	57.60	58.74	64.43	66.41	67.37
19	68.80	68.60	71.44	64.81	66.86	61.07	59.84	57.87	58.99	64.03	66.60	67.60
20	69.01	68.59	71.04	64.98	65.93	60.69	60.12	58.28	59.36	63.07	66.72	67.80
21	69.14	68.73	70.61	65.35	64.77	60.32	60.38	58.37	59.50	62.42	66.84	67.82
22	69.38	69.05	70.63	65.79	63.96	59.79	60.68	58.41	59.70	62.32	66.99	67.90
23	69.58	69.15	70.59	66.20	63.70	59.31	60.82	58.53	59.95	62.42	67.20	68.13
24	69.61	69.33	70.33	66.29	63.53	59.02	60.71	58.63	60.26	62.59	67.37	68.19
25	69.60	69.67	70.66	66.26	63.01	59.00	60.53	58.78	60.48	62.79	67.46	68.43
26	69.88	69.81	70.93	66.63	62.36	58.87	59.95	58.62	60.69	62.99	67.55	68.36
27	70.02	70.01	70.92	66.73	62.05	58.33	59.26	58.46	60.78	63.13	67.70	68.66
28	69.98	70.02	70.86	66.65	61.96	58.37	58.75	58.24	60.88	63.27	67.84	68.94
29	69.64	69.88	70.73	67.11	---	58.65	58.47	58.22	61.13	63.51	67.97	69.18
30	68.89	70.27	69.94	67.25	---	58.59	58.20	58.22	61.32	63.73	67.89	69.38
31	68.17	---	68.81	67.25	---	58.37	---	58.58	---	63.91	67.50	---
MEAN	68.17	68.04	71.08	65.19	66.83	60.40	59.24	57.71	59.77	63.03	66.17	67.20
MAX	70.02	70.27	72.03	67.53	69.63	61.74	60.82	58.78	61.32	64.43	67.97	69.38
MIN	65.71	66.17	68.81	63.14	61.96	58.33	58.20	56.35	58.66	61.42	64.08	65.54



IRON COUNTY

WELL IDENTIFICATION.--373905091071001; T34N R02W 11DAA; Viburnum Trend Well 2.

LOCATION.--Lat 37o39°05", long 91o07°10", NE ¼ NE ¼ SE ¼ sec.11, T.34 N., R.02 W., approximately 0.4 mile south of Highway 32 on road to Magmont Mine near Bixby.

FORMATIONS OPEN TO WELL.--Unconfined Ozark aquifer, Eminence Dolomite/Potosi Dolomite of Cambrian Age.

CONSTRUCTION DATA.--Drilled December 11, 2001, total depth of well, 310 feet, 120 feet of 6-inch steel casing, open hole.

INSTRUMENTATION.--Pressure transducer and data logger installed February 13, 2002. Water level recorded hourly.

DATUM.--Land surface altitude is 1,420 feet above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point is top of steel casing 2.1 feet above land surface.

REMARKS.--None.

PERIOD OF RECORD.--February 14, 2002 to current year.

EXTREMES FOR 2002 WATER YEAR.--Maximum depth 273.38 ft, Feb. 13; minimum 242.64 ft. June 27.

EXTREMES FOR CURRENT YEAR.--Maximum depth 258.87 ft, Feb. 25; minimum 248.32 ft, July 3.

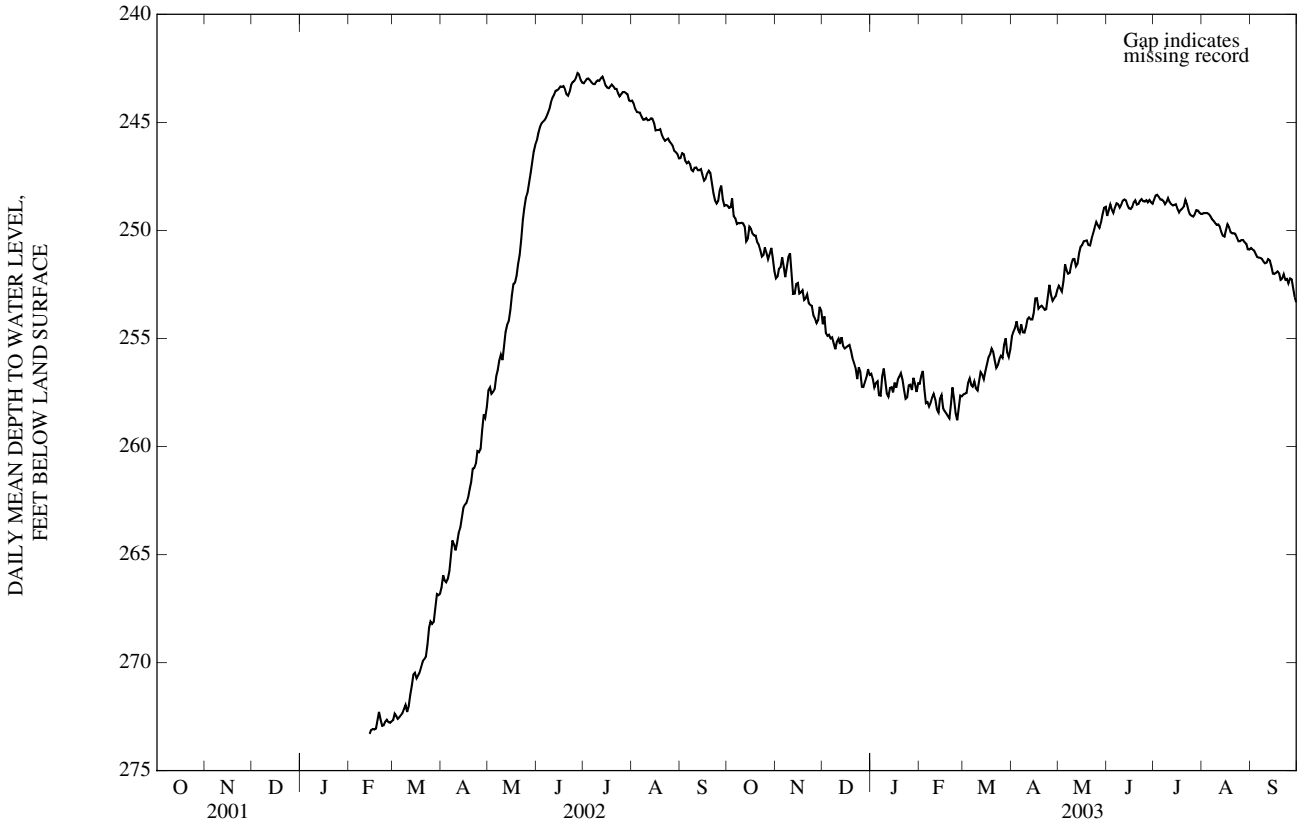
DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	272.66	266.51	257.39	245.82	243.19	243.99	246.64
2	---	---	---	---	---	272.36	265.96	257.26	245.49	243.10	244.13	246.43
3	---	---	---	---	---	272.47	266.19	257.56	245.22	242.98	244.38	246.47
4	---	---	---	---	---	272.60	266.28	257.47	245.05	242.97	244.52	246.78
5	---	---	---	---	---	272.53	266.13	257.34	244.96	243.05	244.54	246.89
6	---	---	---	---	---	272.43	265.76	256.74	244.89	243.14	244.55	246.82
7	---	---	---	---	---	272.34	265.11	256.46	244.77	243.22	244.72	246.93
8	---	---	---	---	---	272.15	264.34	256.00	244.59	243.22	244.87	247.20
9	---	---	---	---	---	271.96	264.52	255.74	244.38	243.11	244.87	247.26
10	---	---	---	---	---	272.28	264.81	256.00	244.10	243.05	244.80	247.10
11	---	---	---	---	---	272.00	264.46	255.43	243.87	243.07	244.91	247.08
12	---	---	---	---	---	271.51	264.00	254.70	243.73	242.95	244.88	247.21
13	---	---	---	---	---	271.07	263.77	254.37	243.53	242.88	244.81	247.21
14	---	---	---	---	273.30	270.55	263.27	254.19	243.51	243.06	244.82	247.16
15	---	---	---	---	273.12	270.46	262.81	253.69	243.45	243.28	245.02	247.44
16	---	---	---	---	273.07	270.73	262.68	253.04	243.34	243.39	245.37	247.70
17	---	---	---	---	273.09	270.61	262.61	252.48	243.36	243.42	245.35	247.61
18	---	---	---	---	273.06	270.46	262.37	252.42	243.33	243.34	245.35	247.37
19	---	---	---	---	272.69	270.21	261.96	252.09	243.45	243.24	245.31	247.24
20	---	---	---	---	272.28	269.92	261.64	251.57	243.70	243.33	245.56	247.35
21	---	---	---	---	272.64	269.85	261.03	251.14	243.77	243.45	245.74	247.80
22	---	---	---	---	272.92	269.72	261.00	250.41	243.57	243.45	245.85	248.26
23	---	---	---	---	272.90	269.17	260.78	249.52	243.27	243.64	245.79	248.60
24	---	---	---	---	272.74	268.38	260.21	248.97	243.13	243.80	245.74	248.75
25	---	---	---	---	272.64	268.10	260.26	248.50	243.08	243.70	245.89	248.63
26	---	---	---	---	272.76	268.21	260.12	248.27	242.94	243.60	245.97	248.17
27	---	---	---	---	272.79	268.12	259.22	247.80	242.72	243.59	246.09	247.93
28	---	---	---	---	272.72	267.51	258.51	247.34	242.78	243.64	246.32	248.56
29	---	---	---	---	---	266.83	258.66	246.85	243.02	243.69	246.38	248.86
30	---	---	---	---	---	266.88	258.17	246.35	243.16	243.98	246.47	248.82
31	---	---	---	---	---	266.82	---	246.04	---	244.02	246.66	---
MEAN	---	---	---	---	---	270.35	262.77	252.68	243.87	243.34	245.28	247.54
MAX	---	---	---	---	---	272.66	266.51	257.56	245.82	244.02	246.66	248.86
MIN	---	---	---	---	---	266.82	258.17	246.04	242.72	242.88	243.99	246.43

IRON COUNTY—Continued

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	248.85	252.22	254.34	256.63	257.10	257.59	254.90	252.56	249.33	248.59	249.23	250.81
2	248.95	252.13	253.97	256.86	256.73	257.56	254.70	252.68	249.06	248.38	249.19	250.88
3	248.93	251.77	254.75	257.27	256.50	257.52	254.52	252.82	248.79	248.35	249.20	250.92
4	248.52	251.70	254.87	257.07	257.37	257.06	254.21	252.35	249.04	248.45	249.20	251.07
5	249.34	251.26	254.82	256.98	257.99	256.85	254.61	251.57	249.19	248.56	249.24	251.23
6	249.43	251.70	255.00	257.63	257.94	257.15	254.74	251.83	248.94	248.56	249.33	251.26
7	249.70	252.16	254.94	257.65	258.15	257.23	254.35	252.00	248.74	248.64	249.47	251.26
8	249.65	251.68	255.21	256.74	257.97	256.99	254.71	251.96	248.79	248.78	249.55	251.31
9	249.67	251.23	255.49	256.39	257.73	257.31	254.73	251.57	248.94	248.66	249.64	251.43
10	249.65	251.05	255.14	257.02	257.56	257.41	254.46	251.33	248.82	248.50	249.74	251.52
11	249.67	252.06	255.01	257.54	257.81	256.94	254.11	251.32	248.62	248.69	249.72	251.49
12	249.82	252.93	255.25	257.69	258.28	256.55	254.02	251.66	248.57	248.78	249.82	251.33
13	250.50	252.92	254.94	257.29	258.42	256.67	254.12	251.53	248.61	248.85	250.05	251.38
14	250.38	252.47	255.34	257.26	257.79	256.88	254.12	251.03	248.82	248.82	250.24	251.66
15	249.82	252.43	255.47	257.50	257.62	256.51	253.82	250.75	248.98	248.79	250.28	251.99
16	249.92	252.92	255.41	257.04	258.23	256.21	253.15	250.67	249.01	249.00	249.96	252.01
17	250.13	252.87	255.35	257.27	258.37	255.89	253.13	250.51	248.92	249.17	249.71	251.96
18	250.23	252.77	255.29	256.90	258.46	255.74	253.62	250.49	248.70	249.04	249.85	251.90
19	250.23	253.22	255.57	256.77	258.59	255.47	253.53	250.46	248.60	248.99	250.09	251.99
20	250.54	253.15	255.90	256.61	258.69	255.60	253.48	250.68	248.80	248.90	250.14	252.29
21	250.65	252.96	256.12	256.91	258.02	256.00	253.56	250.70	248.77	248.58	250.13	252.23
22	250.89	253.36	256.37	257.40	257.26	256.36	253.68	250.39	248.63	248.76	250.16	252.02
23	251.21	253.44	256.88	257.79	257.80	256.23	253.65	250.16	248.55	249.06	250.32	252.28
24	251.14	253.49	256.33	257.72	258.45	255.96	253.06	249.87	248.64	249.26	250.50	252.25
25	250.78	253.93	256.52	257.18	258.78	255.80	252.52	249.61	248.67	249.32	250.50	252.45
26	251.04	254.07	257.23	257.14	258.15	255.90	252.97	249.76	248.60	249.36	250.44	252.22
27	251.34	254.29	257.24	257.38	257.64	255.29	253.25	249.88	248.70	249.26	250.45	252.26
28	251.10	254.15	257.00	256.82	257.68	254.99	253.15	249.65	248.59	249.06	250.56	252.70
29	250.81	253.54	256.79	257.10	---	255.63	253.05	249.26	248.70	249.08	250.62	253.08
30	251.26	253.71	256.42	257.47	---	255.85	252.76	248.95	248.76	249.18	250.86	253.32
31	251.87	---	256.68	257.08	---	255.49	---	248.90	---	249.23	250.88	---
MEAN	250.19	252.72	255.67	257.16	257.90	256.41	253.82	250.87	248.80	248.86	249.97	251.82
MAX	251.87	254.29	257.24	257.79	258.78	257.59	254.90	252.82	249.33	249.36	250.88	253.32
MIN	248.52	251.05	253.97	256.39	256.50	254.99	252.52	248.90	248.55	248.35	249.19	250.81



IRON COUNTY

WELL IDENTIFICATION.--373628091064801; T34N R02W 25CAC; Viburnum Trend Well 3.

LOCATION.--Lat 37o36°28", long 91o06°48", SW ¼ NE ¼ SW ¼ sec.25, T.34 N., R.02 W., approximately 0.4 mile east of Buick Mine and 0.9 mile off Forest Service Road 2231 near Bixby.

FORMATIONS OPEN TO WELL.--Unconfined Ozark aquifer, Gasconade Dolomite of Ordovician age and Eminence Dolomite/Potosi Dolomite of Cambrian Age.

CONSTRUCTION DATA.--Drilled December 10, 2001, total depth of well, 190 feet, 80 feet of 6-inch steel casing, open hole.

INSTRUMENTATION.--Pressure transducer and data logger installed February 13, 2002. Water level recorded hourly.

DATUM.--Land surface altitude is 1,360 feet above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point is top of steel casing 2.0 feet above land surface.

REMARKS.--None.

PERIOD OF RECORD.--February 14, 2002 to current year.

EXTREMES FOR 2002 WATER YEAR.--Maximum depth 119.50 ft, March 10; minimum 112.12 ft, June 27.

EXTREMES FOR CURRENT YEAR.--Maximum depth 119.15 ft, Feb. 24; minimum 114.57 ft, June 11.

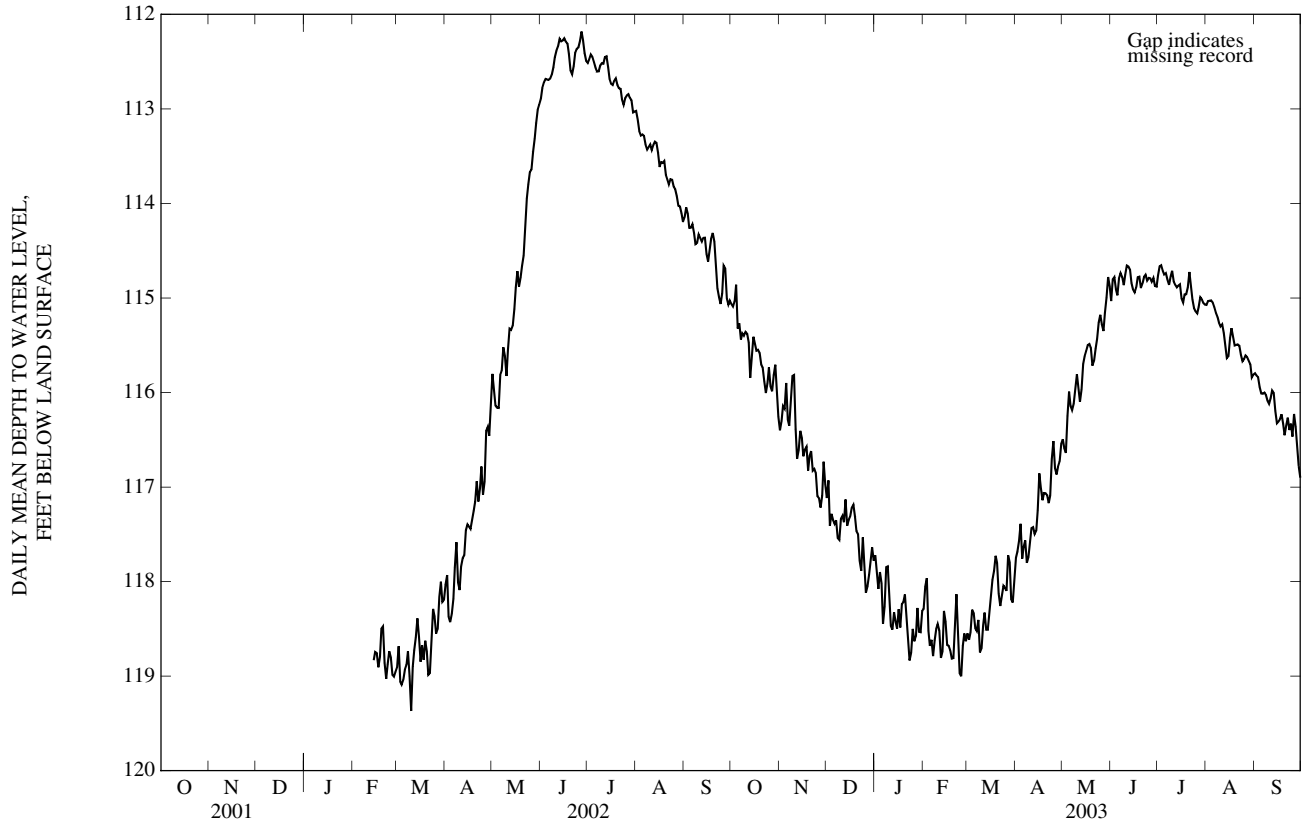
DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	118.91	118.03	115.80	112.89	112.51	113.02	114.15
2	---	---	---	---	---	118.68	117.93	115.98	112.78	112.48	113.11	114.04
3	---	---	---	---	---	119.06	118.37	116.14	112.72	112.42	113.23	114.11
4	---	---	---	---	---	119.09	118.43	116.16	112.68	112.45	113.28	114.26
5	---	---	---	---	---	119.04	118.34	116.16	112.69	112.51	113.27	114.26
6	---	---	---	---	---	118.93	118.18	115.81	112.69	112.56	113.29	114.22
7	---	---	---	---	---	118.88	117.85	115.77	112.68	112.60	113.38	114.31
8	---	---	---	---	---	118.74	117.58	115.52	112.64	112.60	113.43	114.43
9	---	---	---	---	---	119.00	118.01	115.61	112.56	112.54	113.40	114.42
10	---	---	---	---	---	119.37	118.09	115.83	112.45	112.52	113.38	114.33
11	---	---	---	---	---	118.90	117.84	115.55	112.38	112.52	113.44	114.37
12	---	---	---	---	---	118.73	117.75	115.32	112.34	112.45	113.38	114.40
13	---	---	---	---	---	118.59	117.72	115.34	112.26	112.44	113.35	114.36
14	---	---	---	---	118.83	118.39	117.46	115.29	112.28	112.56	113.36	114.36
15	---	---	---	---	118.74	118.58	117.40	115.12	112.28	112.68	113.46	114.53
16	---	---	---	---	118.75	118.85	117.42	114.89	112.25	112.73	113.61	114.61
17	---	---	---	---	118.91	118.67	117.44	114.72	112.29	112.75	113.56	114.50
18	---	---	---	---	118.80	118.83	117.35	114.88	112.31	112.70	113.57	114.37
19	---	---	---	---	118.50	118.62	117.25	114.78	112.42	112.68	113.55	114.31
20	---	---	---	---	118.47	118.74	117.16	114.66	112.59	112.75	113.70	114.40
21	---	---	---	---	118.86	118.99	116.94	114.55	112.63	112.78	113.75	114.67
22	---	---	---	---	119.03	118.97	117.15	114.27	112.55	112.79	113.80	114.90
23	---	---	---	---	118.88	118.58	117.02	113.95	112.41	112.90	113.74	114.99
24	---	---	---	---	118.74	118.29	116.78	113.80	112.37	112.96	113.75	115.06
25	---	---	---	---	118.80	118.37	117.08	113.67	112.35	112.89	113.82	114.95
26	---	---	---	---	118.99	118.55	116.94	113.64	112.28	112.86	113.85	114.66
27	---	---	---	---	119.01	118.50	116.41	113.46	112.18	112.84	113.92	114.69
28	---	---	---	---	118.96	118.16	116.36	113.32	112.27	112.88	114.02	115.00
29	---	---	---	---	---	118.00	116.46	113.15	112.41	112.91	114.03	115.07
30	---	---	---	---	---	118.22	116.15	113.01	112.49	113.04	114.11	115.03
31	---	---	---	---	---	118.19	---	112.95	---	113.03	114.20	---
MEAN	---	---	---	---	---	118.69	117.43	114.81	112.47	112.69	113.57	114.53
MAX	---	---	---	---	---	119.37	118.43	116.16	112.89	113.04	114.20	115.07
MIN	---	---	---	---	---	118.00	116.15	112.95	112.18	112.42	113.02	114.04

IRON COUNTY—Continued

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	115.06	116.40	117.12	117.72	118.29	118.55	117.75	116.50	115.03	114.76	115.07	115.80
2	115.09	116.30	116.93	117.89	118.05	118.62	117.68	116.59	114.80	114.66	115.03	115.82
3	115.03	116.14	117.41	118.08	117.96	118.54	117.57	116.64	114.78	114.65	115.03	115.84
4	114.86	116.17	117.28	117.90	118.52	118.30	117.39	116.25	114.91	114.71	115.03	115.94
5	115.32	115.90	117.35	118.02	118.68	118.33	117.76	115.99	114.97	114.75	115.05	116.01
6	115.27	116.29	117.39	118.45	118.62	118.50	117.63	116.14	114.79	114.74	115.10	116.01
7	115.44	116.35	117.35	118.27	118.79	118.52	117.56	116.19	114.74	114.81	115.16	116.00
8	115.38	116.06	117.54	117.85	118.62	118.41	117.80	116.12	114.78	114.86	115.20	116.02
9	115.40	115.82	117.56	117.84	118.50	118.75	117.74	115.97	114.86	114.77	115.26	116.08
10	115.36	115.81	117.34	118.21	118.45	118.71	117.59	115.81	114.75	114.71	115.30	116.12
11	115.38	116.39	117.31	118.47	118.52	118.46	117.43	115.94	114.66	114.82	115.28	116.06
12	115.47	116.70	117.37	118.51	118.81	118.33	117.42	116.10	114.67	114.86	115.37	115.98
13	115.84	116.61	117.13	118.32	118.74	118.51	117.50	115.97	114.70	114.89	115.50	116.00
14	115.62	116.40	117.41	118.43	118.31	118.51	117.46	115.70	114.84	114.87	115.64	116.20
15	115.41	116.48	117.35	118.50	118.42	118.32	117.25	115.62	114.91	114.86	115.62	116.33
16	115.48	116.67	117.31	118.29	118.67	118.17	116.86	115.56	114.94	115.00	115.42	116.31
17	115.56	116.60	117.22	118.48	118.68	117.98	117.01	115.50	114.89	115.05	115.32	116.28
18	115.55	116.57	117.19	118.24	118.72	117.89	117.14	115.49	114.78	114.96	115.42	116.23
19	115.58	116.82	117.31	118.22	118.82	117.73	117.06	115.52	114.78	114.96	115.50	116.33
20	115.70	116.67	117.47	118.14	118.81	117.80	117.06	115.72	114.90	114.89	115.50	116.45
21	115.73	116.62	117.50	118.34	118.40	118.13	117.08	115.67	114.85	114.72	115.49	116.35
22	115.88	116.83	117.78	118.59	118.13	118.26	117.17	115.53	114.78	114.86	115.50	116.27
23	116.00	116.81	117.89	118.83	118.51	118.15	117.09	115.44	114.75	115.02	115.60	116.40
24	115.90	116.85	117.53	118.75	118.97	118.04	116.70	115.26	114.81	115.11	115.67	116.33
25	115.73	117.10	117.83	118.50	119.00	118.06	116.51	115.18	114.79	115.14	115.65	116.47
26	115.93	117.12	118.12	118.63	118.68	118.10	116.80	115.28	114.79	115.16	115.61	116.23
27	115.99	117.22	118.05	118.58	118.55	117.72	116.87	115.35	114.83	115.09	115.63	116.36
28	115.82	117.09	117.93	118.28	118.63	117.80	116.79	115.16	114.79	114.99	115.66	116.58
29	115.71	116.73	117.79	118.53	---	118.18	116.73	115.00	114.87	115.01	115.70	116.78
30	116.00	116.97	117.64	118.54	---	118.22	116.54	114.78	114.88	115.05	115.84	116.90
31	116.26	---	117.78	118.31	---	117.99	---	114.88	---	115.07	115.81	---
MEAN	115.57	116.55	117.49	118.31	118.57	118.24	117.23	115.70	114.82	114.90	115.42	116.22
MAX	116.26	117.22	118.12	118.83	119.00	118.75	117.80	116.64	115.03	115.16	115.84	116.90
MIN	114.86	115.81	116.93	117.72	117.96	117.72	116.51	114.78	114.66	114.65	115.03	115.80



REYNOLDS COUNTY

WELL IDENTIFICATION.--373307091074001; T33N R02W 14ACC; Viburnum Trend Well 4.

LOCATION.--Lat 37o33°07", long 91o07°40", SW ¼ SW ¼ NE ¼ sec.14, T.33 N., R.02 W., approximately 1.0 mile north of Brushy Creek Mine, 1.5 mile west of Highway KK on Forest Service Road.

FORMATIONS OPEN TO WELL.--Unconfined Ozark aquifer, Gasconade Dolomite of Ordovician age and Eminence Dolomite/Potosi Dolomite of Cambrian Age.

CONSTRUCTION DATA.--Drilled December 4, 2001, total depth of well, 390 feet, 190 feet of 6-inch steel casing, open hole.

INSTRUMENTATION.--Pressure transducer and data logger installed February 13, 2002. Water level recorded hourly.

DATUM.--Land surface altitude is 1,410 feet above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point is top of steel casing 2.2 feet above land surface.

REMARKS.--Several days of missing record caused by water level dropping below pressure transducer.

PERIOD OF RECORD.--February 14, 2002 to current year.

EXTREMES FOR 2002 WATER YEAR.--Maximum depth 361.64 ft, March 10; minimum 352.18 ft, Sept. 27.

EXTREMES FOR CURRENT YEAR.--Maximum depth 381.29 ft, Sept. 30; minimum 351.11 ft, Dec. 18.

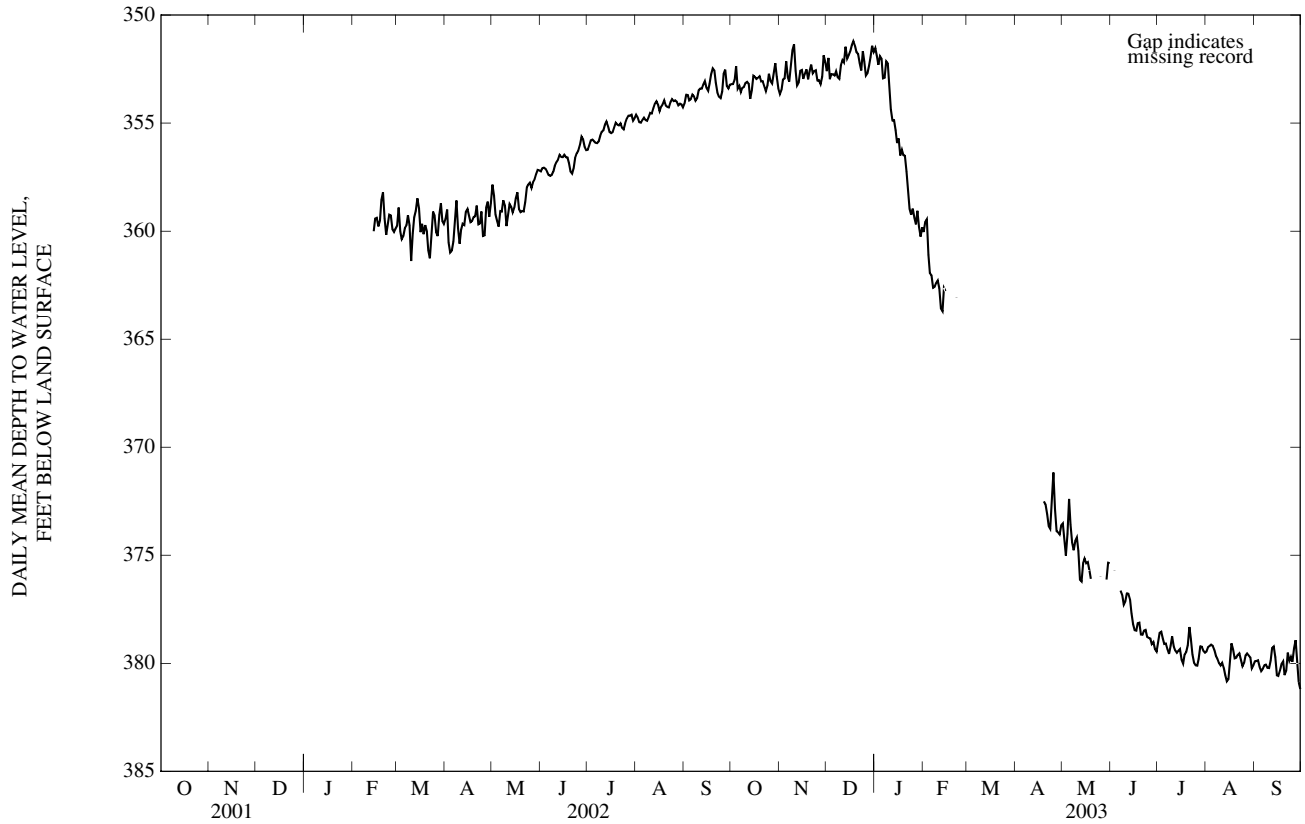
DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	359.8	359.4	357.9	357.2	356.2	354.6	354.1
2	---	---	---	---	---	358.9	359.0	358.4	357.1	356.0	354.7	353.7
3	---	---	---	---	---	360.0	360.5	359.2	357.1	355.8	355.0	353.7
4	---	---	---	---	---	360.4	361.0	359.5	357.1	355.8	355.0	354.0
5	---	---	---	---	---	360.2	360.9	359.8	357.2	355.8	354.9	353.9
6	---	---	---	---	---	359.9	360.5	359.1	357.4	355.9	354.7	353.7
7	---	---	---	---	---	359.7	359.5	359.1	357.4	355.9	354.9	353.8
8	---	---	---	---	---	359.3	358.6	358.6	357.4	355.9	354.9	354.0
9	---	---	---	---	---	359.7	359.9	358.8	357.2	355.6	354.7	353.8
10	---	---	---	---	---	361.4	360.6	359.8	357.0	355.4	354.5	353.5
11	---	---	---	---	---	360.1	359.9	359.3	356.8	355.3	354.6	353.4
12	---	---	---	---	---	359.4	359.7	358.7	356.7	355.1	354.3	353.4
13	---	---	---	---	---	359.1	359.7	358.9	356.5	354.9	354.1	353.2
14	---	---	---	---	360.0	358.5	359.1	359.1	356.6	355.2	354.0	353.1
15	---	---	---	---	359.4	358.9	359.0	358.9	356.6	355.4	354.1	353.4
16	---	---	---	---	359.4	360.0	359.3	358.5	356.5	355.5	354.5	353.5
17	---	---	---	---	359.8	359.7	359.6	358.2	356.6	355.4	354.2	353.2
18	---	---	---	---	359.5	360.1	359.5	359.0	356.6	355.2	354.1	352.7
19	---	---	---	---	358.6	359.7	359.3	359.1	356.8	355.0	353.9	352.5
20	---	---	---	---	358.2	360.0	359.3	359.1	357.2	355.1	354.2	352.6
21	---	---	---	---	359.4	360.9	358.8	359.1	357.3	355.1	354.3	353.1
22	---	---	---	---	360.2	361.3	359.7	358.7	357.1	355.0	354.3	353.6
23	---	---	---	---	359.7	360.1	359.6	358.0	356.6	355.2	354.0	353.8
24	---	---	---	---	359.2	359.1	359.1	357.9	356.4	355.3	353.9	353.8
25	---	---	---	---	359.3	359.3	360.2	357.8	356.3	355.0	354.0	353.5
26	---	---	---	---	359.9	360.0	360.2	358.0	356.0	354.8	353.9	352.7
27	---	---	---	---	360.0	360.2	358.9	357.7	355.6	354.7	354.0	352.5
28	---	---	---	---	359.9	359.2	358.6	357.6	355.7	354.7	354.2	353.3
29	---	---	---	---	---	358.7	359.3	357.4	356.1	354.6	354.1	353.4
30	---	---	---	---	---	359.5	358.7	357.2	356.2	354.9	354.1	353.2
31	---	---	---	---	---	359.7	---	357.2	---	354.8	354.3	---
MEAN	---	---	---	---	---	359.8	359.6	358.6	356.7	355.3	354.4	353.4
MAX	---	---	---	---	---	361.4	361.0	359.8	357.4	356.2	355.0	354.1
MIN	---	---	---	---	---	358.5	358.6	357.2	355.6	354.6	353.9	352.5

REYNOLDS COUNTY—Continued

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	353.2	353.7	352.6	351.5	360.0	---	---	373.5	---	379.0	379.5	379.9
2	353.2	353.5	352.0	351.9	359.6	---	---	374.3	---	378.6	379.3	379.9
3	353.0	353.0	353.0	352.3	359.5	---	---	375.0	375.7	378.5	379.2	379.9
4	352.4	352.9	352.7	351.9	361.1	---	---	374.0	---	378.9	379.1	380.2
5	353.4	352.1	352.7	352.0	361.9	---	---	372.4	---	379.1	379.2	380.4
6	353.3	352.9	352.8	352.9	362.0	---	---	373.6	---	379.1	379.4	380.3
7	353.6	353.1	352.6	352.9	362.6	---	---	374.4	376.6	379.3	379.7	380.1
8	353.4	352.3	352.9	352.1	362.6	---	---	374.8	376.8	379.6	379.8	380.1
9	353.3	351.6	353.0	352.2	362.4	---	---	374.3	377.3	379.2	380.0	380.2
10	353.1	351.4	352.3	353.4	362.3	---	---	374.2	377.2	378.8	380.1	380.2
11	353.1	352.6	352.1	354.4	362.6	---	---	374.8	376.8	379.2	380.0	379.9
12	353.2	353.3	352.2	354.9	363.6	---	---	376.1	376.8	379.4	380.2	379.3
13	353.9	353.1	351.5	354.9	363.7	---	---	376.2	377.0	379.5	380.5	379.2
14	353.5	352.6	352.0	355.3	362.6	---	---	375.4	377.7	379.4	380.8	379.7
15	352.8	352.5	351.9	355.9	362.8	---	---	375.1	378.2	379.3	380.7	380.6
16	352.9	353.0	351.7	355.7	---	---	---	375.4	378.5	379.8	379.9	380.6
17	353.0	352.7	351.4	356.5	---	---	---	375.3	378.5	380.0	379.1	380.3
18	352.9	352.5	351.2	356.2	---	---	---	375.7	378.2	379.6	379.4	380.0
19	352.8	353.0	351.4	356.5	---	---	372.5	376.1	378.1	379.5	379.8	379.9
20	353.1	352.6	351.7	356.5	---	---	372.6	---	378.7	379.2	379.7	380.5
21	353.1	352.3	351.8	357.2	---	---	373.1	---	378.7	378.3	379.6	380.4
22	353.3	352.7	352.2	358.2	363.1	---	373.7	---	378.5	378.9	379.5	379.5
23	353.5	352.6	352.6	359.0	---	---	373.8	---	378.5	379.6	379.8	379.9
24	353.3	352.6	351.7	359.2	---	---	372.4	---	378.8	380.0	380.1	379.7
25	352.7	353.0	352.2	359.0	---	---	371.2	376.0	378.8	380.1	380.0	379.9
26	353.1	353.0	352.8	359.4	---	---	372.9	---	378.9	380.1	379.6	379.3
27	353.2	353.2	352.7	359.7	---	---	373.9	---	379.1	379.8	379.5	378.9
28	352.7	352.8	352.3	359.1	---	---	373.9	---	379.0	379.2	379.6	380.0
29	352.2	351.9	352.0	359.8	---	---	374.0	376.1	379.3	379.2	379.7	380.9
30	352.9	352.2	351.4	360.3	---	---	373.6	375.3	379.5	379.4	380.2	381.2
31	353.4	---	351.7	359.8	---	---	---	375.4	---	379.5	380.1	---
MEAN	353.1	352.7	352.2	355.8	---	---	---	---	---	379.3	379.8	380.0
MAX	353.9	353.7	353.0	360.3	---	---	---	---	---	380.1	380.8	381.2
MIN	352.2	351.4	351.2	351.5	---	---	---	---	---	378.3	379.1	378.9



REYNOLDS COUNTY

WELL IDENTIFICATION.--373056091063801; T33N R02W 25CDD; Viburnum Trend Well 5.

LOCATION.--Lat 37o30°56", long 91o06°38", SE ¼ SE ¼ SW ¼ sec.25, T.33 N., R.02 W., approximately 1.1 mile south of Highway KK near Brushy Creek Mine.

FORMATIONS OPEN TO WELL.--Unconfined Ozark aquifer, Eminence Dolomite/Potosi Dolomite of Cambrian Age.

CONSTRUCTION DATA.--Drilled December 3, 2001, total depth of well, 170 feet, 126 feet of 6-inch steel casing, open hole.

INSTRUMENTATION.--Pressure transducer and data logger installed February 22, 2002. Water level recorded hourly.

DATUM.--Land surface altitude is 1,160 feet above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point is top of steel casing 2.1 feet above land surface.

REMARKS.--None.

PERIOD OF RECORD.--February 23, 2002 to current year.

EXTREMES FOR 2002 WATER YEAR.--Maximum depth 136.99 ft, Feb. 22; minimum 125.88 ft, June 2 and 4.

EXTREMES FOR CURRENT YEAR.--Maximum depth 131.71 ft, Dec. 23; minimum 127.03 ft, May 30.

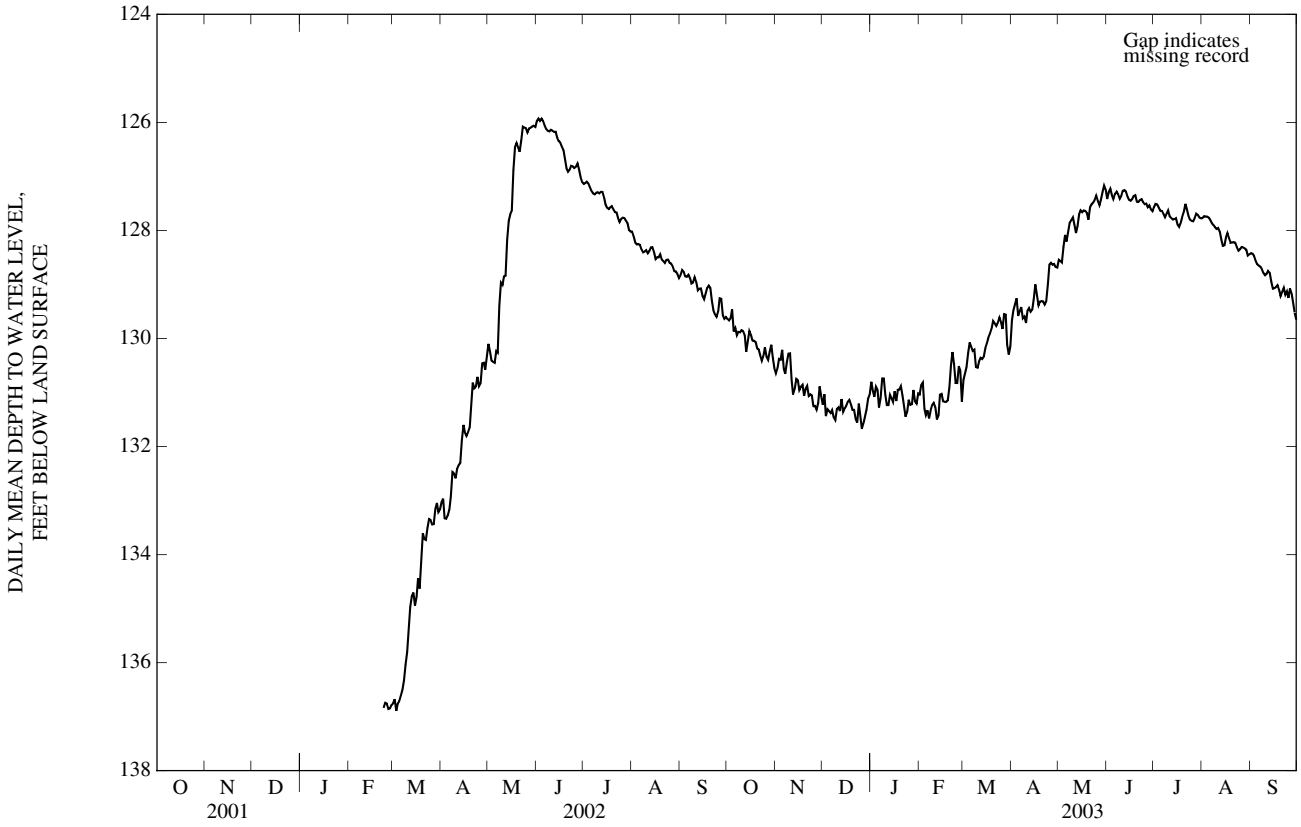
DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	136.75	133.03	130.10	125.97	127.14	128.02	128.83
2	---	---	---	---	---	136.68	132.96	130.25	125.93	127.12	128.11	128.73
3	---	---	---	---	---	136.89	133.33	130.41	125.97	127.10	128.22	128.77
4	---	---	---	---	---	136.76	133.34	130.43	125.93	127.13	128.26	128.85
5	---	---	---	---	---	136.71	133.27	130.45	125.98	127.20	128.25	128.86
6	---	---	---	---	---	136.61	133.16	130.23	126.05	127.27	128.27	128.82
7	---	---	---	---	---	136.50	132.93	130.26	126.12	127.31	128.35	128.88
8	---	---	---	---	---	136.33	132.47	129.40	126.16	127.33	128.40	128.98
9	---	---	---	---	---	136.04	132.50	128.97	126.17	127.30	128.39	128.96
10	---	---	---	---	---	135.80	132.59	129.01	126.14	127.29	128.37	128.86
11	---	---	---	---	---	135.36	132.41	128.85	126.15	127.31	128.42	128.96
12	---	---	---	---	---	134.97	132.35	128.84	126.18	127.28	128.38	129.11
13	---	---	---	---	---	134.77	132.30	128.17	126.17	127.29	128.31	129.08
14	---	---	---	---	---	134.70	131.88	127.82	126.28	127.39	128.31	129.07
15	---	---	---	---	---	134.95	131.60	127.70	126.34	127.52	128.40	129.21
16	---	---	---	---	---	134.78	131.74	127.64	126.37	127.58	128.53	129.27
17	---	---	---	---	---	134.44	131.80	126.88	126.45	127.60	128.49	129.17
18	---	---	---	---	---	134.63	131.73	126.46	126.51	127.57	128.50	129.06
19	---	---	---	---	---	134.14	131.65	126.38	126.67	127.55	128.44	129.02
20	---	---	---	---	---	133.60	131.23	126.45	126.85	127.61	128.54	129.06
21	---	---	---	---	---	133.71	130.82	126.54	126.91	127.66	128.57	129.29
22	---	---	---	---	---	133.73	130.92	126.33	126.88	127.67	128.60	129.48
23	---	---	---	---	136.84	133.51	130.89	126.08	126.80	127.77	128.54	129.55
24	---	---	---	---	136.74	133.34	130.71	126.10	126.81	127.84	128.54	129.60
25	---	---	---	---	136.76	133.35	130.89	126.11	126.84	127.79	128.60	129.50
26	---	---	---	---	136.86	133.44	130.83	126.19	126.82	127.76	128.61	129.26
27	---	---	---	---	136.85	133.44	130.46	126.11	126.76	127.77	128.67	129.27
28	---	---	---	---	136.79	133.16	130.45	126.10	126.87	127.82	128.75	129.57
29	---	---	---	---	---	133.04	130.58	126.08	127.01	127.86	128.76	129.64
30	---	---	---	---	---	133.21	130.35	126.06	127.10	127.99	128.81	129.60
31	---	---	---	---	---	133.16	---	126.08	---	128.02	128.88	---
MEAN	---	---	---	---	---	134.79	131.84	127.82	126.44	127.51	128.46	129.14
MAX	---	---	---	---	---	136.89	133.34	130.45	127.10	128.02	128.88	129.64
MIN	---	---	---	---	---	133.04	130.35	126.06	125.93	127.10	128.02	128.73

REYNOLDS COUNTY—Continued

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129.63	130.65	131.23	130.80	131.04	130.77	129.66	128.54	127.42	127.57	127.77	128.42
2	129.67	130.55	131.03	130.96	130.86	130.64	129.48	128.56	127.29	127.51	127.74	128.43
3	129.62	130.38	131.44	131.08	130.81	130.53	129.37	128.59	127.23	127.52	127.74	128.47
4	129.46	130.39	131.31	130.89	131.30	130.27	129.26	128.31	127.35	127.58	127.74	128.56
5	129.87	130.21	131.34	130.95	131.42	130.07	129.58	128.08	127.42	127.63	127.76	128.63
6	129.81	130.56	131.38	131.28	131.33	130.15	129.50	128.20	127.32	127.64	127.80	128.65
7	129.94	130.65	131.33	131.10	131.48	130.23	129.42	128.04	127.28	127.69	127.87	128.67
8	129.88	130.44	131.46	130.74	131.33	130.21	129.63	127.85	127.33	127.76	127.90	128.71
9	129.89	130.28	131.51	130.74	131.23	130.53	129.59	127.81	127.42	127.69	127.94	128.79
10	129.85	130.28	131.30	131.05	131.19	130.54	129.71	127.76	127.37	127.63	127.97	128.83
11	129.86	130.77	131.27	131.23	131.27	130.42	129.48	127.89	127.27	127.74	127.95	128.80
12	129.94	131.04	131.34	131.23	131.50	130.36	129.43	128.05	127.25	127.77	128.02	128.75
13	130.24	130.94	131.12	131.04	131.43	130.38	129.51	127.92	127.28	127.80	128.16	128.79
14	130.06	130.75	131.36	131.11	131.04	130.34	129.47	127.70	127.37	127.79	128.29	128.95
15	129.86	130.77	131.29	131.17	131.03	130.18	129.27	127.63	127.43	127.77	128.28	129.08
16	129.94	130.96	131.25	130.98	131.16	130.10	129.00	127.66	127.45	127.89	128.12	129.07
17	130.04	130.89	131.17	131.16	131.17	129.98	129.20	127.63	127.42	127.94	128.05	129.05
18	130.04	130.86	131.14	130.95	131.17	129.91	129.39	127.64	127.36	127.87	128.14	129.01
19	130.06	131.06	131.22	130.95	131.14	129.82	129.32	127.67	127.35	127.75	128.23	129.10
20	130.18	130.93	131.32	130.89	130.90	129.68	129.31	127.80	127.47	127.66	128.22	129.22
21	130.20	130.88	131.32	131.06	130.49	129.72	129.31	127.57	127.47	127.51	128.22	129.14
22	130.31	131.06	131.49	131.26	130.25	129.77	129.37	127.51	127.44	127.60	128.23	129.06
23	130.41	131.03	131.55	131.45	130.47	129.71	129.32	127.49	127.42	127.73	128.31	129.19
24	130.32	131.05	131.21	131.36	130.82	129.61	129.01	127.44	127.48	127.80	128.37	129.13
25	130.17	131.25	131.44	131.13	130.82	129.69	128.63	127.35	127.52	127.82	128.35	129.25
26	130.33	131.25	131.67	131.23	130.51	129.82	128.60	127.45	127.50	127.83	128.31	129.07
27	130.39	131.32	131.57	131.21	130.59	129.55	128.63	127.53	127.57	127.78	128.32	129.17
28	130.24	131.19	131.44	130.95	131.17	129.56	128.62	127.43	127.54	127.69	128.33	129.36
29	130.12	130.89	131.31	131.16	---	130.12	128.68	127.29	127.61	127.71	128.36	129.52
30	130.35	131.08	131.12	131.21	---	130.30	128.69	127.16	127.64	127.76	128.47	129.65
31	130.55	---	131.04	131.02	---	130.15	---	127.24	---	127.78	128.44	---
MEAN	130.04	130.81	131.32	131.08	131.03	130.10	129.25	127.77	127.41	127.72	128.11	128.95
MAX	130.55	131.32	131.67	131.45	131.50	130.77	129.71	128.59	127.64	127.94	128.47	129.65
MIN	129.46	130.21	131.03	130.74	130.25	129.55	128.60	127.16	127.23	127.51	127.74	128.42



REYNOLDS COUNTY

WELL IDENTIFICATION.--372853091061801; T32N R02W 12ADB; Viburnum Trend Well 6.

LOCATION.--Lat 37o28°53", long 91o06°18", NW ¼ SE ¼ NE ¼ sec.12, T.32 N., R.02 W., approximately 1.0 mile north of Fletcher Mine.

FORMATIONS OPEN TO WELL.--Unconfined Ozark aquifer, Eminence Dolomite/Potosi Dolomite of Cambrian Age.

CONSTRUCTION DATA.--Drilled November 5, 2001, total depth of well, 250 feet, 210 feet of 6-inch steel casing, open hole.

INSTRUMENTATION.--Pressure transducer and data logger installed February 21, 2002. Water level recorded hourly.

DATUM.--Land surface altitude is 1,150 feet above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point is top of steel casing 3.2 feet above land surface.

REMARKS.--None.

PERIOD OF RECORD.--February 22, 2002 to current year.

EXTREMES FOR 2002 WATER YEAR.--Maximum depth 141.70 ft, Feb. 22; minimum 125.06 ft, May 30.

EXTREMES FOR CURRENT YEAR.--Maximum depth 138.47 ft, Feb. 12; minimum 132.98 ft, June 18.

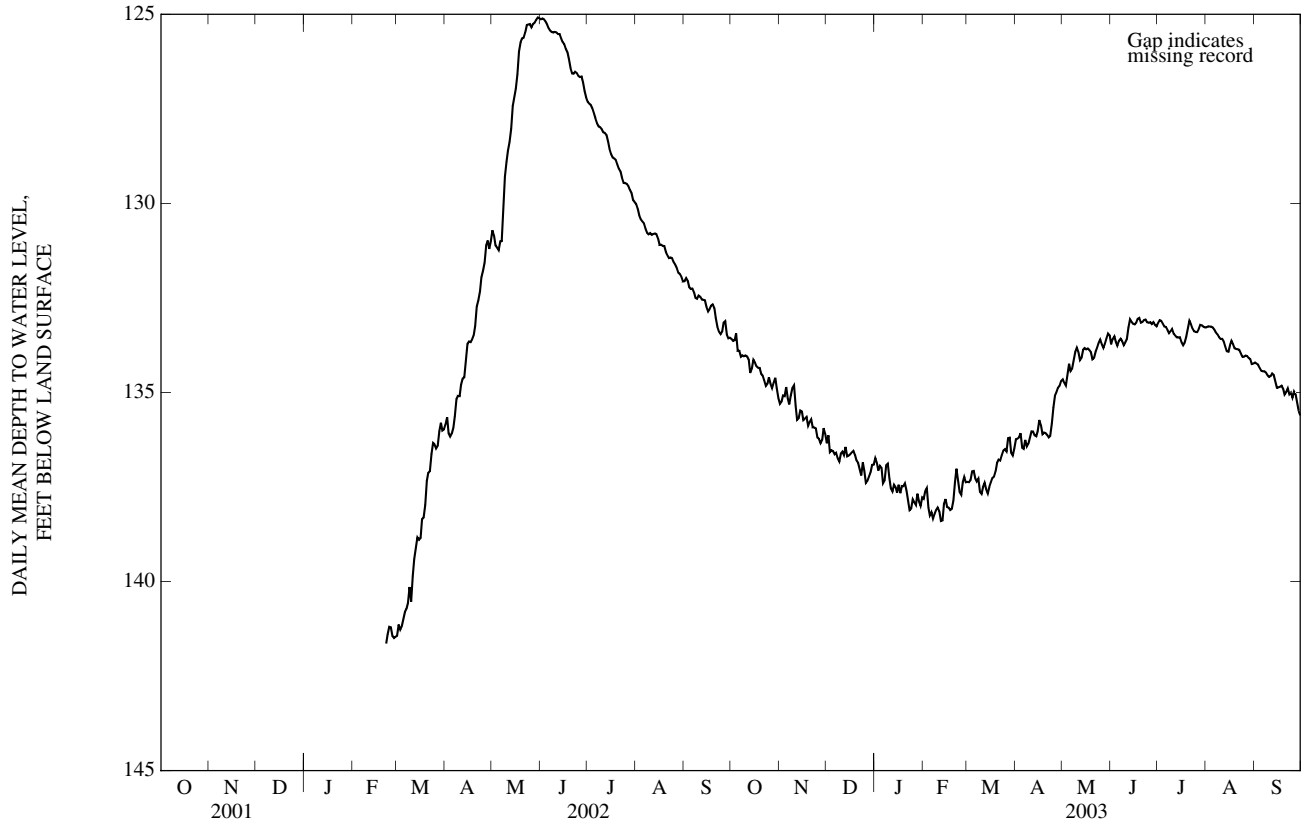
DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	141.43	135.84	130.71	125.13	127.31	130.01	132.06
2	---	---	---	---	---	141.14	135.65	130.85	125.11	127.36	130.14	131.98
3	---	---	---	---	---	141.27	136.08	131.11	125.13	127.40	130.32	132.05
4	---	---	---	---	---	141.19	136.16	131.17	125.18	127.49	130.42	132.21
5	---	---	---	---	---	141.00	136.08	131.24	125.26	127.62	130.47	132.26
6	---	---	---	---	---	140.81	135.93	131.00	125.36	127.75	130.53	132.25
7	---	---	---	---	---	140.72	135.63	130.99	125.43	127.88	130.66	132.35
8	---	---	---	---	---	140.57	135.18	130.26	125.47	127.97	130.78	132.49
9	---	---	---	---	---	140.14	135.09	129.29	125.48	127.99	130.82	132.52
10	---	---	---	---	---	140.53	135.09	128.90	125.47	128.03	130.78	132.44
11	---	---	---	---	---	139.85	134.79	128.60	125.48	128.12	130.83	132.47
12	---	---	---	---	---	139.41	134.63	128.38	125.52	128.14	130.81	132.54
13	---	---	---	---	---	139.11	134.60	128.03	125.52	128.19	130.79	132.55
14	---	---	---	---	---	138.83	134.17	127.42	125.64	128.37	130.81	132.56
15	---	---	---	---	---	138.89	133.71	127.18	125.73	128.56	130.92	132.74
16	---	---	---	---	---	138.85	133.65	126.97	125.78	128.70	131.10	132.86
17	---	---	---	---	---	138.35	133.67	126.59	125.91	128.78	131.09	132.79
18	---	---	---	---	---	138.31	133.60	125.99	126.00	128.81	131.12	132.70
19	---	---	---	---	---	137.98	133.49	125.74	126.18	128.85	131.12	132.67
20	---	---	---	---	---	137.34	133.25	125.64	126.42	128.97	131.28	132.76
21	---	---	---	---	---	137.12	132.72	125.62	126.56	129.09	131.37	133.03
22	---	---	---	---	141.64	137.08	132.56	125.48	126.57	129.16	131.45	133.26
23	---	---	---	---	141.39	136.63	132.33	125.28	126.52	129.32	131.43	133.39
24	---	---	---	---	141.19	136.33	131.96	125.27	126.55	129.46	131.45	133.45
25	---	---	---	---	141.21	136.37	131.78	125.26	126.63	129.46	131.55	133.39
26	---	---	---	---	141.44	136.48	131.56	125.34	126.66	129.48	131.61	133.15
27	---	---	---	---	141.49	136.41	131.11	125.26	126.65	129.54	131.70	133.11
28	---	---	---	---	141.46	136.03	130.98	125.22	126.79	129.63	131.83	133.47
29	---	---	---	---	---	135.80	131.20	125.15	127.02	129.72	131.87	133.57
30	---	---	---	---	---	136.01	131.00	125.08	127.20	129.91	131.95	133.55
31	---	---	---	---	---	135.97	---	125.10	---	129.97	132.06	---
MEAN	---	---	---	---	---	138.58	133.78	127.55	125.94	128.61	131.07	132.75
MAX	---	---	---	---	---	141.43	136.16	131.24	127.20	129.97	132.06	133.57
MIN	---	---	---	---	---	135.80	130.98	125.08	125.11	127.31	130.01	131.98

REYNOLDS COUNTY—Continued

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133.58	135.30	136.34	136.73	137.81	137.36	136.24	134.65	133.73	133.16	133.28	134.21
2	133.63	135.24	136.13	136.85	137.61	137.37	136.22	134.74	133.59	133.09	133.25	134.23
3	133.62	135.08	136.57	137.07	137.53	137.32	136.19	134.82	133.51	133.10	133.25	134.25
4	133.44	135.10	136.53	136.94	138.05	137.09	136.07	134.54	133.67	133.18	133.26	134.35
5	133.89	134.86	136.55	136.99	138.26	137.07	136.46	134.24	133.76	133.25	133.28	134.43
6	133.89	135.16	136.63	137.40	138.17	137.27	136.49	134.43	133.64	133.27	133.33	134.44
7	134.05	135.32	136.59	137.33	138.34	137.35	136.25	134.37	133.58	133.34	133.41	134.44
8	134.02	135.07	136.74	136.92	138.21	137.28	136.43	134.14	133.64	133.43	133.47	134.47
9	134.04	134.87	136.82	136.88	138.10	137.63	136.35	133.92	133.74	133.38	133.53	134.54
10	134.02	134.81	136.61	137.27	138.04	137.68	136.19	133.81	133.68	133.32	133.59	134.59
11	134.05	135.35	136.56	137.53	138.14	137.49	136.03	133.92	133.59	133.44	133.58	134.57
12	134.13	135.72	136.65	137.61	138.40	137.39	136.03	134.14	133.28	133.50	133.65	134.50
13	134.48	135.68	136.44	137.44	138.38	137.56	136.13	134.08	133.06	133.54	133.78	134.53
14	134.38	135.48	136.69	137.51	137.95	137.67	136.16	133.87	133.13	133.54	133.91	134.71
15	134.13	135.50	136.67	137.65	137.82	137.49	136.02	133.82	133.18	133.54	133.92	134.87
16	134.20	135.73	136.64	137.44	138.03	137.38	135.73	133.86	133.20	133.67	133.75	134.87
17	134.30	135.69	136.58	137.66	138.05	137.26	135.86	133.84	133.15	133.75	133.63	134.85
18	134.34	135.64	136.54	137.47	138.11	137.23	136.10	133.87	133.05	133.69	133.72	134.82
19	134.35	135.88	136.65	137.48	138.08	137.08	136.06	133.93	133.03	133.53	133.83	134.90
20	134.51	135.78	136.79	137.40	137.86	136.86	136.07	134.12	133.15	133.31	133.85	135.05
21	134.55	135.71	136.85	137.59	137.36	136.77	136.12	134.08	133.14	133.10	133.85	134.99
22	134.68	135.92	137.02	137.87	137.02	136.80	136.18	133.92	133.08	133.18	133.87	134.89
23	134.82	135.92	137.19	138.11	137.31	136.66	136.15	133.82	133.07	133.30	133.96	135.05
24	134.76	135.95	136.85	138.07	137.63	136.53	135.83	133.69	133.14	133.38	134.06	135.00
25	134.60	136.19	137.06	137.82	137.70	136.50	135.40	133.60	133.16	133.40	134.05	135.13
26	134.77	136.22	137.39	137.90	137.37	136.56	135.08	133.72	133.14	133.40	134.02	134.97
27	134.89	136.34	137.34	137.97	137.23	136.21	134.99	133.82	133.19	133.33	134.04	135.05
28	134.74	136.25	137.22	137.68	137.37	136.19	134.87	133.72	133.14	133.21	134.09	135.29
29	134.61	135.94	137.12	137.88	---	136.59	134.82	133.57	133.21	133.22	134.12	135.49
30	134.88	136.09	136.91	137.99	---	136.66	134.69	133.44	133.25	133.26	134.25	135.60
31	135.15	---	136.91	137.78	---	136.47	---	133.49	---	133.28	134.23	---
MEAN	134.31	135.59	136.76	137.49	137.85	137.06	135.91	134.00	133.33	133.36	133.74	134.77
MAX	135.15	136.34	137.39	138.11	138.40	137.68	136.49	134.82	133.76	133.75	134.25	135.60
MIN	133.44	134.81	136.13	136.73	137.02	136.19	134.69	133.44	133.03	133.09	133.25	134.21



REYNOLDS COUNTY

WELL IDENTIFICATION.--372608091063301; T32N R02W 25ACD ; Viburnum Trend Well 7.

LOCATION.--Lat 37o26°08", long 91o06°33", SE ¼ SW ¼ NE ¼ sec.25, T.32 N., R.02 W., approximately 0.8 mile north of intersection of Highways 72 and TT.

FORMATIONS OPEN TO WELL.--Unconfined Ozark aquifer, Gasconade Dolomite of Ordovician age and Eminence Dolomite/Potosi Dolomite of Cambrian age.

CONSTRUCTION DATA.--Drilled October 31, 2001, total depth of well, 275 feet, 250 feet of 6-inch steel casing, open hole.

INSTRUMENTATION.--Pressure transducer and data logger installed March 19, 2002. Water level recorded hourly.

DATUM.--Land surface altitude is 1,165 feet above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point is top of steel casing 2.2 feet above land surface.

REMARKS.--None

PERIOD OF RECORD.--March 20, 2002 to current year.

EXTREMES FOR 2002 WATER YEAR.--Maximum depth 142.42 ft, March 21; minimum 139.31 ft, July 12.

EXTREMES FOR CURRENT YEAR.--Maximum depth 141.90 ft, Feb. 12; minimum 139.70 ft, Oct. 4.

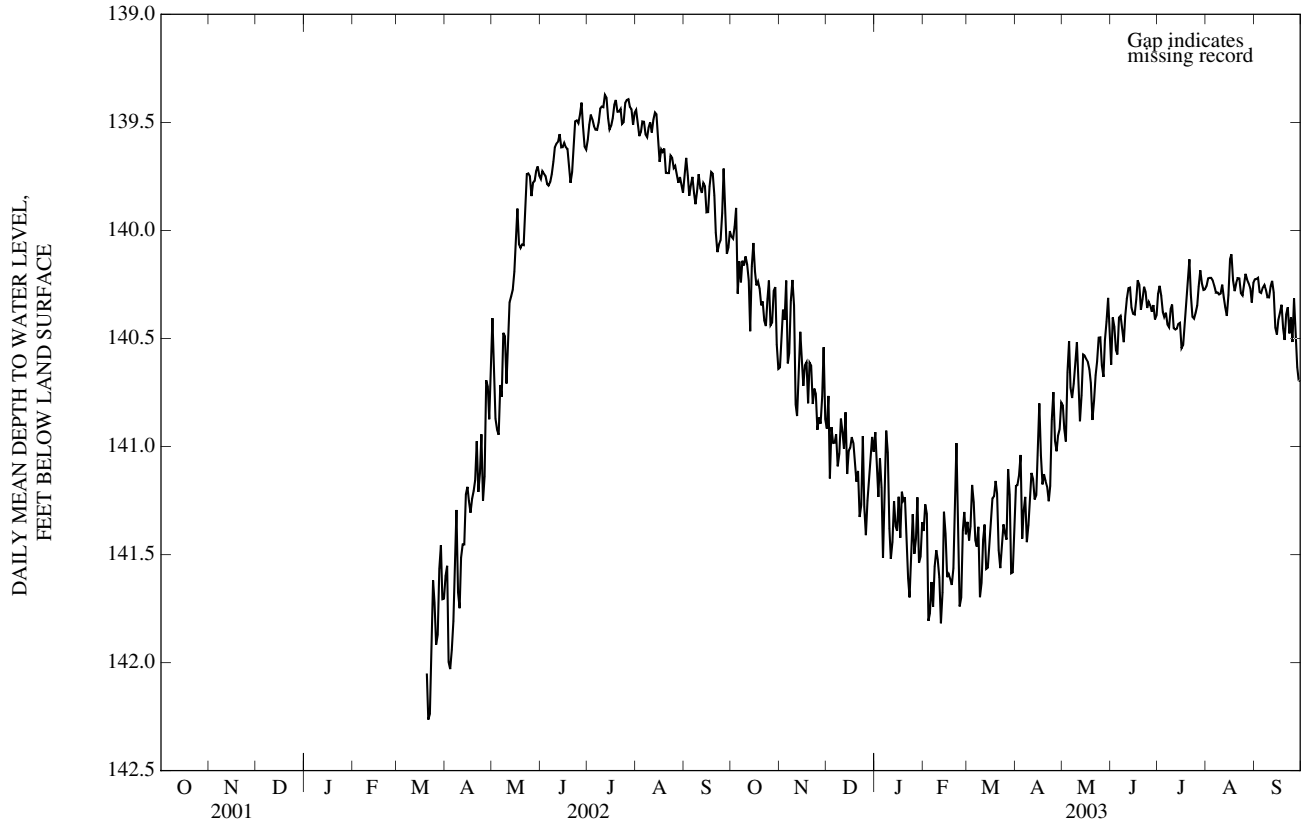
DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	141.60	140.41	139.76	139.58	139.44	139.74
2	---	---	---	---	---	---	141.55	140.67	139.73	139.51	139.51	139.66
3	---	---	---	---	---	---	142.00	140.87	139.74	139.46	139.56	139.75
4	---	---	---	---	---	---	142.03	140.92	139.75	139.49	139.54	139.84
5	---	---	---	---	---	---	141.94	140.95	139.78	139.52	139.50	139.79
6	---	---	---	---	---	---	141.81	140.72	139.79	139.53	139.50	139.75
7	---	---	---	---	---	---	141.55	140.77	139.78	139.53	139.56	139.83
8	---	---	---	---	---	---	141.29	140.47	139.74	139.50	139.57	139.88
9	---	---	---	---	---	---	141.68	140.49	139.68	139.44	139.52	139.82
10	---	---	---	---	---	---	141.75	140.71	139.62	139.43	139.50	139.74
11	---	---	---	---	---	---	141.51	140.49	139.60	139.43	139.55	139.80
12	---	---	---	---	---	---	141.45	140.33	139.59	139.37	139.49	139.83
13	---	---	---	---	---	---	141.45	140.30	139.55	139.39	139.45	139.78
14	---	---	---	---	---	---	141.22	140.27	139.62	139.48	139.46	139.79
15	---	---	---	---	---	---	141.19	140.19	139.61	139.53	139.56	139.92
16	---	---	---	---	---	---	141.25	140.06	139.59	139.52	139.68	139.91
17	---	---	---	---	---	---	141.31	139.90	139.62	139.48	139.62	139.80
18	---	---	---	---	---	---	141.24	140.06	139.62	139.42	139.64	139.73
19	---	---	---	---	---	---	141.20	140.08	139.69	139.40	139.62	139.74
20	---	---	---	---	---	142.05	141.16	140.07	139.78	139.45	139.73	139.84
21	---	---	---	---	---	142.26	140.98	140.07	139.73	139.45	139.73	140.01
22	---	---	---	---	---	142.24	141.21	139.92	139.60	139.44	139.73	140.10
23	---	---	---	---	---	141.87	141.12	139.74	139.50	139.51	139.65	140.06
24	---	---	---	---	---	141.62	140.94	139.74	139.49	139.50	139.66	140.05
25	---	---	---	---	---	141.72	141.25	139.75	139.50	139.41	139.71	139.92
26	---	---	---	---	---	141.92	141.14	139.84	139.46	139.40	139.70	139.71
27	---	---	---	---	---	141.87	140.69	139.78	139.41	139.39	139.74	139.87
28	---	---	---	---	---	141.57	140.72	139.77	139.52	139.43	139.78	140.11
29	---	---	---	---	---	141.46	140.87	139.73	139.61	139.44	139.75	140.08
30	---	---	---	---	---	141.71	140.65	139.70	139.63	139.51	139.79	140.00
31	---	---	---	---	---	141.70	---	139.75	---	139.45	139.83	---
MEAN	---	---	---	---	---	---	141.32	140.21	139.64	139.46	139.62	139.86
MAX	---	---	---	---	---	---	142.03	140.95	139.79	139.58	139.83	140.11
MIN	---	---	---	---	---	---	140.65	139.70	139.41	139.37	139.44	139.66

REYNOLDS COUNTY—Continued

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	140.03	140.63	140.92	140.93	141.39	141.35	141.18	140.81	140.62	140.29	140.26	140.23
2	140.04	140.48	140.77	141.09	141.27	141.43	141.18	140.92	140.40	140.26	140.22	140.22
3	139.98	140.37	141.15	141.23	141.31	141.37	141.13	140.98	140.45	140.30	140.22	140.22
4	139.90	140.41	140.91	141.06	141.81	141.18	141.04	140.66	140.55	140.38	140.22	140.28
5	140.29	140.23	140.98	141.19	141.77	141.26	141.43	140.51	140.57	140.40	140.23	140.29
6	140.14	140.62	140.98	141.52	141.63	141.43	141.30	140.73	140.40	140.38	140.26	140.26
7	140.24	140.57	140.94	141.26	141.74	141.46	141.23	140.78	140.40	140.44	140.29	140.25
8	140.14	140.32	141.09	140.93	141.55	141.37	141.44	140.71	140.46	140.45	140.29	140.27
9	140.16	140.23	141.03	141.03	141.48	141.70	141.36	140.61	140.52	140.36	140.30	140.31
10	140.12	140.35	140.87	141.38	141.52	141.63	141.23	140.52	140.40	140.34	140.29	140.31
11	140.16	140.80	140.93	141.52	141.61	141.43	141.12	140.72	140.32	140.45	140.25	140.26
12	140.23	140.86	141.01	141.44	141.82	141.36	141.15	140.88	140.27	140.46	140.31	140.23
13	140.47	140.63	140.84	141.25	141.68	141.57	141.24	140.76	140.26	140.45	140.36	140.29
14	140.17	140.47	141.13	141.37	141.30	141.56	141.23	140.57	140.36	140.43	140.40	140.45
15	140.06	140.60	141.02	141.39	141.40	141.43	141.07	140.58	140.38	140.43	140.30	140.48
16	140.19	140.72	141.01	141.23	141.60	141.33	140.80	140.59	140.39	140.55	140.13	140.41
17	140.25	140.62	140.96	141.42	141.59	141.24	141.04	140.61	140.32	140.53	140.11	140.38
18	140.24	140.61	140.98	141.21	141.61	141.23	141.18	140.64	140.23	140.44	140.23	140.34
19	140.27	140.80	141.07	141.25	141.64	141.16	141.13	140.71	140.25	140.35	140.28	140.45
20	140.35	140.61	141.16	141.24	141.56	141.22	141.16	140.88	140.37	140.25	140.24	140.51
21	140.33	140.62	141.11	141.46	141.18	141.48	141.19	140.79	140.32	140.13	140.22	140.39
22	140.42	140.80	141.33	141.61	140.98	141.56	141.25	140.67	140.26	140.30	140.22	140.36
23	140.44	140.73	141.27	141.70	141.35	141.45	141.18	140.61	140.28	140.40	140.29	140.48
24	140.32	140.75	140.95	141.52	141.74	141.36	140.88	140.50	140.36	140.41	140.30	140.40
25	140.23	140.92	141.28	141.31	141.70	141.40	140.75	140.49	140.33	140.38	140.25	140.52
26	140.44	140.87	141.41	141.50	141.39	141.43	140.97	140.62	140.35	140.35	140.20	140.31
27	140.43	140.89	141.25	141.43	141.30	141.10	141.02	140.68	140.38	140.26	140.23	140.49
28	140.28	140.77	141.14	141.24	141.41	141.22	140.95	140.51	140.35	140.18	140.25	140.63
29	140.26	140.54	141.06	141.54	---	141.59	140.92	140.42	140.41	140.24	140.27	140.69
30	140.53	140.87	140.96	141.51	---	141.58	140.80	140.31	140.39	140.28	140.33	140.70
31	140.64	---	141.02	141.35	---	141.37	---	140.49	---	140.27	140.24	---
MEAN	140.25	140.62	141.05	141.33	141.51	141.40	141.12	140.65	140.38	140.36	140.26	140.38
MAX	140.64	140.92	141.41	141.70	141.82	141.70	141.44	140.98	140.62	140.55	140.40	140.70
MIN	139.90	140.23	140.77	140.93	140.98	141.10	140.75	140.31	140.23	140.13	140.11	140.22



REYNOLDS COUNTY

WELL IDENTIFICATION.--371910091081101; T30N R02W 02CBA; Viburnum Trend Well 8

LOCATION.--Lat 37o19°10", long 91o08°11", NE ¼ NW ¼ SW ¼ sec.02, T.30 N., R.02 W., approximately 10 miles southeast of Bunker.

FORMATIONS OPEN TO WELL.--Unconfined Ozark aquifer, Eminence Dolomite/Potosi Dolomite of Cambrian age.

CONSTRUCTION DATA.--Drilled November 5, 2001, total depth of well, 110 feet, 80 feet of 6-inch steel casing, open hole.

INSTRUMENTATION.--Pressure transducer and data logger installed February 22, 2002. Water level recorded hourly.

DATUM.--Land surface altitude is 990 feet above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point is top of steel casing 2.1 feet above land surface.

REMARKS.--None

PERIOD OF RECORD.--February 23, 2002 to current year.

EXTREMES FOR 2002 WATER YEAR.--Maximum depth 45.18 ft, Sept. 30; minimum 25.07 ft, May 17.

EXTREMES FOR CURRENT YEAR.--Maximum depth 49.89 ft, Dec. 9; minimum 36.59 ft, June 26.

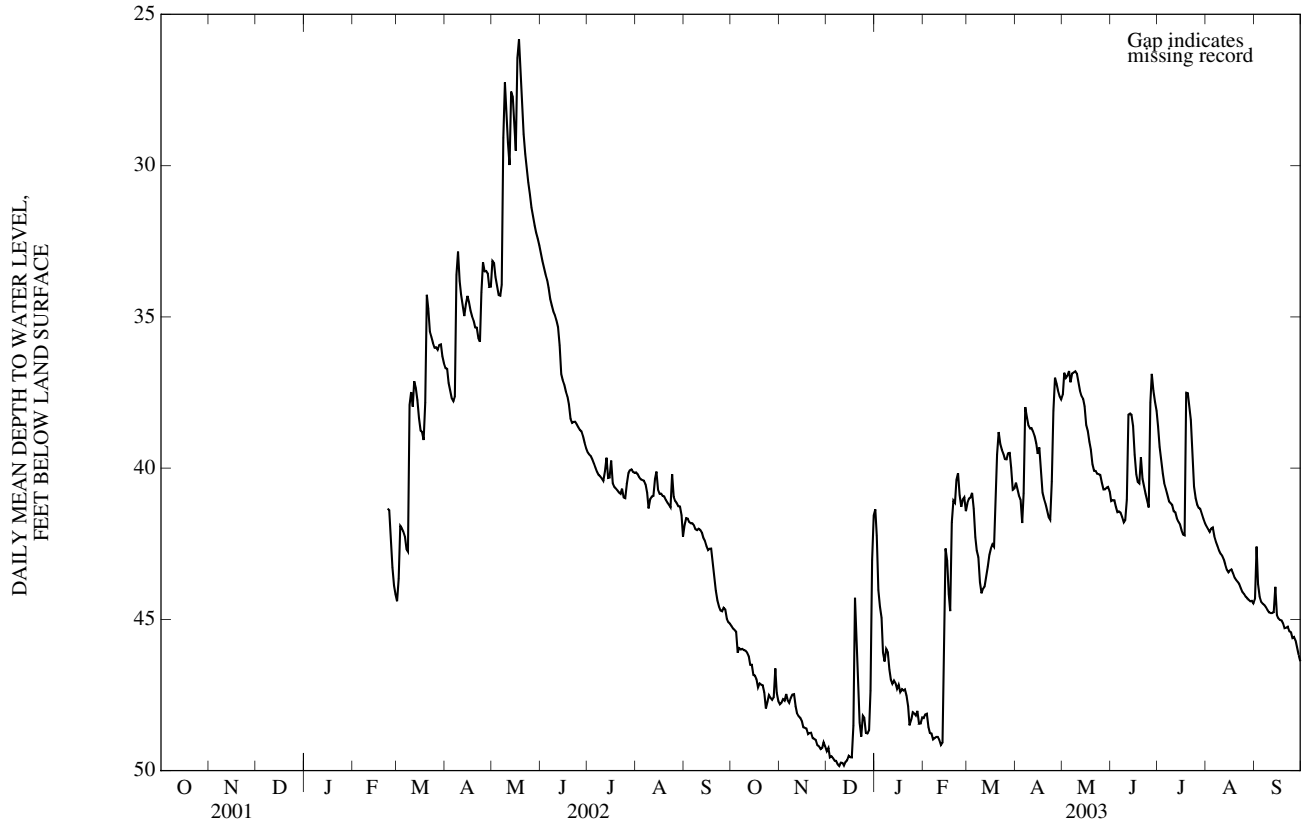
DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	44.40	36.70	33.15	32.90	39.48	40.14	41.87
2	---	---	---	---	---	43.65	36.72	33.22	33.14	39.55	40.20	41.65
3	---	---	---	---	---	41.91	37.18	33.68	33.37	39.60	40.31	41.67
4	---	---	---	---	---	41.98	37.43	33.99	33.59	39.71	40.37	41.78
5	---	---	---	---	---	42.09	37.70	34.28	33.78	39.85	40.39	41.82
6	---	---	---	---	---	42.26	37.79	34.30	34.04	39.98	40.41	41.82
7	---	---	---	---	---	42.68	37.64	33.94	34.40	40.12	40.53	41.89
8	---	---	---	---	---	42.76	33.61	29.08	34.62	40.23	40.82	42.02
9	---	---	---	---	---	37.92	32.84	27.25	34.82	40.27	41.33	42.05
10	---	---	---	---	---	37.49	33.81	28.21	34.93	40.34	41.02	42.00
11	---	---	---	---	---	37.97	34.27	29.25	35.11	40.42	40.94	42.04
12	---	---	---	---	---	37.13	34.63	29.98	35.34	40.12	40.92	42.13
13	---	---	---	---	---	37.35	34.98	27.55	35.93	39.65	40.36	42.30
14	---	---	---	---	---	37.75	34.58	27.71	36.89	40.32	40.11	42.40
15	---	---	---	---	---	38.35	34.31	28.73	37.08	40.31	40.71	42.58
16	---	---	---	---	---	38.76	34.50	29.50	37.24	39.75	40.84	42.70
17	---	---	---	---	---	38.80	34.79	26.44	37.46	40.50	40.84	42.66
18	---	---	---	---	---	39.07	34.98	25.82	37.64	40.62	40.92	42.66
19	---	---	---	---	---	37.83	35.13	27.16	37.89	40.67	40.93	43.12
20	---	---	---	---	---	34.27	35.34	28.09	38.36	40.73	41.05	43.60
21	---	---	---	---	---	34.72	35.36	28.96	38.50	40.81	41.14	44.04
22	---	---	---	---	---	35.48	35.70	29.62	38.47	40.85	41.21	44.37
23	---	---	---	---	41.33	35.67	35.82	30.08	38.46	40.68	41.30	44.57
24	---	---	---	---	41.39	35.87	34.19	30.56	38.55	40.96	40.20	44.71
25	---	---	---	---	42.39	36.01	33.19	30.94	38.65	40.99	40.95	44.73
26	---	---	---	---	43.28	36.01	33.49	31.39	38.74	40.52	41.08	44.62
27	---	---	---	---	43.89	36.09	33.48	31.67	38.79	40.17	41.16	44.67
28	---	---	---	---	44.17	35.93	33.57	31.98	38.93	40.07	41.26	44.98
29	---	---	---	---	---	35.91	34.01	32.21	39.16	40.04	41.27	45.10
30	---	---	---	---	---	36.30	34.00	32.41	39.34	40.12	41.56	45.14
31	---	---	---	---	---	36.53	---	32.64	---	40.16	42.26	---
MEAN	---	---	---	---	---	38.35	35.06	30.44	36.54	40.24	40.86	43.06
MAX	---	---	---	---	---	44.40	37.79	34.30	39.34	40.99	42.26	45.14
MIN	---	---	---	---	---	34.27	32.84	25.82	32.90	39.48	40.11	41.65

REYNOLDS COUNTY—Continued

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45.22	47.80	49.36	41.36	48.26	41.15	40.48	37.57	41.09	38.61	41.92	44.32
2	45.30	47.75	49.25	42.23	48.15	41.00	40.69	36.85	41.06	39.30	42.02	42.59
3	45.35	47.64	49.56	44.03	48.12	40.98	40.91	37.02	41.06	39.77	42.11	43.83
4	45.40	47.69	49.52	44.58	48.55	40.82	41.04	36.94	41.29	40.18	42.00	44.24
5	46.10	47.47	49.59	44.95	48.75	41.34	41.81	36.79	41.45	40.50	41.96	44.42
6	45.95	47.68	49.67	46.10	48.77	42.28	40.83	37.16	41.43	40.68	42.25	44.48
7	46.00	47.76	49.67	46.39	48.97	42.72	37.98	36.87	41.47	40.89	42.43	44.53
8	45.98	47.60	49.79	45.98	48.92	42.94	38.31	36.83	41.61	41.10	42.57	44.59
9	46.02	47.49	49.84	46.08	48.88	43.77	38.59	36.80	41.79	41.16	42.71	44.69
10	46.03	47.47	49.73	46.66	48.88	44.14	38.69	36.88	41.72	41.21	42.83	44.77
11	46.10	47.87	49.74	46.98	48.98	43.98	38.68	37.14	41.04	41.42	42.89	44.79
12	46.21	48.11	49.83	47.13	49.15	43.91	38.79	37.44	38.23	41.46	43.01	44.79
13	46.50	48.21	49.71	47.02	49.07	43.59	38.94	37.62	38.19	41.66	43.18	44.76
14	46.50	48.25	49.66	47.12	45.27	43.26	39.19	37.72	38.24	41.76	43.36	43.92
15	46.84	48.36	49.51	47.30	42.66	42.86	39.53	37.96	38.61	41.85	43.44	44.85
16	46.86	48.57	49.55	47.16	43.06	42.67	39.32	38.57	39.56	42.05	43.38	44.97
17	46.97	48.59	49.56	47.40	44.16	42.52	39.97	38.77	40.21	42.19	43.35	45.02
18	47.26	48.61	48.51	47.31	44.72	42.60	40.81	39.13	40.45	42.22	43.47	45.03
19	47.11	48.79	44.29	47.35	41.80	41.26	41.00	39.38	40.51	37.51	43.62	45.14
20	47.16	48.75	45.87	47.31	41.07	39.54	41.18	39.87	39.64	37.52	43.70	45.29
21	47.18	48.75	47.36	47.52	41.15	38.81	41.39	40.08	40.35	37.96	43.76	45.28
22	47.41	48.93	48.42	47.87	40.39	39.20	41.63	40.09	40.61	38.41	43.83	45.24
23	47.94	48.95	48.87	48.50	40.17	39.39	41.70	40.18	40.84	39.59	43.97	45.39
24	47.72	48.98	48.18	48.33	40.89	39.53	40.44	40.20	41.08	40.61	44.10	45.43
25	47.50	49.16	48.25	48.07	41.28	39.70	38.11	40.22	41.30	40.99	44.16	45.62
26	47.59	49.19	48.75	48.11	41.03	39.70	37.01	40.48	37.84	41.21	44.25	45.58
27	47.66	49.29	48.77	48.18	40.96	39.50	37.21	40.70	36.88	41.31	44.29	45.70
28	47.57	49.25	48.67	48.03	41.42	39.50	37.44	40.70	37.44	41.34	44.35	45.94
29	46.62	49.06	47.36	48.44	---	39.99	37.62	40.65	37.81	41.50	44.40	46.18
30	47.43	49.20	43.04	48.44	---	40.72	37.73	40.62	38.11	41.67	44.39	46.38
31	47.70	---	41.56	48.24	---	40.68	---	40.77	---	41.80	44.47	---
MEAN	46.68	48.37	48.43	46.78	45.12	41.42	39.57	38.65	40.03	40.63	43.30	44.93
MAX	47.94	49.29	49.84	48.50	49.15	44.14	41.81	40.77	41.79	42.22	44.47	46.38
MIN	45.22	47.47	41.56	41.36	40.17	38.81	37.01	36.79	36.88	37.51	41.92	42.59



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Conversion Factors

Multiply	By	To obtain
	Length	
inch (in.)	2.54×10^{1}	millimeter (mm)
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter (m)
mile (mi)	1.609×10^{0}	kilometer (km)
	Area	
acre	4.047×10^{3}	square meter (m^2)
	4.047×10^{-1}	square hectometer (hm^2)
	4.047×10^{-3}	square kilometer (km^2)
square mile (mi^2)	2.590×10^{0}	square kilometer (km^2)
	Volume	
gallon (gal)	3.785×10^{0}	liter (L)
	3.785×10^{-3}	cubic meter (m^3)
	3.785×10^{0}	cubic decimeter (dm^3)
million gallons (Mgal)	3.785×10^{3}	cubic meter (m^3)
	3.785×10^{-3}	cubic hectometer (hm^3)
cubic foot (ft^3)	2.832×10^{-2}	cubic meter (m^3)
	2.832×10^{1}	cubic decimeter (dm^3)
cubic-foot-per-second-per-day [(ft^3/s/d]	2.447×10^{3}	cubic meter (m^3)
	2.447×10^{-3}	cubic hectometer (hm^3)
acre-foot (acre-ft)	1.223×10^{3}	cubic meter (m^3)
	1.223×10^{-3}	cubic hectometer (hm^3)
	1.223×10^{-6}	cubic kilometer (km^3)
	Flow rate	
cubic foot per second (ft^3/s)	2.832×10^{1}	liter (L/s)
	2.832×10^{-2}	cubic meter per second (m^3/s)
	2.832×10^{1}	cubic decimeter per second (dm^3/s)
gallon per minute (gal/min)	6.309×10^{-2}	liter per second (L/s)
	6.309×10^{-5}	cubic meter per second (m^3/s)
	6.309×10^{-2}	cubic decimeter per second (dm^3/s)
million gallons per day (Mgal/d)	4.381×10^{-2}	cubic meter per second
	4.381×10^{1}	cubic decimeter per second (dm^3/s)
	Mass	
ton, short (2,000 lb)	9.072×10^{-1}	megagram (Mg) or metric ton

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$°F = (1.8 \times °C) + 32$$

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