



Water-Data Report 2008

07014500 MERAMEC RIVER NEAR SULLIVAN, MO

Lower Mississippi Basin
Meramec Subbasin

LOCATION.--Lat 38°09'30.7", long 91°06'30.5" referenced to North American Datum of 1983, in SE ¼ SE ¼ NE ¼ sec.35, T.40 N., R.2 W., Crawford County, MO, Hydrologic Unit 07140102, on right bank at upstream side of Sappington Bridge, 3.8 mi downstream from Brazil Creek, 4.0 mi southeast of Sullivan, and at mile 117.0.

DRAINAGE AREA.--1,475 mi².

SURFACE-WATER 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1915 reached a stage of 33.5 ft, from information by local residents, discharge, 90,000 ft³/s.

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

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb 6	2330	9,110	10.50
Feb 18	1200	14,000	13.51
Mar 20	0300	*66,900	*31.69
Apr 1	2100	20,000	16.39
Apr 3	1130	11,400	12.01
Apr 11	1330	24,900	18.44
May 8	2200	8,540	10.10
Sep 5	2000	12,600	12.76
Sep 16	0500	20,600	16.64

Minimum discharge, 254 ft³/s, Oct. 8, gage height, 1.60 ft.

Water-Data Report 2008

07014500 MERAMEC RIVER NEAR SULLIVAN, MO—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES

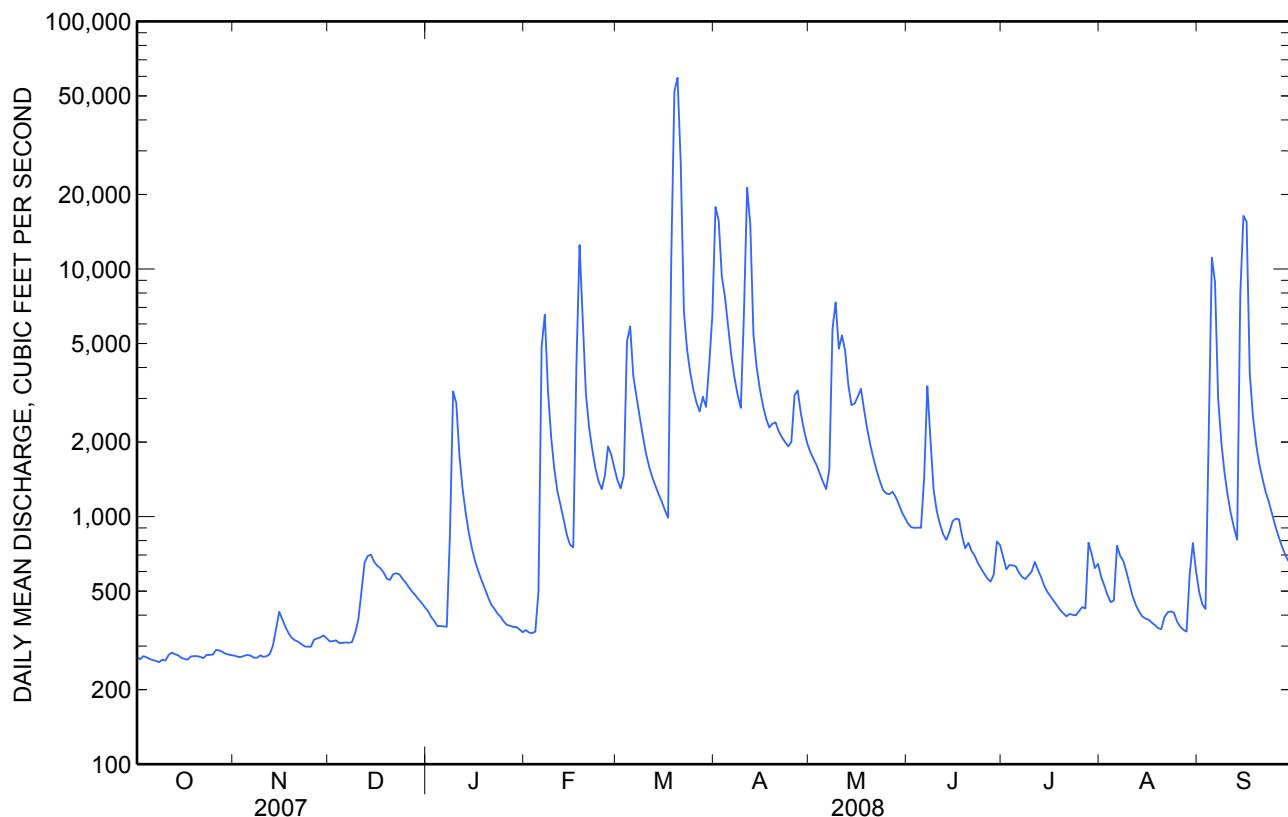
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	271	274	313	416	348	1,400	17,800	1,820	932	686	570	495
2	265	271	314	394	340	1,300	15,700	1,710	905	612	526	442
3	273	271	316	379	338	1,470	9,320	1,610	900	637	482	423
4	270	274	308	361	343	5,100	7,700	1,490	902	635	451	2,100
5	266	276	309	361	499	5,860	5,850	1,380	901	629	458	11,100
6	263	274	310	360	4,860	3,690	4,470	1,290	1,440	593	762	8,870
7	261	269	309	359	6,540	3,050	3,640	1,550	3,360	570	694	3,000
8	258	269	311	850	3,220	2,540	3,100	5,710	2,040	559	662	2,000
9	264	275	338	3,200	2,100	2,120	2,750	7,330	1,280	579	597	1,510
10	262	271	383	2,870	1,560	1,800	6,660	4,760	1,050	599	531	1,220
11	276	273	496	1,760	1,260	1,590	21,300	5,390	933	656	474	1,030
12	282	278	652	1,290	1,110	1,440	15,100	4,680	849	609	438	903
13	278	301	693	1,030	967	1,330	5,440	3,420	805	569	413	806
14	275	352	701	855	841	1,230	4,030	2,820	866	524	395	7,860
15	269	412	657	738	769	1,150	3,290	2,860	958	496	387	16,400
16	266	384	633	657	751	1,060	2,810	3,050	980	475	383	15,500
17	264	357	618	600	4,080	989	2,490	3,280	975	456	373	3,780
18	272	337	594	552	12,500	11,100	2,290	2,700	834	438	364	2,550
19	273	323	562	513	6,270	52,300	2,370	2,250	745	420	354	1,970
20	273	316	554	474	3,130	59,200	2,400	1,940	783	407	351	1,630
21	271	312	584	442	2,300	26,800	2,210	1,710	726	395	392	1,430
22	268	305	590	425	1,870	6,740	2,090	1,530	694	404	410	1,260
23	276	299	584	406	1,570	4,730	2,000	1,390	649	401	414	1,150
24	276	298	560	394	1,390	3,820	1,920	1,280	617	399	409	1,030
25	277	298	541	377	1,290	3,250	2,000	1,240	588	415	377	924
26	289	318	518	365	1,460	2,880	3,090	1,230	562	431	359	839
27	288	322	498	362	1,920	2,660	3,230	1,260	546	425	349	770
28	284	325	482	358	1,780	3,050	2,610	1,200	582	784	343	712
29	279	331	464	358	1,570	2,770	2,230	1,120	792	705	584	669
30	277	322	449	350	---	4,100	1,980	1,040	767	619	782	641
31	275	---	431	341	---	6,520	---	983	---	644	603	---
Mean	272	306	486	716	2,310	7,324	5,396	2,420	965	541	474	3,100
Max	289	412	701	3,200	12,500	59,200	21,300	7,330	3,360	784	782	16,400
Min	258	269	308	341	338	989	1,920	983	546	395	343	423
In.	0.21	0.23	0.38	0.56	1.69	5.73	4.08	1.89	0.73	0.42	0.37	2.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2008^a, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	568	1,023	1,199	1,246	1,433	1,987	2,376	2,017	1,281	732	529	563
Max	4,307	5,692	8,307	6,304	5,264	7,324	9,435	7,348	8,742	6,142	2,030	5,489
(WY)	(1950)	(1986)	(1983)	(1950)	(1982)	(2008)	(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**

	Calendar Year 2007		Water Year 2008		Water Years 1922 - 2008^a	
Annual mean		858		2,020		1,244
Highest annual mean					3,014	1985
Lowest annual mean					341	1954
Highest daily mean	9,580	Apr 15	59,200	Mar 20	70,600	Jun 9, 1945
Lowest daily mean	210	Aug 15	258	Oct 8	131	Sep 20, 1956
Annual seven-day minimum	215	Aug 13	263	Oct 4	133	Sep 16, 1956
Maximum peak flow			66,900	Mar 20	77,300	Jun 9, 1945
Maximum peak stage			31.69	Mar 20	32.34	Dec 4, 1982
Instantaneous low flow			254	Oct 8	131	Sep 20, 1956
Annual runoff (inches)		7.90		18.64		11.46
10 percent exceeds		1,760		3,880		2,390
50 percent exceeds		529		660		602
90 percent exceeds		264		278		272

^aFor Period of Record

07014500 MERAMEC RIVER NEAR SULLIVAN, MO—Continued**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 2007 TO SEPTEMBER 2008**

Part 1 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Time	Sample medium and type	Instan- taneous dis- charge, cfs (00061)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfiltrd field, std units (00400)	Specif- ic conduc- tance, wat unf μS/cm (00095)	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO ₃ (00900)
Oct 23...	1000	Surface water, regular	278	8.6	87	7.6	383	14.7	--
Nov 05...	1150	Surface water, regular	274	9.3	89	8.4	343	11.5	200
Dec 05...	1125	Surface water, regular	309	11.9	99	7.9	387	6.4	--
Jan 24...	1130	Surface water, regular	396	14.5	103	7.8	340	1.0	180
Feb 06...	0930	Surface water, regular	1,950	12.4	107	8.3	232	7.2	--
Mar 25...	1040	Surface water, regular	3,270	10.1	90	7.7	201	9.2	--
Apr 15...	1000	Surface water, regular	3,310	9.8	88	7.4	194	10.0	--
May 21...	0940	Surface water, regular	1,710	9.3	100	7.6	253	17.2	130
Jun 03...	1110	Surface water, regular	903	7.7	89	8.0	290	20.9	--
Jul 22...	0925	Surface water, regular	415	5.0	64	8.1	352	27.0	170
Aug 05...	1030	Surface water, regular	425	6.4	85	8.3	362	28.3	--
Sep 02...	1250	Surface water, regular	440	8.1	102	7.7	379	25.8	--

07014500 MERAMEC RIVER NEAR SULLIVAN, MO—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 2 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Calcium water, filtrd, mg/L (00915)	Magnes- ium, water, filtrd, mg/L (00925)	Potas- sium, water, filtrd, mg/L (00935)	Sodium, water, filtrd, mg/L (00930)	ANC, wat unf infl pt titr., field, mg/L as CaCO ₃ (00419)	Bicar- bonate, wat unf infl pt titr., field, mg/L (00450)	Carbon- ate, wat unf infl pt titr., field, mg/L (00447)	Chlor- ide, water, filtrd, mg/L (00940)	Fluor- ide, water, filtrd, mg/L (00950)	Sulfate water, filtrd, mg/L (00945)	Residue on evap. at 180degC wat flt (70300)	Residue total non- filter- able, mg/L (00530)
Oct 23...	--	--	--	--	--	--	--	--	--	--	--	<10
Nov 05...	38.2	24.2	1.10	4.14	190	226	3	5.46	E.07	10.2	221	<10
Dec 05...	--	--	--	--	--	--	--	--	--	--	--	<10
Jan 24...	36.1	21.8	1.08	4.63	121	147	<1	5.87	<.12	12.6	194	<10
Feb 06...	--	--	--	--	--	--	--	--	--	--	--	114
Mar 25...	--	--	--	--	--	--	--	--	--	--	--	22
Apr 15...	--	--	--	--	--	--	--	--	--	--	--	<10
May 21...	26.6	15.0	1.19	2.83	122	149	<1	2.62	<.12	7.98	144	<10
Jun 03...	--	--	--	--	--	--	--	--	--	--	--	13
Jul 22...	34.6	20.1	1.40	3.62	170	205	1	4.13	E.08	8.22	206	<10
Aug 05...	--	--	--	--	--	--	--	--	--	--	--	<10
Sep 02...	--	--	--	--	--	--	--	--	--	--	--	<10

07014500 MERAMEC RIVER NEAR SULLIVAN, MO—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 3 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified. Microbiology results with a remark code of E are based on non-ideal colony counts.]

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phosphate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L as P (00666)	Phos- phorus, water, unfltrd mg/L as P (00665)	E coli, modif. m-TEC, water, col/ 100 mL (90902)	Fecal coli- form, M-FC 0.7u MF water, col/ 100 mL (31625)	Alum- inum, water, unfltrd water, fltrd, μg/L (01106)	Alum- inum, water, recover- able, water, fltrd, μg/L (01000)	Arsenic water, fltrd, μg/L (01000)	Boron, water, fltrd, μg/L (01020)
Oct 23...	E.11	<.020	.09	E.001	E.004	<.04	<.04	54	66	--	--	--	--
Nov 05...	E.08	<.020	E.03	E.002	<.006	<.04	<.04	E2	E6	E.9	18	.24	10
Dec 05...	<.14	<.020	.06	<.002	<.006	<.04	<.04	E7	E14	--	--	--	--
Jan 24...	E.10	<.020	.47	E.001	E.004	<.04	<.04	E2	E9	1.7	50	.18	12
Feb 06...	.34	E.016	.28	.004	.008	.11	E.02	800	E1,100	--	--	--	--
Mar 25...	.26	<.020	.55	E.001	.007	<.04	.04	E4	E73	--	--	--	--
Apr 15...	.20	<.020	.38	E.001	.008	E.02	.04	E72	80	--	--	--	--
May 21...	E.14	<.020	.08	.002	<.006	<.04	<.04	E17	E23	2.4	114	.25	12
Jun 03...	E.14	<.020	.14	E.002	E.004	<.04	E.02	27	23	--	--	--	--
Jul 22...	.15	<.020	.20	E.002	E.005	<.04	E.02	110	120	2.2	95	.43	13
Aug 05...	E.08	<.020	.11	.002	.006	<.04	<.04	E18	24	--	--	--	--
Sep 02...	.17	<.020	.16	.003	E.006	<.04	E.03	23	44	--	--	--	--

07014500 MERAMEC RIVER NEAR SULLIVAN, MO—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 4 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Cadmium water, filtrd, µg/L (01025)	Cadmium water, unfiltrd µg/L (01027)	Copper, water, filtrd, µg/L (01040)	Iron, water, filtrd, µg/L (01046)	Lead, water, filtrd, µg/L (01049)	Lead, water, unfiltrd recover -able, µg/L (01051)	Lithium water, filtrd, µg/L (01130)	Manganese, water, filtrd, µg/L (01056)	Mercury water, unfiltrd recover -able, µg/L (71900)	Selenium, water, filtrd, µg/L (01145)	Strontium, water, filtrd, µg/L (01080)	Zinc, water, filtrd, µg/L (01090)	Zinc, water, unfiltrd recover -able, µg/L (01092)
Oct 23...	--	--	--	--	--	--	--	--	--	--	--	--	--
Nov 05...	<.04	<.01	<1.0	9	<.08	.08	M	4.4	.011	.17	43.6	<1.8	<2.0
Dec 05...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jan 24...	<.04	<.01	<1.0	<8	<.08	.10	M	7.4	<.010	.30	38.0	<1.8	<2.0
Feb 06...	--	--	--	--	--	--	--	--	--	--	--	--	--
Mar 25...	--	--	--	--	--	--	--	--	--	--	--	--	--
Apr 15...	--	--	--	--	--	--	--	--	--	--	--	--	--
May 21...	<.04	.02	<1.0	E6	<.08	.46	M	7.3	<.010	.15	34.9	E1.2	4.8
Jun 03...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jul 22...	<.04	E.01	<1.0	<8	<.08	.46	M	8.7	<.010	.12	45.0	<1.8	E1.4
Aug 05...	--	--	--	--	--	--	--	--	--	--	--	--	--
Sep 02...	--	--	--	--	--	--	--	--	--	--	--	--	--