07195430 ILLINOIS RIVER SOUTH OF SILOAM SPRINGS, AR

Robert S. Kerr Reservoir Basin
Illinois Subbasin

LOCATION.--Lat 36°06′31″, long 94°32′00″ referenced to North American Datum of 1983, in SE ¼ NE ¼ sec.31, T.17 N., R.33 W., Benton County, AR, Hydrologic Unit 11110103, at bridge on State Hwy 59, 5.0 mi south of Siloam Springs, and 0.6 mi downstream from mouth of Cincinnati Creek.

DRAINAGE AREA.--575 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Aug 1995 to current year. Occasional low-flow measurements in 1971.

REVISED RECORDS.--WDR Arkansas 1997: 1996.

GAGE.--Water-stage recorder.

REMARKS.--Water-discharge records good except estimated daily discharges, which are poor. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 3, 1990, reached a stage of 25.4 ft, from floodmarks, discharge 66,000 ft^3/s from rating curve extended above 23,000 ft^3/s on basis of contracted opening of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 33,200 ft^3/s, Oct. 9, gage height, 20.62 ft; minimum discharge, 154 ft^3/s, Aug. 30, gage height, 2.56 ft.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	316	2,290	410	410	775	630	1,020	471	597	303	314	171
2	298	1,630	398	386	835	608	1,010	461	561	296	297	602
3	290	1,310	387	374	1,170	587	1,890	433	598	300	283	617
4	267	1,110	374	363	1,390	571	1,430	418	616	312	273	425
5	256	975	361	353	2,600	553	1,150	405	517	296	265	288
6	270	882	351	342	2,330	537	1,030	392	480	291	259	239
7	351	816	343	336	1,700	521	931	378	464	289	250	215
8	437	750	351	318	1,430	513	843	367	613	326	239	216
9	18,900	700	374	e312	1,400	572	767	356	489	460	233	1,380
10	11,700	662	368	e306	1,170	584	719	451	451	830	229	2,010
11	3,830	623	350	e294	1,050	556	671	628	430	523	225	685
12	2,740	592	341	292	991	531	641	474	431	402	219	483
13	2,570	570	343	300	967	515	621	443	400	9,220	213	394
14	3,320	545	338	303	921	502	594	1,700	402	3,380	208	446
15	1,980	522	332	306	845	485	566	4,440	440	1,350	202	946
16	1,430	619	321	311	777	475	544	3,370	425	7,940	199	550
17	1,140	704	318	314	730	463	531	2,390	429	4,690	195	436
18	961	610	314	310	690	459	512	1,360	401	1,770	200	372
19	848	563	305	311	663	448	502	1,030	379	1,100	196	327
20	768	533	295	311	643	469	493	3,970	367	840	193	299
21	710	526	289	852	687	1,150	482	3,030	357	692	184	276
22	703	518	293	1,220	1,200	1,570	472	1,620	348	593	176	259
23	861	492	295	838	982	3,530	458	1,200	338	524	171	247
24	755	476	300	1,090	852	3,370	522	974	327	473	173	377
25	672	477	476	1,090	785	4,020	1,060	852	343	428	171	523
26	661	460	524	853	741	5,920	656	3,710	337	402	166	343
27	1,010	435	437	732	701	2,870	557	1,340	318	932	166	293
28	1,700	421	404	663	660	2,030	508	974	333	529	170	276
29	1,680	407	385	825	---	1,580	482	822	353	413	164	262
30	9,940	405	382	924	---	1,320	467	727	322	372	161	246
31	4,110	---	395	793	---	1,150	---	654	---	342	164	---
Total	75,474	21,623	11,154	16,432	29,685	39,089	22,129	39,840	12,866	40,618	6,558	14,203
Mean	2,435	721	360	530	1,060	1,261	738	1,285	429	1,310	212	473
Max	18,900	2,290	524	1,220	2,600	5,920	1,890	4,440	616	9,220	314	2,010
Min	256	405	289	292	643	448	458	356	318	289	161	171
Med	861	581	351	353	886	572	607	822	414	473	200	358
Ac-ft	149,700	42,890	22,120	32,590	58,880	77,530	43,890	79,020	25,520	80,570	13,010	28,170
Cfsm	4.23	1.25	0.63	0.92	1.84	2.19	1.28	2.24	0.75	2.28	0.37	0.82
In.	4.88	1.40	0.72	1.06	1.92	2.53	1.43	2.58	0.83	2.63	0.42	0.92

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2010, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	402	518	508	683	775	888	966	787	644	511	244	374
Max	2,435	2,839	1,451	2,256	2,167	2,656	3,183	2,259	3,287	1,310	605	1,390
(WY)	(2010)	(1997)	(2002)	(1998)	(2001)	(2008)	(2008)	(2009)	(2000)	(2010)	(2008)	(2008)
Min	107	119	111	123	114	152	192	311	111	66.8	125	130
(WY)	(2006)	(2006)	(2006)	(2006)	(2006)	(2006)	(2006)	(1997)	(2006)	(2006)	(1996)	(2005)

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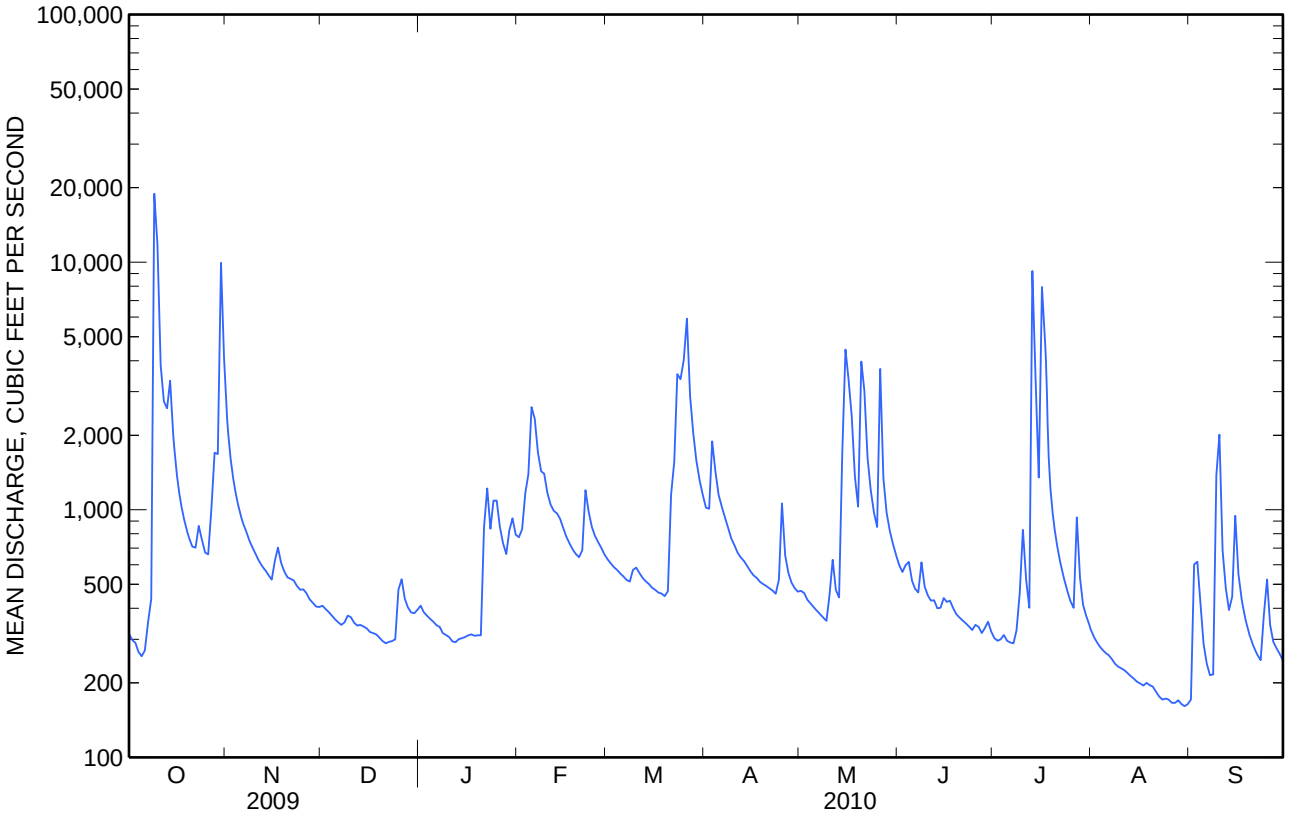
SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1995 - 2010	
Annual total	333,601		329,671			
Annual mean	914		903		608	
Highest annual mean					1,051	2008
Lowest annual mean					182	2006
Highest daily mean	18,900	Oct 9	18,900	Oct 9	23,000	Apr 24, 2004
Lowest daily mean	162	Sep 1	161	Aug 30	50	Aug 1, 2006
Annual seven-day minimum	175	Aug 27	166	Aug 25	52	Jul 30, 2006
Maximum peak flow			33,200	Oct 9	52,000	Apr 24, 2004
Maximum peak stage			20.62	Oct 9	22.65	Mar 18, 2008
Instantaneous low flow			154	Aug 30	50	Jul 31, 2006
Annual runoff (ac-ft)	661,700		653,900		440,500	
Annual runoff (cfsm)	1.59		1.57		1.06	
Annual runoff (inches)	21.58		21.33		14.37	
10 percent exceeds	1,750		1,620		1,070	
50 percent exceeds	460		493		312	
90 percent exceeds	229		266		135	



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Jun 1995 to current year.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 1 of 5

[%, percent; CaCO3, calcium carbonate; MF, membrane filter; N, nitrogen; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft, feet; ft/s, feet per second; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Discharge, instantaneous, ft³/s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, µS/cm at 25 °C (00095)	Temperature, water, °C (00010)	Stream width, ft (00004)	Velocity at point in stream, ft/s (81904)
11-17-2009	0945	747	711	8.12	76.8	7.47	324	11.94	120	3.5
01-19-2010	1030	769	312	13.35	112.9	7.91	343	8.41	92	2.5
03-29-2010	1230	747	1,580	9.82	91.6	6.91	255	11.36	120	5
05-04-2010	1415	743	419	15.60	178.2	8.58	315	20.56	60	< 1.5
07-20-2010	0940	738	855	6.97	88.3	7.48	282	25.58	60	< 1.5
09-07-2010	1115	745	217	7.77	94.5	7.75	336	23.94	60	< 1.5

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 2 of 5

[%, percent; CaCO3, calcium carbonate; MF, membrane filter; N, nitrogen; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft, feet; ft/s, feet per second; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Sampler type (84164)	Sampling method (82398)	Dissolved solids dried at 180 °C, water, filtered, mg/L (70300)	Dissolved solids, water, filtered, tons per acre-foot (70303)	Dissolved solids, water, tons per day (70302)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)
11-17-2009	US DH-95 plastic	EWI	208.45	.283	400.2	137.7	51.3400	2.2950	3.5230
01-19-2010	US DH-81	EWI	223.51	.304	188.3	120.4	44.7300	2.1150	3.3110
03-29-2010	US D-95 plastic	EWI	154.79	.211	660.3	104.3	38.5700	1.9480	2.7070
05-04-2010	Grab sample	Grab sample(dip)	179.59	.244	203.2	123.3	45.8900	2.123	3.3160
07-20-2010	Grab sample	Grab sample(dip)	167.32	.228	386.3	115.4	42.8600	2.0450	3.7880
09-07-2010	Grab sample	Grab sample(dip)	197.48	.269	115.7	127.3	47.5000	2.1090	4.5480

07195430 ILLINOIS RIVER SOUTH OF SILOAM SPRINGS, AR—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
Part 3 of 5

[%, percent; CaCO3, calcium carbonate; MF, membrane filter; N, nitrogen; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft, feet; ft/s, feet per second; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Sodium adsorption ratio, water, number (00931)	Sodium fraction of cations, water, percent in equivalents of major cations (00932)	Sodium, water, filtered, mg/L (00930)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, unfiltered, mg/L as N (00625)	Ammonia, water, filtered, milligrams per liter as NH4 (71846)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)
11-17-2009	.379	13.5	10.2100	11.647	.104	13.712	.178	< .0258	< .02	2.831
01-19-2010	.493	17.8	12.4200	17.419	.118	18.391	.240	< .0258	< .02	2.865
03-29-2010	.259	10.9	6.0820	8.942	E .062	11.832	.236	< .0258	< .02	3.166
05-04-2010	.437	16.0	11.1500	13.999	.100	13.971	.450	< .0258	< .02	2.461
07-20-2010	.298	11.8	7.3620	8.870	.117	11.561	.212	< .0258	< .02	2.494
09-07-2010	.574	19.6	14.8800	16.056	.126	16.294	.149	E .0191	E .0148	2.131

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
Part 4 of 5

[%, percent; CaCO3, calcium carbonate; MF, membrane filter; N, nitrogen; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft, feet; ft/s, feet per second; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Nitrate, water, filtered, milligrams per liter (71851)	Nitrate, water, filtered, mg/L as N (00618)	Nitrite, water, filtered, milligrams per liter (71856)	Nitrite, water, filtered, mg/L as N (00613)	Organic nitrogen, water, unfiltered, mg/L (00605)	Orthophosphate, water, filtered, mg/L (00660)	Orthophosphate, water, filtered, mg/L as P (00671)	Phosphorus, water, filtered, mg/L as P (00666)	Phosphorus, water, unfiltered, mg/L as P (00665)
11-17-2009	E 12.52	E 2.829	E .0057	E .00175	< .178	.1161	.03787	E .027	.050
01-19-2010	12.63	2.854	.0375	.01142	< .240	.0417	.01361	< .04	< .04
03-29-2010	13.99	3.161	.0159	.00485	< .236	.1420	.04632	.048	.063
05-04-2010	10.86	2.453	.0265	.00808	< .450	.0693	.02259	E .026	E .036
07-20-2010	11.03	2.491	.0105	.00321	< .212	.2720	.0887	.094	.111
09-07-2010	9.414	2.127	.0146	.00444	E .134	.2389	.07792	.085	.079

07195430 ILLINOIS RIVER SOUTH OF SILOAM SPRINGS, AR—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 5 of 5

[%, percent; CaCO3, calcium carbonate; MF, membrane filter; N, nitrogen; P, phosphorus; col/100 mL, colonies per 100 milliliters; ft, feet; ft/s, feet per second; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Total nitrogen, water, unfiltered, mg/L (00600)	Escherichia coli, modified m-TEC MF method, water, col/100 mL (90902)	Fecal coliform, M-FC MF (0.7 micron) method, water, col/100 mL (31625)	Suspended sediment, sieve diameter, percent smaller than 0.0625 mm (70331)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons per day (80155)
11-17-2009	3.01	63	E 320	66	5	9.60
01-19-2010	3.11	E 10	E 4	73	4	3.37
03-29-2010	3.40	42	56	70	12	51.2
05-04-2010	2.91	E 21	E 15	43	2	2.26
07-20-2010	2.71	94	E 200	94	9	20.8
09-07-2010	2.28	56	44	80	5	2.93