07018100 BIG RIVER NEAR RICHWOODS, MO

Lower Mississippi Basin
Meramec Subbasin

LOCATION.--Lat 38°09'34.6", long 90°42'21.8" referenced to North American Datum of 1983, in sec.33, T.40 N., R.3 E., Jefferson County, MO, 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.

SURFACE-WATER 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 fair.

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.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 19	1530	*52,800	*28.70
Apr 1	1000	16,700	18.56
Apr 11	0445	22,700	20.81
Sep 14	2130	13,600	17.22

Minimum discharge, 73 ft^3/s, Oct. 2, 6, 7, 8, 12, gage height, 2.21 ft.

07018100 BIG RIVER NEAR RICHWOODS, MO—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	76	84	111	210	136	929	13,700	907	435	161	535	98
2	74	83	111	193	138	892	5,730	821	403	153	363	94
3	76	83	114	183	140	1,170	4,780	781	378	182	274	102
4	76	83	114	e173	149	6,340	6,460	705	383	218	218	2,500
5	76	84	112	168	611	3,860	4,280	627	374	298	188	2,690
6	75	82	108	163	4,800	2,620	2,440	575	348	254	2,710	1,230
7	75	82	109	160	3,110	2,180	1,690	690	353	204	618	726
8	75	84	111	645	1,330	1,600	e1,150	4,730	312	180	334	502
9	78	85	124	753	856	1,260	e891	4,600	283	233	237	378
10	78	85	181	467	633	1,150	7,990	2,340	269	233	194	311
11	75	85	236	436	505	1,070	22,200	3,020	251	218	166	265
12	75	88	273	349	440	934	7,420	2,440	238	205	145	239
13	76	99	376	294	377	814	2,590	1,540	238	209	132	220
14	78	105	452	256	361	710	1,930	1,260	280	177	124	6,530
15	78	105	463	228	328	637	1,520	1,500	256	155	119	4,370
16	78	98	420	208	316	576	1,280	3,020	228	142	122	1,650
17	79	98	430	195	3,840	524	1,080	2,050	215	132	122	936
18	86	99	398	182	8,420	13,100	997	1,340	203	123	114	685
19	102	99	336	175	2,710	47,400	2,090	1,050	191	117	105	543
20	105	97	319	155	1,460	34,600	1,750	877	251	113	101	455
21	88	98	341	148	1,030	5,700	1,310	756	261	109	132	445
22	84	101	330	152	840	2,680	1,100	671	239	112	163	734
23	88	105	328	142	708	1,930	1,010	610	285	128	140	520
24	89	107	343	138	616	1,500	930	560	244	129	122	400
25	88	105	391	139	585	1,220	958	525	228	138	113	337
26	86	118	351	130	995	1,050	2,580	627	204	163	105	290
27	87	127	308	139	1,580	949	2,630	764	186	175	99	264
28	89	127	278	130	1,120	1,160	1,590	686	176	465	96	240
29	89	120	257	132	925	1,170	1,220	577	170	449	105	231
30	86	115	241	130	---	1,960	1,040	523	164	288	113	268
31	86	---	225	130	---	4,390	---	473	---	576	106	---
Mean	82.3	97.7	267	229	1,347	4,712	3,545	1,343	268	208	265	942
Max	105	127	463	753	8,420	47,400	22,200	4,730	435	576	2,710	6,530
Min	74	82	108	130	136	524	891	473	164	109	96	94
In.	0.13	0.15	0.42	0.36	1.98	7.39	5.38	2.11	0.41	0.33	0.42	1.43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	259	652	798	736	911	1,263	1,294	1,072	547	364	252	304
Max	1,641	4,223	4,332	3,845	2,935	4,712	5,642	3,964	3,150	2,492	1,357	4,022
(WY)	(1950)	(1986)	(1983)	(1950)	(1985)	(2008)	(1994)	(2002)	(1985)	(1951)	(1950)	(1993)
Min	47.5	87.9	90.5	84.0	124	123	175	148	110	86.0	66.2	40.6
(WY)	(1957)	(1977)	(1956)	(1977)	(1954)	(1954)	(2000)	(2001)	(1980)	(1980)	(2007)	(1956)

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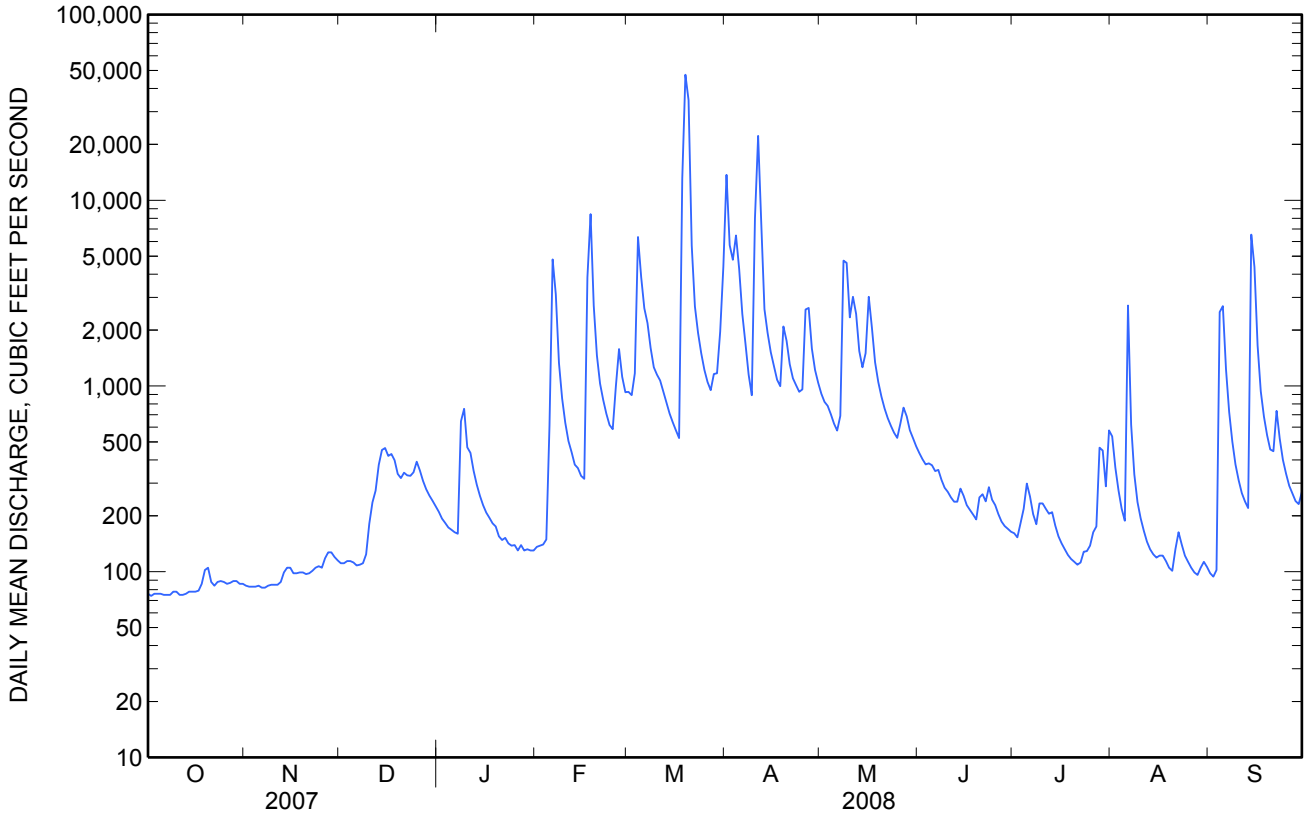
SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1949 - 2008	
Annual mean	404		1,106		703	
Highest annual mean					1,766	1985
Lowest annual mean					171	2000
Highest daily mean	7,410	Jan 15	47,400	Mar 19	47,400	Mar 19, 2008
Lowest daily mean	53	Aug 15	74	Oct 2	22	Sep 19, 1954
Annual seven-day minimum	56	Aug 11	75	Oct 2	26	Sep 13, 1954
Maximum peak flow			52,800	Mar 19	59,800	Sep 23, 1993
Maximum peak stage			28.70	Mar 19	30.33	Sep 23, 1993
Instantaneous low flow			73	Oct 2[a]	20	Sep 19, 1954
Annual runoff (inches)	7.46		20.50		13.00	
10 percent exceeds	813		2,370		1,310	
50 percent exceeds	193		268		282	
90 percent exceeds	75		88		100	

[a]Also Oct 6-8, 12



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 2007 TO SEPTEMBER 2008

Part 1 of 4

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

Date	Time	Sample medium and type	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
Nov									
05...	0945	Surface water, regular	85	7.7	71	8.3	567	10.6	280
Jan									
23...	1200	Surface water, regular	127	15.1	108	8.2	525	.6	--
Mar									
25...	1230	Surface water, regular	1,220	10.6	92	7.7	332	8.5	--
May									
21...	1200	Surface water, regular	750	8.8	96	7.6	378	18.4	190
Jul									
21...	1155	Surface water, regular	109	5.4	71	7.9	520	28.3	--
Sep									
04...	1055	Surface water, regular	480	8.1	98	7.6	423	22.9	--

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 2 of 4

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

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)	ANC, wat unf infl pt titr., field, mg/L as CaCO3 (00419)	Bicarbonate, wat unf infl pt titr., field, mg/L (00450)	Carbonate, wat unf infl pt 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 non-filterable, mg/L (00530)
Nov												
05...	51.6	36.1	2.04	10.9	240	287	3	15.9	E.11	45.9	334	<10
Jan												
23...	--	--	--	--	--	--	--	--	--	--	--	<10
Mar												
25...	--	--	--	--	--	--	--	--	--	--	--	23
May												
21...	40.2	22.2	1.50	4.06	248	302	<1	5.33	E.09	22.1	212	<10
Jul												
21...	--	--	--	--	--	--	--	--	--	--	--	<10
Sep												
04...	--	--	--	--	--	--	--	--	--	--	--	57

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 3 of 4
[Remark codes: <, less than; >, greater 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-phos-phate, 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 col/ 100 mL (31625)	Alum-inum, water, fltrd, µg/L (01106)	Alum-inum, water, unfltrd recover -able, µg/L (01105)	Arsenic water, fltrd, µg/L (01000)	Boron, water, fltrd, µg/L (01020)
Nov													
05...	E.13	<.020	<.04	E.001	<.006	<.04	<.04	21	33	2.3	29	.37	22
Jan													
23...	E.10	<.020	.47	.003	.025	E.03	E.04	E1	E3	--	--	--	--
Mar													
25...	.24	<.020	.67	.004	.009	<.04	.04	E4	E8	--	--	--	--
May													
21...	E.14	<.020	.19	.004	E.005	<.04	E.02	E17	E25	E1.5	93	.36	17
Jul													
21...	E.12	<.020	.10	E.001	.013	<.04	E.03	E7	E15	--	--	--	--
Sep													
04...	.50	<.020	.08	.003	.011	E.02	.08	E1,000	>300	--	--	--	--

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 4 of 4
[Remark codes: <, less than; >, greater than; E, estimated; M, presence verified but not quantified.]

Date	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover -able, µg/L (01051)	Lithium water, fltrd, µg/L (01130)	Mangan-ese, water, fltrd, µg/L (01056)	Mercury water, unfltrd recover -able, µg/L (71900)	Selen-ium, water, fltrd, µg/L (01145)	Stront-ium, water, fltrd, µg/L (01080)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover -able, µg/L (01092)
Nov													
05...	.05	.08	E.74	12	3.70	15.5	M	17.4	E.009	.08	59.8	8.1	6.0
Jan													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
Mar													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
May													
21...	.27	.43	E.96	E6	2.94	24.9	M	27.5	<.010	.15	47.9	12.8	25.0
Jul													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
Sep													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--