



Water-Data Report 2008

**07050500 KINGS RIVER NEAR BERRYVILLE, AR**

Upper White Basin  
Beaver Reservoir Subbasin

LOCATION.--Lat 36°25'38", long 93°37'15" referenced to North American Datum of 1983, in SE ¼ NE ¼ sec.3, T.20 N., R.25 W., Carroll County, AR, Hydrologic Unit 11010001, on right downstream end of new bridge on State Hwy 143, 1.5 mi downstream from Bee Creek, 2.5 mi upstream from Clabber Creek, 5.3 mi northwest of Berryville and at mile 35.1.

DRAINAGE AREA.--527 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--Apr 1939 to Sep 1975, Oct 1992 to current year. Annual maximum, water years 1976-92, and 1996-98. Monthly discharge only for Apr 1939, published in WSP 1311.

REVISED RECORDS.--WDR Arkansas 1995: 1991 (M), 1992 (M), 1993 (M), 1994 (M).

GAGE.--Water-stage recorder. Datum of gage is 963.10 ft above NGVD of 1929. Apr 4 to Jul 11, 1939 nonrecording gage and Jul 12, 1939 to Sep 30, 1951 water-stage recorder at site 5.0 mi upstream at datum 27.71 ft higher. Oct 1, 1951 to Oct 22, 1952 and Jul 18, 1975 to Sep 30, 1975 nonrecording gage at present site and datum.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr 4, 1927, reached a stage of about 38.0 ft, present site and datum, from information by local residents, discharge 62,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft<sup>3</sup>/s and (or) maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr 1	0800	13,900	15.22
Apr 10	2300	*41,000	*30.10
Apr 24	1600	22,500	20.51
Jul 13	0730	9,100	11.75
Sep 4	1215	13,500	14.91
Sep 14	0845	21,200	19.76

Minimum discharge, 22 ft<sup>3</sup>/s, Oct 1, gage height, 2.11 ft.

## 07050500 KINGS RIVER NEAR BERRYVILLE, AR—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	35	31	30	64	64	e172	11,300	914	394	354	142	144
2	37	30	30	60	64	e159	4,540	852	813	260	122	143
3	63	29	29	58	64	e8,290	3,220	950	781	202	109	2,010
4	63	28	29	57	64	e4,430	5,940	817	532	685	98	10,400
5	68	27	30	56	85	e1,920	3,730	695	405	727	91	3,830
6	64	26	30	54	200	e1,170	2,520	618	325	896	84	1,940
7	55	26	30	53	193	e879	1,770	576	273	910	115	1,340
8	51	25	29	65	290	e713	1,410	583	230	577	112	1,110
9	50	26	30	82	318	e597	1,220	547	230	639	94	879
10	50	25	55	282	274	e517	22,700	515	368	1,120	1,710	713
11	46	25	86	299	244	e456	17,200	687	760	1,030	1,690	614
12	41	24	140	251	391	e405	4,560	717	506	813	794	543
13	36	25	175	206	412	e367	3,060	577	408	6,050	550	479
14	33	26	322	174	458	e404	2,220	498	479	2,390	454	14,800
15	34	25	396	152	e215	e384	1,690	689	569	1,270	1,070	6,100
16	36	25	374	138	e225	e353	1,340	1,020	499	906	927	2,620
17	35	27	410	123	e1,450	e330	1,150	848	428	684	617	1,560
18	37	27	332	112	e862	e16,800	1,110	683	355	548	458	1,140
19	35	27	262	102	e551	e26,200	1,040	575	293	458	367	924
20	33	26	213	94	e410	e6,150	930	491	248	391	336	776
21	32	27	180	87	e336	4,800	827	426	212	346	374	653
22	32	28	155	84	e290	3,200	781	381	185	301	391	556
23	34	27	136	79	e257	2,300	817	341	166	262	423	480
24	34	26	119	75	e241	1,730	12,500	362	153	288	401	419
25	35	26	105	71	e246	1,400	7,280	357	136	232	348	369
26	36	29	96	68	e239	1,210	3,530	380	125	201	287	323
27	35	30	91	67	e219	1,070	2,340	553	113	176	246	281
28	34	31	85	64	e200	954	1,590	663	394	157	212	248
29	33	31	80	63	e186	2,530	1,240	670	648	143	197	219
30	33	31	75	60	---	3,700	1,040	532	488	133	199	196
31	32	---	69	62	---	5,720	---	440	---	156	163	---
<b>Total</b>	1,272	816	4,223	3,262	9,048	99,310	124,595	18,957	11,516	23,305	13,181	55,809
<b>Mean</b>	41.0	27.2	136	105	312	3,204	4,153	612	384	752	425	1,860
<b>Max</b>	68	31	410	299	1,450	26,200	22,700	1,020	813	6,050	1,710	14,800
<b>Min</b>	32	24	29	53	64	159	781	341	113	133	84	143
<b>Ac-ft</b>	2,520	1,620	8,380	6,470	17,950	197,000	247,100	37,600	22,840	46,230	26,140	110,700
<b>Cfsm</b>	0.08	0.05	0.26	0.20	0.59	6.08	7.88	1.16	0.73	1.43	0.81	3.53
<b>In.</b>	0.09	0.06	0.30	0.23	0.64	7.01	8.79	1.34	0.81	1.65	0.93	3.94

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2008, BY WATER YEAR (WY)**

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	173	555	495	600	789	991	1,235	1,151	492	226	109	145
<b>Max</b>	1,471	2,820	2,100	2,119	2,792	3,472	5,184	4,570	2,494	1,252	923	1,860
<b>(WY)</b>	(1971)	(1997)	(1969)	(1950)	(1951)	(1945)	(1945)	(1961)	(1957)	(1960)	(1950)	(2008)
<b>Min</b>	1.49	6.14	14.0	12.9	35.7	94.3	128	127	38.2	9.21	1.08	4.25
<b>(WY)</b>	(1964)	(1964)	(1964)	(1964)	(1964)	(1972)	(1963)	(2001)	(1972)	(1954)	(1954)	(1953)

07050500 KINGS RIVER NEAR BERRYVILLE, AR—Continued

SUMMARY STATISTICS

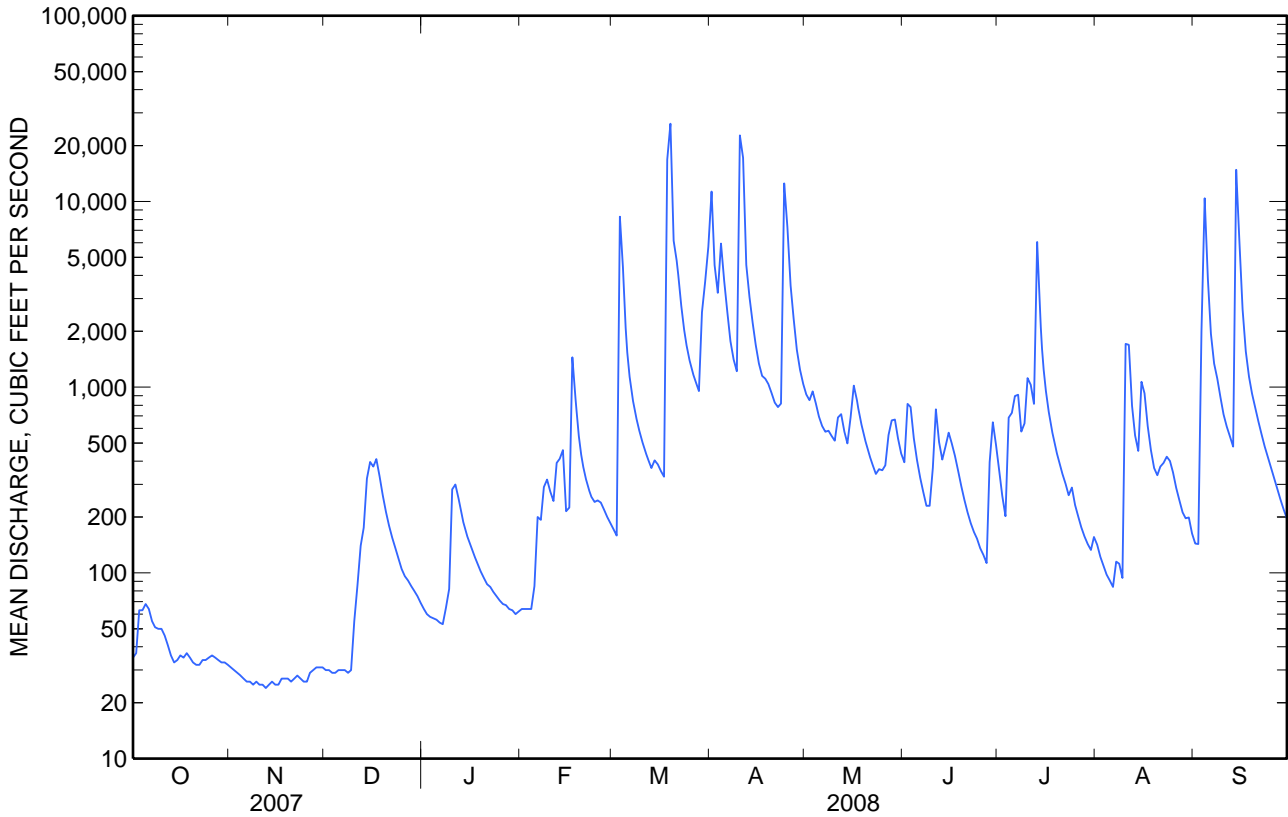
	Calendar Year 2007		Water Year 2008		Water Years 1939 - 2008	
<b>Annual total</b>	109,695		365,294			
<b>Annual mean</b>	301		998		572	
<b>Highest annual mean</b>					1,251	1945
<b>Lowest annual mean</b>					88.3	1954
<b>Highest daily mean</b>	10,400	Jan 14	26,200	Mar 19	37,300	Apr 15, 1945
<b>Lowest daily mean</b>	13	Aug 22	24	Nov 12	0.20	Aug 17, 1954
<b>Annual seven-day minimum</b>	15	Aug 18	25	Nov 10	0.40	Aug 13, 1954
<b>Maximum peak flow</b>			<sup>a</sup> 50,100	Apr 10	<sup>b</sup> 66,000	Nov 19, 1985
<b>Maximum peak stage</b>			<sup>c</sup> 35.29	Apr 10	38.91	Nov 19, 1985
<b>Instantaneous low flow</b>			22	Oct 1	0.10	Aug 27, 1954 <sup>d</sup>
<b>Annual runoff (ac-ft)</b>	217,600		724,600		414,500	
<b>Annual runoff (cfsm)</b>	0.570		1.89		1.09	
<b>Annual runoff (inches)</b>	7.74		25.79		14.75	
<b>10 percent exceeds</b>	566		1,820		1,280	
<b>50 percent exceeds</b>	134		296		175	
<b>90 percent exceeds</b>	25		31		21	

<sup>a</sup> Estimated

<sup>b</sup> Occurred during period of computation of annual maximum only, water years 1976-92

<sup>c</sup> From Floodmarks

<sup>d</sup> Also August 28, 1954



07050500 KINGS RIVER NEAR BERRYVILLE, AR—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1945-63, 1973-95, 1999-04, 2008 to current year.

WATER-QUALITY DATA  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 1 of 3

[Remark codes: <, less than; E, estimated.]

Date	Time	Instantaneous discharge, ft <sup>3</sup> /s (00061)	Turbidity white light, 90+/-30 corrctd NTRU (63676)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd, μS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Chloride, water, fltrd, mg/L (00940)
Apr													
04...	1030	7,670	110	738	9.9	96	7.7	140	12.5	66	20.6	3.48	2.54
11...	0940	18,500	160	736	9.0	90	7.1	91	13.8	49	15.5	2.52	1.59
23...	1115	766	4.3	750	11.4	122	8.0	222	17.8	94	27.8	6.00	4.22
Jun													
25...	1445	134	3.2	751	9.1	120	8.1	239	29.1	100	30.2	6.09	4.90
Aug													
27...	1345	244	E1.8	763	8.0	99	8.5	326	25.9	140	37.6	10.6	5.37
Sep													
05...	0900	4,080	38	737	8.6	96	7.4	193	19.3	91	26.7	5.80	2.31

WATER-QUALITY DATA  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 2 of 3

[Remark codes: <, less than; E, estimated.]

Date	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)	Ammonia org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (71846)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water, fltrd, mg/L as N (00631)	Nitrate water, fltrd, mg/L (71851)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L (71856)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd mg/L (00605)
Apr													
04...	<.12	4.82	93	184	.81	--	<.020	.780	E3.45	E.78	E.005	E.002	--
11...	<.12	3.52	65	250	.95	E.01	E.010	.639	2.82	.64	.008	.003	E.79
23...	<.12	6.33	137	<10	E.12	--	<.020	.970	4.28	.97	.008	.002	--
Jun													
25...	<.12	6.41	141	<10	.17	E.02	E.013	.179	.783	.18	.007	.002	E.16
Aug													
27...	<.12	6.17	185	<10	.19	--	<.020	.658	2.89	.65	.017	.005	--
Sep													
05...	<.12	4.30	109	44	.43	--	<.020	.929	4.10	.93	.009	.003	--

## 07050500 KINGS RIVER NEAR BERRYVILLE, AR—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 3 of 3

[Remark codes: &lt;, less than; E, estimated.]

Date	Total nitro- gen, wat unf by anal ysis, mg/L (62855)	Total nitro- gen, water, unfltrd mg/L (00600)	Ortho- phos- phate, water, fltrd, mg/L (00660)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L as P (00665)	E coli, modif. m-TEC, water, col/ 100 mL (90902)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli- form, M-FC 0.7u MF col/ 100 mL (31625)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)	Sampl- er type, code (84164)	Sam- pling method, code (82398)
<b>Apr</b>												
04...	1.45	1.6	.089	.029	.240	--	2,000	E3,800	292	6,050	3054	10
11...	1.43	1.6	.074	.024	.243	--	3,500	2,900	502	25,100	3055	10
23...	1.08	E1.1	.048	.016	.028	--	E620	E440	5	10	3070	30
<b>Jun</b>												
25...	.34	.35	.050	.016	.030	--	E5	E8	4	1.4	3070	10
<b>Aug</b>												
27...	.86	.84	.228	.074	.094	23	--	22	8	5.3	3070	10
<b>Sep</b>												
05...	1.28	1.4	.080	.026	.086	460	--	980	56	617	3052	10