

Water-Data Report 2009

**06926510 OSAGE RIVER BELOW ST. THOMAS, MO**

Lower Missouri Basin  
Osage Subbasin

LOCATION.--Lat 38°25'17.2", long 92°12'29.7" referenced to North American Datum of 1983, in NW ¼ NW ¼ sec.1, T.42 N., R.12 W., Cole County, MO, 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<sup>2</sup>.

**SURFACE-WATER 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 good. Considerable regulation by Lake of the Ozarks (06925500), 47.2 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 68,800 ft<sup>3</sup>/s, June 17, gage height, 20.94 ft; minimum discharge, 1,360 ft<sup>3</sup>/s, Aug. 6, 7, 8, gage height, 2.60 ft.

## 06926510 OSAGE RIVER BELOW ST. THOMAS, MO—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**  
**DAILY MEAN VALUES**

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	29,600	16,700	5,020	2,570	5,040	6,000	32,600	25,900	45,500	31,100	1,510	1,770
2	24,600	5,030	8,570	2,970	5,640	9,620	33,700	21,500	39,800	30,900	1,620	1,960
3	24,400	4,150	6,980	9,900	14,200	18,700	33,900	17,400	35,000	29,500	1,450	1,700
4	24,500	3,970	4,490	4,740	11,400	12,300	34,400	31,300	32,900	30,300	1,400	1,450
5	24,400	4,780	5,860	6,640	13,500	5,850	34,400	37,700	32,900	30,600	1,400	1,640
6	24,500	3,720	2,700	15,500	8,900	4,210	34,200	46,800	32,800	29,400	1,370	2,240
7	19,800	4,400	1,670	16,700	4,450	4,090	33,300	49,100	32,100	28,600	1,420	1,590
8	13,400	3,580	1,670	15,600	3,880	4,130	32,900	54,500	32,400	20,400	1,400	2,450
9	4,320	2,670	1,670	14,000	4,240	4,120	32,300	61,400	34,200	14,900	1,560	4,440
10	3,800	6,350	1,650	8,990	4,720	4,220	29,200	54,600	33,100	11,800	3,270	3,360
11	3,310	16,400	1,650	4,770	6,160	4,510	30,600	52,000	35,900	17,300	5,300	9,750
12	3,590	19,800	1,690	5,070	8,680	4,770	28,700	52,200	34,500	5,510	5,820	10,300
13	3,260	18,800	1,620	8,360	5,100	4,510	29,300	51,400	35,600	4,550	3,400	5,320
14	4,340	15,700	1,620	10,100	3,800	4,350	27,900	51,000	32,300	8,740	4,940	4,230
15	6,500	11,600	1,620	13,500	3,830	4,010	25,800	51,000	33,700	11,800	7,040	9,640
16	2,650	6,510	3,910	18,900	4,800	3,950	23,900	52,000	55,700	10,600	6,390	8,330
17	1,610	4,300	4,510	12,200	7,240	4,190	26,400	51,300	65,400	4,580	6,550	13,900
18	1,720	7,500	2,260	2,720	18,300	6,830	26,700	29,700	43,500	2,680	7,100	12,400
19	1,840	13,200	1,920	1,870	21,000	6,540	27,200	40,000	26,000	2,250	3,140	5,720
20	3,010	13,200	1,590	1,760	22,300	7,250	28,500	49,800	29,000	2,180	5,220	3,340
21	7,250	13,700	1,610	6,760	17,500	6,400	28,100	52,300	33,400	1,740	2,960	2,660
22	9,990	10,900	1,740	8,280	6,730	5,200	31,600	52,100	34,500	1,540	1,990	2,840
23	9,250	5,110	2,010	7,630	15,000	10,400	30,500	51,600	34,600	1,500	1,530	7,950
24	9,910	3,780	2,070	6,580	24,600	20,200	28,700	51,000	34,800	1,460	1,430	19,500
25	10,200	6,180	1,980	7,920	21,200	21,500	31,800	50,900	34,000	1,600	2,680	20,500
26	3,440	7,980	2,710	12,700	11,100	22,000	30,400	54,200	33,200	1,640	9,450	13,600
27	6,540	4,800	12,700	18,800	7,040	22,900	30,900	52,400	32,200	2,210	10,600	4,090
28	14,100	2,230	13,300	19,500	6,090	25,200	32,400	51,600	31,100	1,780	9,600	3,310
29	16,900	2,490	5,050	18,700	---	24,800	24,300	50,700	28,800	1,730	2,940	7,680
30	21,900	2,750	3,310	18,600	---	27,900	22,300	48,000	30,000	1,670	3,250	9,890
31	20,000	---	2,350	14,800	---	32,000	---	46,500	---	1,800	2,040	---
<b>Mean</b>	11,440	8,076	3,597	10,230	10,230	11,050	29,900	46,510	35,630	11,170	3,864	6,585
<b>Max</b>	29,600	19,800	13,300	19,500	24,600	32,000	34,400	61,400	65,400	31,100	10,600	20,500
<b>Min</b>	1,610	2,230	1,590	1,760	3,800	3,950	22,300	17,400	26,000	1,460	1,370	1,450
<b>In.</b>	0.90	0.62	0.28	0.81	0.73	0.87	2.29	3.68	2.73	0.88	0.31	0.50

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2009, BY WATER YEAR (WY)**

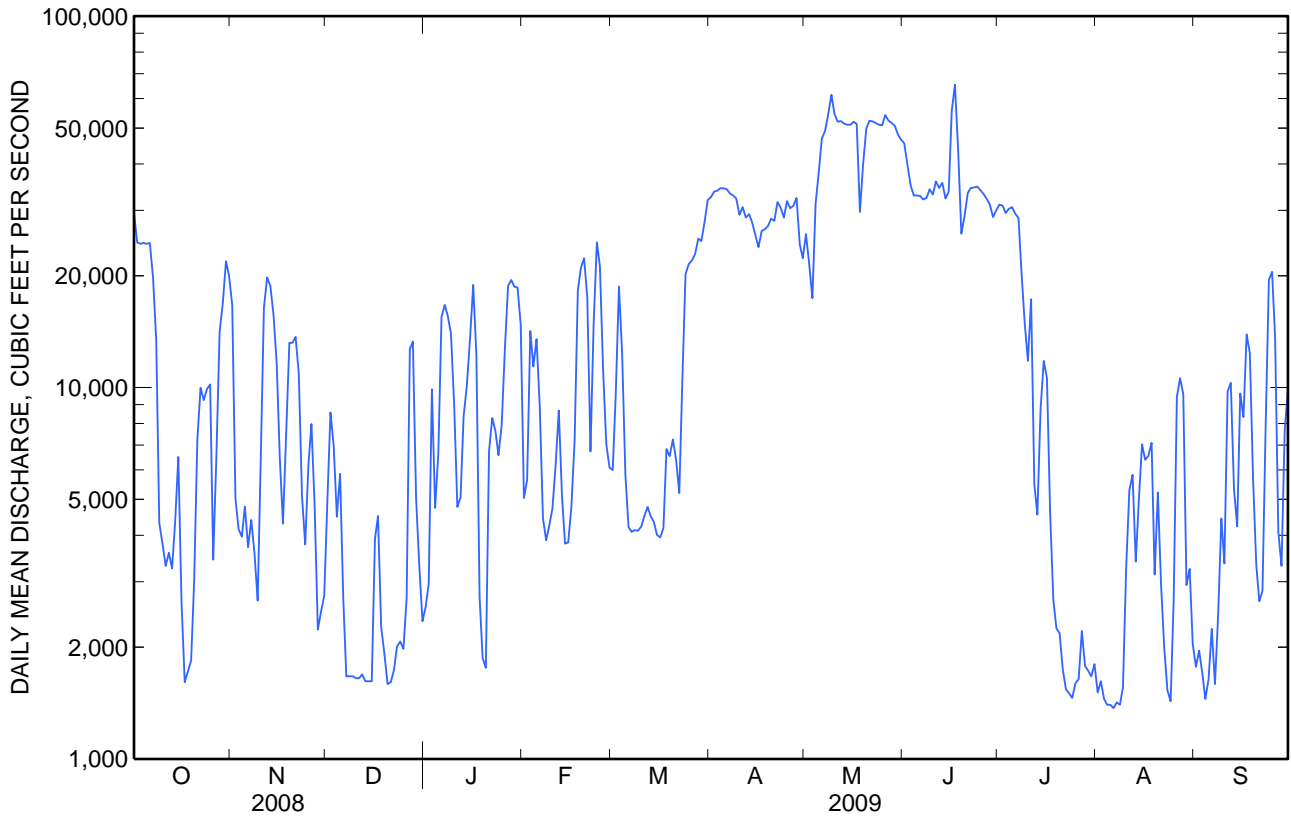
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	6,241	7,094	7,258	10,030	12,400	15,440	16,610	20,860	21,300	14,280	5,864	5,892
<b>Max</b>	41,410	35,360	22,780	43,980	32,230	35,430	47,980	46,510	37,210	49,200	19,670	24,680
<b>(WY)</b>	(1999)	(1999)	(2005)	(2005)	(2005)	(1997)	(2008)	(2009)	(1999)	(2007)	(2007)	(2008)
<b>Min</b>	661	583	647	687	2,229	2,384	894	1,334	1,909	2,341	1,127	857
<b>(WY)</b>	(2001)	(2007)	(2003)	(2001)	(2003)	(2006)	(2006)	(2000)	(2006)	(2006)	(2006)	(2006)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1996 - 2009	
<b>Annual mean</b>	21,920		15,690		11,980	
<b>Highest annual mean</b>					22,740	1999
<b>Lowest annual mean</b>					2,297	2006
<b>Highest daily mean</b>	65,600	Apr 1	65,400	Jun 17	79,600	Jan 6, 2005
<b>Lowest daily mean</b>	1,500	Aug 31	1,370	Aug 6	320	Sep 24, 1999
<b>Annual seven-day minimum</b>	1,650	Dec 9	1,430	Aug 3	486	Nov 8, 2006
<b>Maximum peak flow</b>			68,800	Jun 17	82,600	Jan 6, 2005
<b>Maximum peak stage</b>			20.94	Jun 17	23.37	Jan 6, 2005
<b>Instantaneous low flow</b>			1,360	Aug 6 <sup>a</sup>	320	Sep 24, 1999
<b>Annual runoff (inches)</b>	20.46		14.61		11.17	
<b>10 percent exceeds</b>	47,200		34,500		34,700	
<b>50 percent exceeds</b>	21,600		8,990		5,070	
<b>90 percent exceeds</b>	2,210		1,740		675	

<sup>a</sup> Also Aug 7, 8



## 06926510 OSAGE RIVER BELOW ST. THOMAS, MO—Continued

## 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: (water years 1975-81) Maximum daily, 398 microsiemens per centimeter, Jan. 1, 1981; minimum daily, 140 microsiemens per centimeter, Sept. 3, 1981.

WATER TEMPERATURE: (water years 1975-81) 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 2008 TO SEPTEMBER 2009

Part 1 of 4

[Remark codes: &lt;, less than; &gt;, greater than; E, estimated; M, presence verified but not quantified.]

Date	Time	Medium name	Instantaneous discharge, ft <sup>3</sup> /s (00061)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf 25 degC (00095)	Temperature, deg C (00010)	Dissolved solids dried @ 180degC wat flt mg/L (70300)
<b>Oct</b>									
20...	0945	Surface water	2,190	7.7	81	8.0	279	17.1	157
<b>Jan</b>									
12...	1030	Surface water	4,050	12.8	100	7.5	247	4.1	--
<b>Mar</b>									
09...	1100	Surface water	4,100	13.9	125	8.0	277	9.8	--
09...	1101	<i>QC sample - Surface water</i>	--	13.9	126	8.0	277	9.8	--
<b>May</b>									
04...	1020	Surface water	31,900	9.3	91	7.7	303	13.2	177
<b>Jul</b>									
27...	1540	Surface water	2,280	11.8	158	7.5	266	29.6	--
<b>Sep</b>									
02...	1630	Surface water	1,990	8.3	103	7.6	260	25.1	--

## 06926510 OSAGE RIVER BELOW ST. THOMAS, MO—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Part 2 of 4

[Remark codes: &lt;, less than; &gt;, greater than; E, estimated; M, presence verified but not quantified.]

Date	Hard- ness, water, mg/L as CaCO3 (00900)	Sus- pended solids, water, unfltrd mg/L (00530)	Calcium water, fltrd, mg/L (00915)	Magnes- ium, water, fltrd, mg/L (00925)	Potas- sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat un fltrd, mg/L as CaCO3 (00419)	Bicar- bonate, wat un fltrd, mg/L (00450)	Carbon- ate, wat un fltrd, mg/L (00447)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Ammonia + org-N, water, unfltrd mg/L as N (00625)
Oct 20...	130	<15	35.8	9.56	3.32	4.79	117	141	.6	5.76	.11	14.5	.27
Jan 12...	--	<15	--	--	--	--	--	--	--	--	--	--	.31
Mar 09...	--	<15	--	--	--	--	--	--	--	--	--	--	.42
09...	--	<15	--	--	--	--	--	--	--	--	--	--	.40
May 04...	140	17	42.8	8.96	3.62	7.37	112	136	.4	8.46	.19	31.2	.53
Jul 27...	--	16	--	--	--	--	--	--	--	--	--	--	.37
Sep 02...	--	<15	--	--	--	--	--	--	--	--	--	--	.33

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Part 3 of 4

[Remark codes: &lt;, less than; &gt;, 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 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, recover- able, µg/L (01105)	Cadmium water, fltrd, µg/L (01025)	Cadmium water, unfltrd µg/L (01027)	Copper, water, fltrd, µg/L (01040)
Oct 20...	E.019	.31	<.002	.035	.04	.04	>400	>300	<4.0	59	<.02	<.06	E.82
Jan 12...	<.020	.41	E.001	.031	.04	E.04	M	120	--	--	--	--	--
Mar 09...	<.020	.24	.002	E.006	<.04	E.02	E3	E2	--	--	--	--	--
09...	<.020	.25	.003	E.006	<.04	E.03	E2	E3	--	--	--	--	--
May 04...	.075	.43	.008	.013	E.02	.05	40	44	E2.4	266	<.02	<.06	1.4
Jul 27...	<.020	.33	.003	.055	.07	.08	54	E70	--	--	--	--	--
Sep 02...	<.020	.25	.004	.059	.08	.08	E3	E9	--	--	--	--	--

## 06926510 OSAGE RIVER BELOW ST. THOMAS, MO—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Part 4 of 4

[Remark codes: &lt;, less than; &gt;, greater than; E, estimated; M, presence verified but not quantified.]

Date	Iron, water, flt'd, µg/L (01046)	Lead, water, flt'd, µg/L (01049)	Lead, water, unflt'd, recovery, µg/L (01051)	Lithium water, flt'd, µg/L (01130)	Mangan- ese, water, flt'd, µg/L (01056)	Mercury water, unflt'd, recovery, µg/L (71900)	Stront- ium, water, flt'd, µg/L (01080)	Zinc, water, flt'd, µg/L (01090)	Zinc, water, unflt'd, recovery, µg/L (01092)	Arsenic water, flt'd, µg/L (01000)	Boron, water, flt'd, µg/L (01020)	Selen- ium, water, flt'd, µg/L (01145)
Oct 20...	E3	E.04	.22	1	29.3	<.010	101	E1.9	E1.2	1.5	17	.25
Jan 12...	--	--	--	--	--	--	--	--	--	--	--	--
Mar 09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
May 04...	7	<.06	.67	2	3.1	<.010	157	E1.0	3.7	.69	19	.32
Jul 27...	--	--	--	--	--	--	--	--	--	--	--	--
Sep 02...	--	--	--	--	--	--	--	--	--	--	--	--